



# Methodology for Managing Work Ability for Employed Persons or Considering a Change of Profession

Needs and Implementation Tips

## Methodology for Managing Work Ability for Employed Persons or Considering a Change of Profession

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## Table of contents

<b>Foreword .....</b>	<b>7</b>
<b>1. Introduction: Promoting Work Ability – Chances and Challenges for Individuals and Companies.....</b>	<b>9</b>
<b>2. What Work Ability Means: Explanation of the Concept of Work Ability and Description of Individual Factors of Work Ability .....</b>	<b>13</b>
2.1 Introduction .....	13
2.1 Definition of Work Ability .....	13
2.3 The Basic Model "House of Work Ability" .....	16
2.4 Conclusion & Summary.....	18
<b>3. How to Care for Work Ability at Any Age – Ageing and Health .....</b>	<b>21</b>
3.1 Age and ageing .....	21
3.2 Changes with ageing.....	24
3.3 Ageing employees in the labour market.....	34
3.4 Work ability and ageing .....	44
<b>4. Conducive and Limiting Factors Determining Work Ability.....</b>	<b>49</b>
4.1 Physical and mental health, and functional capacity.....	51
4.2 Skills, work experience, learning .....	52
4.3 Values, attitudes, and motivation.....	55
4.4 Work, Workplace & Management/Leadership .....	57
<b>5. Personal Diagnostics: Measurement of Own Work Ability and its Analysis.....</b>	<b>68</b>
5.1 Work Ability Index (WAI) .....	68
5.2 Description and evaluation of individual components of the Work Ability Index (WAI) questionnaire .....	73
5.3 Basic interpretation of WAI measurement results .....	78
5.4 Summary.....	81

<b>6. How to Implement Individual Counselling to Support Work Ability – Recommendations for HR Department Staff / Lecturers / Advisors / Mentors / Coaches]</b> .....	<b>84</b>
6.1 <i>Work Ability Support Advisor</i> .....	85
6.2 <i>Teaching aids and room preparation</i> .....	87
6.3 <i>Draft of the Counselling Process based on the outputs of the Work Ability Index &amp; the Work Ability House</i> .....	89
6.4 <i>Individual counselling aimed at supporting work-ability – final (review) meeting</i> .....	100
<b>7. The Value of the Work Ability Index as an Indicator for Being Sustainably Employable for Labour Organizations or Individual Employees – How to Strengthen Personal and Professional Readiness for a Longer Working Career</b> .....	<b>111</b>
7.1 <i>Introduction - The Canary in the Coal Mines</i> .....	111
7.2 <i>The Working Conditions Act and the Occupational Health and Safety Services</i> .....	113
7.3 <i>The concept of sustainable employability, work ability, and vitality</i> .....	119
7.4 <i>Fitting practices: observations from the licensees</i> .....	122
7.5 <i>Conclusions</i> .....	130
<b>8. List of figures and tables:</b> .....	<b>137</b>

## Foreword

The publication “Methodology for Managing Work Ability for Employed Persons or Considering a Change of Profession” (Needs and Implementation) was created as the second of the key deliverables of the WORK ABILITY MANAGEMENT international project (Strategic Partnerships for Adult Education) within the Erasmus+ programme. The international consortium of scientific, counselling, educational, state and non-profit institutions has set itself a goal for this publication to present its readers with the current developments, trends, methods, and a global understanding of the concept of work ability.

The first report of the project “Support of the aging in the workplace” contains an overview of the development and status of the application of the concepts of Work Ability and Ageing Management in the five countries involved. It is available as a download from the participating organisations and in English at <https://www.agemanagement.cz/publikace-podpora-starnuti/>.

The concept of Work Ability represents a comprehensive approach to health, employment and lifelong learning, and to supporting the reconciliation of work, personal and family life. These aspects can affect an employee’s personality on the labour market (and beyond), shape it, and, at the same time, represent their potential and limitations in some instances.

The publication introduces a holistic concept of age management, which is based on the model of work ability. It also presents the different approaches to its implementation within the countries involved, i.e. in the Czech Republic, Slovakia, Hungary, Germany and the Netherlands.

The authors are convinced that the solution for the aging European population, built on the support of individual factors of work ability, is a potential path to address the demographic changes awaiting us in the very near future. At the same time, these factors have a major impact on sustainable employability of (not only) the aging population itself.

The authors of this publication wish to express their gratitude for the support they received via the Erasmus+ grant under KA 2 – Cooperation for Innovation and Exchange of Best Practices in Adult Education, allowing them to summarise each participating country's approach to the concept of age management in a published compilation.

Ilona Štorová  
Alexander Frevel, Editor/lector of this report

Brno & Hamburg, February 2022

## **1. Introduction: Promoting Work Ability – Chances and Challenges for Individuals and Companies**

In all countries involved in this project – as in many other countries worldwide – the demographic development is causing a shrinking of the labour force. An increase in the birth rate is not foreseeable everywhere. Therefore, in addition to technical rationalisation with the aim of reducing the number of employees, it is particularly necessary to take measures to optimise working conditions in such a way that people can and want to be employed longer.

Approaches to age and ageing management should enable organisations to identify the right, target-oriented strategies for coping with demographic challenges and to take appropriate personnel-oriented measures.

At the same time, it is necessary to maintain individual conditions (health/performance, competence, attitudes and motivation) in a supportive manner or to develop them as needed. – People and work must fit together, i.e. be in a good balance over the course of life.

A globally well-known concept for such an integrated (holistic) approach is the Work Ability Model. The instrument 'Work Ability Index' can be used to measure the degree of fit between individual capacity and work requirements. With further written or oral surveys, findings can be concretised and in workshops or other counselling settings, needs for change can be identified and appropriate measures to promote work ability can be determined.

Urgently needed are measures to ensure that working people

- have a job (employability),
- are able to stay longer and well in work (Work Ability), and
- are able, willing and allowed to carry out work productively and well (work well-being).



In this respect, it seems inevitable that work should be harmless, feasible, bearable, and should encourage learning throughout one's entire employment phase.

To achieve this, employability and work ability need to be improved to become a good fit between people's capacities and work requirements. Promoting Work Ability is therefore on the agenda of individuals and organisations.

What is needed is a design of work that is attractive to younger and older people and provides enough flexibility for a good balance between work and private life.

Age- and ageing-appropriate work should take personal capacities and individual needs as well as changes in work requirements into account.

These factors change in the course of (working) life. It is therefore the task of companies, organisations, departments and employees to adapt the conditions in line with requirements, so that the work ability can be maintained over the entire course of one's career and productivity is ensured.

Prerequisites for this are in particular

- a mindful and appreciative personnel policy,
- age- and ageing-appropriate career paths that are aligned with life phases, and
- working conditions that promote health and personal development.

Work Ability cannot be established individually, as conceptually it only arises in reference to work. Work Ability is defined as the balance between work and individual resources. When work and individual resources fit together well, work ability is stable (excellent/good); if the balance between work demands and individual coping capacity is not proper, work ability is only moderate or even critical.

Nevertheless, the following applies: Every person can make her or his personal contribution to establish stable work ability. This concerns in particular activities to maintain and promote one's own health, maintain and develop

qualifications and competences (readiness for lifelong learning), and commitment and motivation to perform a job. This means that each person contributes his or her health, competences, and motivation for being able and willing to cope with the job demands.

On the other hand this requires the employing company to shape the prerequisites/working conditions in a way that allows people to do the work.

The Work Ability Index can in itself make a statement related to the individual's ability to work. If the person draws personal conclusions based on the result and, if needed, takes measures to strengthen his or her work ability, this is perfectly fine as a behavioural change. However, it usually has no influence on the working conditions and work requirements.

### **Overview of the content**

Chapter 2 presents 'What Work Ability Means': The definition of Work Ability is illustrated with the basic model 'House of Work Ability', in which all the variables influencing work ability and the central areas of support are named. The explanation of the concept focuses mainly on the description of individual factors.

Chapter 3 takes a broad look at age/ageing management by explaining the definitions and differences of age and ageing. With the question: "What changes with ageing?" several aspects of physical, cognitive, psychological and social characteristics are presented in their variations and possible manifestations of health. In sub-chapter 4.3, stereotypes of age(ing) are critically examined – older employees are no less important for companies, but their inter-individual differences must be taken into account and, if necessary, the requirements must be adapted to the personal possibilities. Examples of interventions at the individual and organisational level illustrate the possibilities of beneficial design.

In the following chapter 4, factors that promote and inhibit the ability to work are presented. The same conditions (demands) can lead to different stress and strain, depending on the individual resources for coping with it. The Demand-

Control-Support model is explained along the main areas of influence (according to the house of work ability): health, competence, values and work including leadership.

Chapter 5 presents the instrument for measuring work ability, the Work Ability Questionnaire. The questions for analysis are described in detail and the interpretation of the Work Ability Index values is explained.

In chapter 6, the counselling approach to work ability support is presented using the example of the practice in Slovakia. The work of "Work Ability Support Advisors" is described in detail including the necessary individual prerequisites (e.g. attitudes and behaviour) and methodological competences. The counselling process is explained in the individual steps including infrastructural and material requirements and enriched with practical examples of stimulating questions.

The importance of the WAI as an indicator of employability and work ability is discussed in chapter 7. Examples from the Netherlands show the role and responsibility of companies for their employees' sustainable employability and work ability. The legal requirements for occupational health and safety are contrasted with company's practice. The elements of sustainable employment, namely vitality, work ability and employability, are explained. The range of approaches and design options is presented on the basis of four practical reports from counselling institutions. It becomes clear that different approaches can lead to comparably good practical design. And it becomes clear that individual efforts to achieve good work ability necessarily require congenial company support measures. A sufficient data basis provides positive benchmarks.

The authors of the respective chapter are named as the organisation.

The sources of the literature used are listed at the end of each chapter.

## **2. What Work Ability Means: Explanation of the Concept of Work Ability and Description of Individual Factors of Work Ability**

### **1. Introduction**

The ageing of the workforce is a global phenomenon that causes a number of social and economic impacts and leads to changes in the structure of the labour market. Most European countries with an ageing population are addressing the need to increase the participation of employees, especially the elderly. In connection with the ageing of the population, quite understandably, attention has long been focused on changes in its work ability.

The concept of work ability was developed in Finland in the 1980s by experts from the Finnish Institute of Occupational Health (FIOH) under the leadership of prof. Juhani Ilmarinen. In working life, the ability to work represents the most important capital of people and decides on their employability in the labour market. Extensive FIOH work ability research has identified key factors affecting work ability. The research findings can be described in the form of the "House of Work Ability" with four floors.

Work ability is the basis of the quality of work and the retention of (not only) older employees. It concerns health, competencies, values and working conditions (including management/leadership). Maintaining work ability means finding a balance between work demands and personal resources for the rest of one's working life.

### **2.1 Definition of Work Ability**

Work ability is defined as the balance between the work performed and a person's personal resources i.e. the degree of fit between the individual conditions and the job requirements. Work ability is very important for both the worker and the organization. According to the Finnish authors Ilmarinen & Tuomi [1], work ability means "how good a worker is today, in the near future,

and how he or she performs his/her work in terms of work demands, health and mental dispositions".

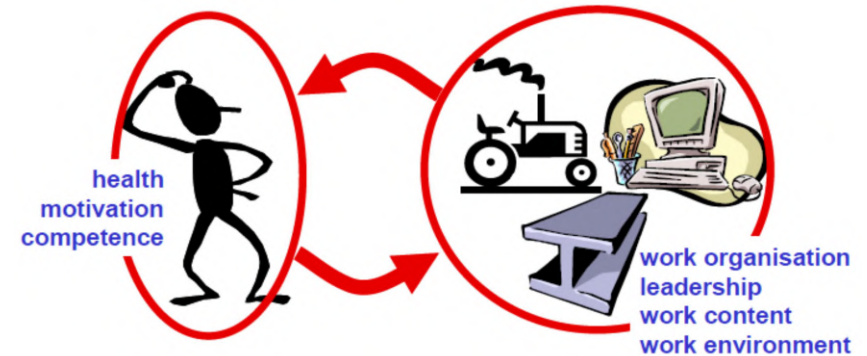
This definition is based on the so-called "Work Ability Concept" [2], according to which work ability is the result of the interaction between a worker and his work. Work ability can also be described as a balance between worker dispositions and job demands.

Thus, the newly conceived holistic model of work ability does not focus exclusively on the health and health of the worker as a key source of work ability, but also includes other personal resources, including competences, motivations, values and attitudes of the worker that intersect with the work environment and workplace conditions and other influences that affect working lives on a daily basis.

If the demands of work and individual human resources are in balance, the work ability is stable (at an excellent or good level). If the balance between work requirements and individual coping skills is not in balance, then a person's work ability reaches a moderate or low level. Work ability can be measured and numerically expressed by the Work Ability Index (WAI).

Thus, work ability describes a person's potential to cope with work requirements at a given time. The development of individual functional capacity must be linked to the job requirement. Both sides can change and must be designed to suit age, ageing and health, if necessary.

Figure 1: Work ability is the result of the relationship between the worker and work requirements



Source: Hans Martin Hasselhorn, University of Wuppertal, Germany [4, 5]

The employee contributes to his/her work ability with his/her health and functional dispositions, knowledge and skills, attitudes and motivation. Employment influences work ability through organizational factors of work – especially the way of leading and managing factors of work demands and work environment, including social aspects.

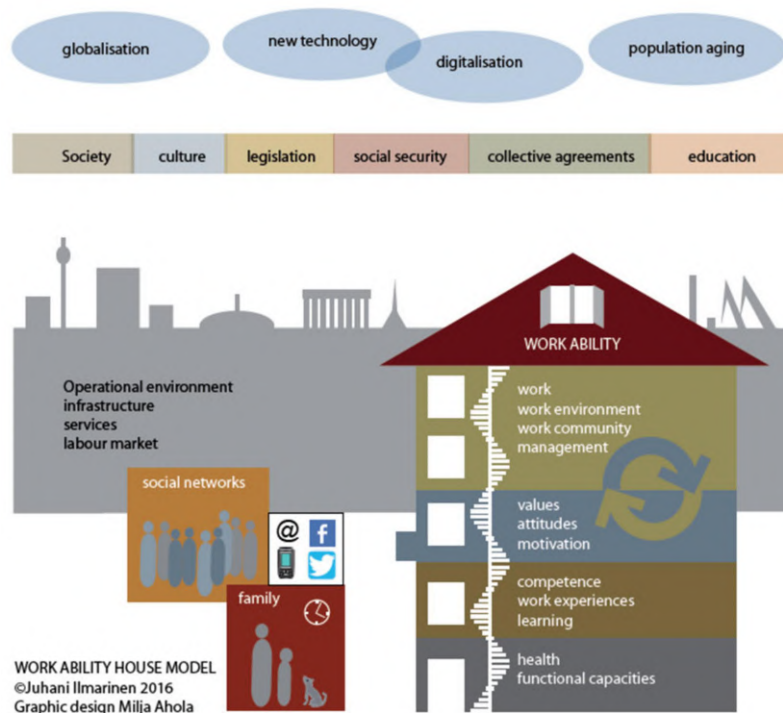
It should be in the interest of the individual to maintain and restore their employability. At the same time, from the individual's point of view, it is important to consider maintaining and acquiring such knowledge and skills that will enable them to change employers if necessary. This situation also requires the employee to change attitudes. Its basis is to count on a long career and focus more on ensuring working ability into old age. This means changing the approach to future planning, lifelong learning and one's own health. A significant part of the responsibility therefore lies with the people themselves and their responsibility for taking an active approach to their own ageing.



## 2.3 The Basic Model "House of Work Ability"

The implementation of the concept of work ability in an organization can be illustrated by the "House of Work Ability".

Figure 2: House of Work Ability



The three lower floors of the house represent the possibilities of the individual. The fourth floor consists of work and working conditions including leadership that are influenced by the employer. [3]

1. The 1st floor is made up of health and functional capacity, which is the basis of work ability. It includes physical and mental health and

everything related to health (lifestyle, physical activities, eating habits, consumption of addictive substances (alcohol, smoking, drugs), observance of regular medical examinations, drinking regime, interests and hobbies, rest, sleep, etc.). The changes that take place on this floor are reflected in the ability to work, where any deterioration threatens its level and quality. Improving functional capacity, on the other hand, allows the ability to improve and develop.

2. The 2nd floor consists of professional knowledge and skills or competencies. At present, its importance is growing, as continuous change of demands is becoming a feature of working life and lifelong learning / education is a prerequisite for managing it.
3. The 3rd floor represents the social and moral values and attitudes of the worker. Respect, esteem and justice play a role here as well as loyalty to the organization, motivation and commitment. These values affect the ability and motivation to learn and acquire competencies (2nd floor). Values and attitudes change throughout life and are influenced by a variety of external factors. The third floor represents the subjective understanding of work by employees – their views and feelings about the various factors associated with their daily work. The third floor has a balcony from which the worker can see the environment in the closest vicinity of his workplace, i.e. family and close surroundings. Both of these factors affect the worker's mind-set. On this floor, the balance between work and personal attitudes and the relationship between work and personal life is even more important than the others.
4. The 4th floor summarizes all work aspects (physical, psychological and social demands), work environment and work organization and – of great importance – the organisation of work including leadership. This floor represents work and related factors, it is the hardest and largest floor, and all its weight lies on the lower floors. It represents a summary of all material conditions of work activity, which together

with other conditions create factors – physical, chemical, ergonomic, socio-psychological (corporate culture), and others.

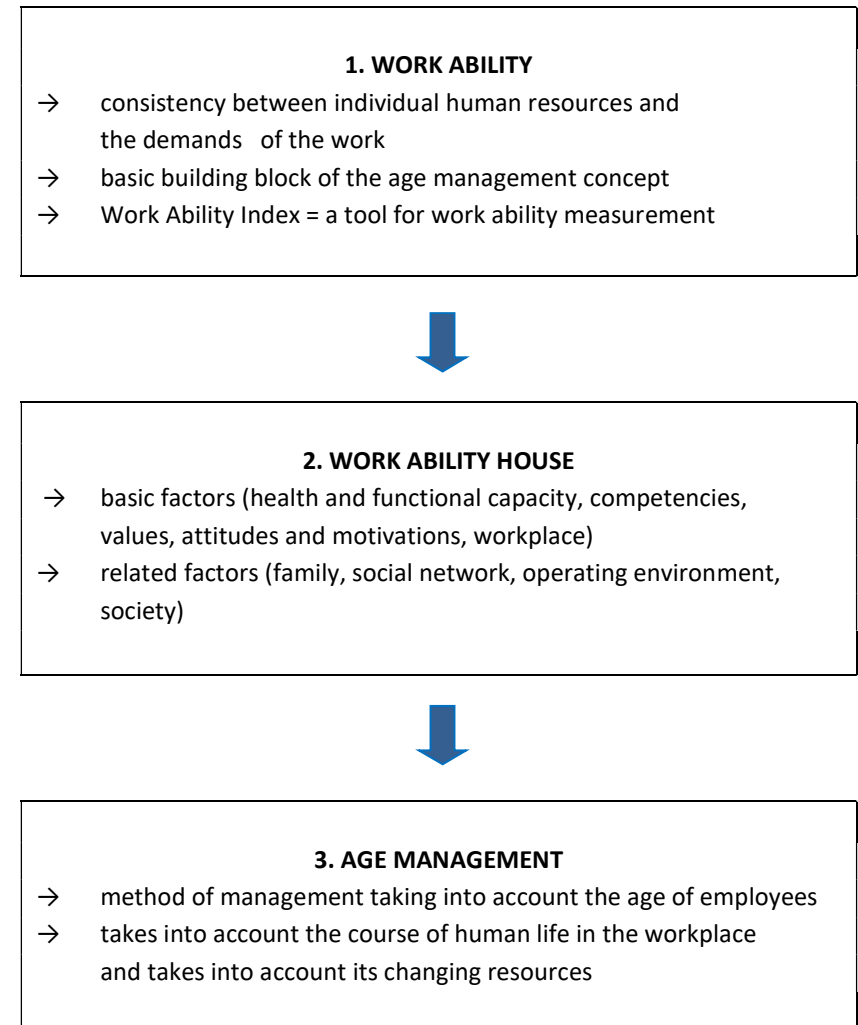
Thus, the "House Work Ability" represents a combination of all these aspects under one roof – factors that are essential to support the ability of both individuals and organizations. All four floors must stand on a solid foundation and their relationship must be in balance. The staircase inside the house then points to the interconnectedness of the individual floors and their mutual influence. Therefore, when examining the effects on work ability, it is necessary to take into account all floors. Workers have more responsibility for their health and competences and the employer has more responsibility for work organization and working conditions.

The employee contributes to her/his work ability through health and functional dispositions, knowledge and skills, attitudes and motivations. In this concept, work ability is an indication of how well the health, skills, attitudes of the worker and his motivation meet the requirements of the work.

## 2.4 Conclusion & Summary

At each stage of an employee's life, personal resources and work environment change, for example with regard to technological development, company restructuring or as a result of the ageing process. If employees are unable to maintain a balance between their personal resources and the work environment, then they are likely to leave the current job, to change the employer or even to leave the labour market sooner than those who maintain their ability to work, of course in combination with appropriate working conditions and job contents. The better the ability to work before retirement is, the better is the quality of later life. Therefore, it is essential to ensure investment in active ageing during productive years.

Figure 3: Work Ability, Work Ability House, Age Management



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## 3. How to Care for Work Ability at Any Age – Ageing and Health

### 3.1 Age and ageing

#### Definitions of age

The most common approach to age is defining it with the number of years lived. This is the so called *chronological age*. According to chronological age the course of life can be divided into the following age groups:

- childhood (under 14 years)
- youth (15-24 years)
- adulthood (25-64 years)
- seniority (over 65 years)

Scientific studies indicate that people face the feeling of getting old in their fifties at the latest. The United Nations has agreed that over 65 years of age may be denoted as old age. Among „old” people some scientists distinguish some sub-groups, e.g.: young-old (65-74 years), middle-old (75-84 years), and oldest-old (over 85 years).

*Chronological age* however, is not the only possible approach to define „how old” is a person. The distance from birth alone does not determine how the person feels, acts or functions. Barak and Shifman [1] have suggested number of non-chronological age variables. The three main broad categories of them are: *biological age* (the function or effectiveness of the body), *social age* (the social roles or habits the person takes) and *social-psychological age*, of which there are three major types (subjective, personal and other-perspective age). Personal age consists of four further dimensions:

- feel-age: how old a person feels
- look-age: how old a person looks

- do-age: the extent to which the person is involved in activities favoured by members of a certain age group
- interest-age: the extent to which the person's interests are similar to members of a certain age group.

**In occupational settings functional age is a better predictor of work performance than chronological age.**

Thus there are many definitions of age, but for the world of work *functional age* is of greater importance. Functional age refers to the level (or age) at which the person is functioning. In occupational settings functional age or the ability to perform required duties efficiently and safely is a better predictor of work performance than chronological age. Two persons of the same age could be functioning at very different levels. Studies indicate that the variability between individuals in cognitive abilities, sensorimotor variables (motor skills) and sensory functioning increases with ageing.

#### **How do people age?**

As we could see, the number of years lived is not the only indicator of a person's age. We may wonder what is behind this phenomenon.

**The process of ageing is largely individual and individuality increases with age.**

There is no universal pattern of ageing. Ageing is a complex process, which should be considered normal and natural and in itself it does not imply suffering from any disease. The process of ageing is largely individual and individuality increases with age. The speed and course of ageing is influenced by many factors including genetics, socioeconomic status, personality, health behaviours, lifestyle, access to health services, and – of course – working conditions as well.

**Mental growth, wisdom and patience can only be acquired with advance in years.**

Even though scientific literature often focuses on losses associated with ageing, many psychologists emphasize gains that can only be acquired with advance in

years and accumulating life experiences, such as mental growth, wisdom and patience. For example, in Erikson's theory of psychosocial development [2], the positive goal of the eighth and final stage, people pass through as they grow and change across life, is acquiring generativity and wisdom (see Table 3.1 for further details).

*Table 1: Erikson's theory of psychosocial development*

Stage	Psychosocial crisis	Virtues
Infancy	Trust vs. Mistrust	Hope
Early childhood	Autonomy vs. Shame, doubt	Will
Play age	Initiative vs. Guilt	Purpose
School age	Industry vs. Inferiority	Competence
Adolescence	Identity vs. Identity diffusion	Fidelity
Young adulthood	Intimacy vs. Isolation	Love
Adulthood	Generativity vs. Stagnation	Care
Mature age	Ego Integrity vs. Despair	Wisdom

**The three elements of successful ageing: absence of diseases and disabilities, good cognitive and physical functioning, and socially active lifestyle.**

Different types of ageing can be distinguished on the basis of physical, cognitive and psychological functioning. *Usual* or normal ageing is associated with some decline in physical, cognitive and psychological functions, but still provides the ability to live in good health and physical condition. *Pathological* ageing is, apart from the effects of normal ageing processes, characterised by occurrence of symptoms and diseases that normally are not age-linked, and by quality of life below the average. Many authors claim that there is a third type of ageing, the so called *successful ageing*, which implies functioning on a level above the average of ageing people in general, living longer in good health with minimal cognitive impairments, and an excellent state of well-being. According to Rowe

and Kahn [3] successful ageing includes three elements: absence of diseases and disabilities, good cognitive and physical functioning and (socially) active lifestyle.

## 3.2 Changes with ageing

### Physical health and ageing

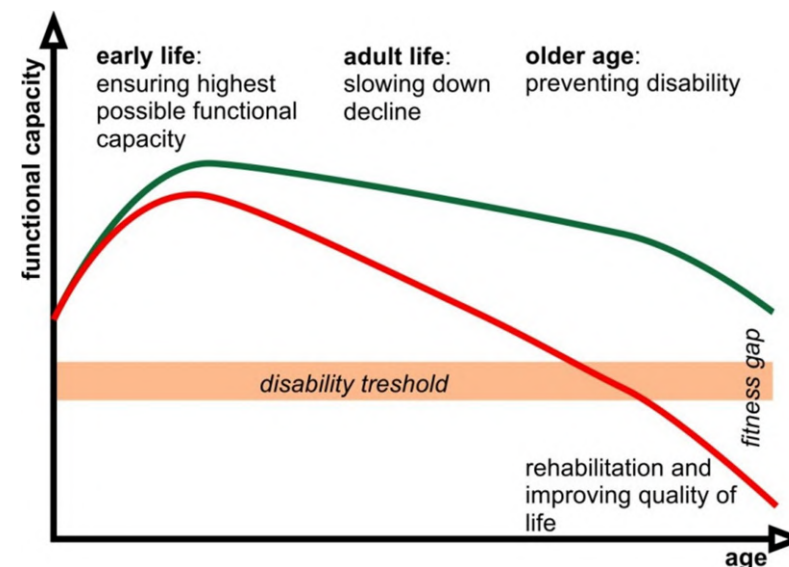
**During ageing one becomes more susceptible or vulnerable to some diseases.**

Normal biological changes accompanying ageing (changes in organs, tissues, molecules and cells) are inevitable, progressive and irreversible. Normal ageing is characterised by universality, graduality and synchrony (simultaneous ageing of cells). As noted above, gradual decrease in capacity of organs and organ systems is not considered pathological. Ageing is not a disease, but due to the – normal and natural – changes in the organism, the person becomes more susceptible or vulnerable to some diseases and there are some symptoms that are strongly age-related. The natural decrease in the repair mechanisms of the body is increasing the risk of long-term health problems, chronic diseases and exacerbations thereof. The rates of age-related changes are highly and individually variable by organ, organ system, and anatomical region. In general, the older the person the faster the rate of decline can be.

**A “fitness gap” appears in late adolescence between those who lead a healthy life and those who do not.**

Functional capacity is determined by cardiovascular health, muscle strength and endurance, balancing ability, tolerance to heat and cold, the health of the skin, hearing acuity, vision, memory, and the overall health of the nervous system. Figure 4 shows the life course perspective of functional capacity. In early childhood everybody is at about the same level of functional capacity (although genetic and socio-environmental factors do have influence). However, in late adolescence a gap appears between those who lead a healthy life and those who do not. This is the so called fitness gap. Among 18-22 year olds the annual decline of the functional capacity is minuscule. However, it accelerates with age. Functional capacity has a clear effect on work ability.

Figure 4: Life-course perspective of functional capacities. (Adapted from WHO [4])



In this chapter we will review bodily (biological) changes associated with ageing. The following chapter focuses on changes in cognitive functioning. Note that none of these changes are uniform and mandatory for every person. There is a huge diversity in aging and the risk on the population level can manifest in many ways on the individual level.

### Cardiovascular system

**Ageing workers have decreased maximum load capacity and ability to do prolonged heavy physical labour or to adapt to changes in temperature.**

The aging of the blood vessels is accompanied by the narrowing and loss of elasticity. The blood pressure is rising and anomalies in the heart rhythm can occur. The heart can pump with less power as well. Therefore, the body’s ability to distribute oxygenated blood gradually decreases. This limits the adaptation



to changes in temperature, decreases maximum load capacity and the ability to do prolonged heavy physical labour decreases.

As we age, the prevalence of heart disease grows exponentially. More than 80% of cardiovascular diseases are diagnosed in people over the age of 65. Studies show that the prevalence of hypertension dramatically increases with age, as more than 50% of people over the age of 65, and more than 80% of the people over the age of 75 are diagnosed with high blood pressure. Studies have also shown that men are more likely to develop this disease over the age of 55, while women show higher tendencies over the age of 65.

### **Heat regulation**

The ability to maintain internal temperature and adjust to external temperature is limited in aged persons. Therefore, heat and cold may pose greater risk for ageing workers. Combined with other medical conditions, like diabetes, they can be very vulnerable to frostbites and heat strokes.

### **Respiratory system**

**Respiratory disease can severely narrow one's physical working capacity.**

Functional breathing capacity gradually decreases starting at the age of 30, and by the age of 60, it might decrease by 40%. Smoking accelerates this decline very much. Although the respiratory system has larger reserves, pulmonary diseases, which are common in old age (chronic obstructive lung diseases) can be limiting factors of one's functional capacity. In such conditions physical efforts can cause shortness of breath and recurring airway inflammation may occur. These patients cannot tolerate impurities in the air.

### **Musculoskeletal system**

**Musculoskeletal disorders are very common among ageing workers and can painfully limit their movement.**

The physical structure of the musculoskeletal system peaks in the 2<sup>nd</sup>-3<sup>rd</sup> decade. Afterwards maintenance of the integrity is depending on its

appropriate loading. Underload and overload can both lead to decrease in functional capacities.

One might lose approximately 20% of the muscle strength by the age of 60. This is mainly caused by the decrease of the number of muscle fibres. With increasing age there is a gradual loss of muscle mass and muscles become weaker, less flexible and lose their joints' range of motion. Age-associated changes in muscle-strength occur earlier in women. However, specific strength training programs can maintain or even regain strength and range.

Lifetime (ab)use can cause cumulative trauma in the cartilages of the joints, which cannot regenerate. These degenerative disorders (arthritis) limit the range of movement, the load bearing capacity and are painful.

The mineral content of the bones also decrease, therefore they become less dense and more fragile. In general, women (especially during and after menopause) are more likely to develop osteoporosis. Also, with increasing age it takes longer time to repair damaged tissues like wounds, sprains, tears or fractures. Older workers may be able to perform similar tasks as their younger co-workers, but they will be closer to their maximum load capacity.

Musculoskeletal disorders are very common, especially as one ages, when it can build up substantial impact on employment prospects. Optimised symptom control and flexible adaptive work environment can help retaining older workers in their job. [5]

### **Immune system**

**Defence and repair is slower in the old age.**

The defence mechanism of the body is getting weaker during ageing. The risk of infection and the severity thereof is higher (e.g. influenza, pneumonia). Diseases and healing may take longer. Protective effect of vaccines may be poorer for older persons.

## **Malignant diseases**

**Malignant diseases are prevalent in the old age causing huge decrease in functional capacity.**

Studies show that above 65 the incidence of malignant diseases (cancers) can be 11-fold higher. Lung, large intestine and rectal cancers, lymphomas and leukemias are common in both sexes. Breast cancer is the leading malignant disease among women and prostate cancer is common among males. Malignant diseases can manifest themselves after several years or decades (latency). This means that prevention should start in the youth and be common among the aged.

## **Regulation of posture, balance and co-ordination of movements**

**Accident risk is higher among ageing workers.**

Voluntary movements can be slower, the senses (visual, auditory, tactile, olfactory) and reflexes can decrease with age. Therefore the ability to maintain a good posture and balance, targeting fine manipulation can be also impaired. These changes increase the risk of accidents (slips, trips, falls), lapses and overload, and developing chronic pain conditions. Adequate physical exercise training can prevent these changes and could also improve balance, motor coordination, and mental abilities.

## **Eyesight**

**Problems with eyesight are a very common limiting factor among ageing workers but most can be treated successfully.**

Problems with eyesight can appear in different ways, for instance, the peripheral visual field, visual acuity, depth perception, resistance to glare, and adaptation to and from dark worsen. Some changes may be corrected with glasses or surgery. The combined effect of age-related eye changes and disorders with poor or inappropriate lighting of workplaces can seriously affect the safety, comfort and performance of ageing workers. Many workers need at

least reading glasses thus font size and illumination are very important for them.

## **Hearing**

**Impaired hearing is common among ageing workers but aids are available.**

There is an inevitable loss of hearing, which starts in the highest frequencies. It takes decades (and/or loud noise, infections, side-effects of pharmaceuticals) that the most important speech frequencies are affected. Some degree of hearing loss is shown in one-third of people aged 61-70 and in over three-quarters of people aged 75. A less obvious consequence of hearing loss may be a gradual withdrawal from social life. Hearing loss may cause problems in work performance and workplace community, if the person mishears or misunderstands instructions and is ashamed to ask again, misses important information or becomes socially isolated. Hearing impairment can be associated with occupational injuries among older workers. Hearing aids now can restore most functions that a workplace requires.

## **Sleep regulation**

**Sleep problems are frequent in the old age and can lead to losses in mental and physical health, work productivity and quality.**

In old age sleeping time, as well as the period of deep sleep is shortened. A large number of older people report sleep problems, including difficulty in initiating sleep, early awakening and daytime sleepiness. Sleep time can be affected by a worker's working hours and shift patterns. Naturally, night shifts and long work hours will have a negative effect on sleep. As a consequence, concentration will be reduced and this can lead to more accidents.

Sleep problems are associated with mental and physical health, and with losses in work productivity and quality.

## **Cognitive changes in ageing**

**Cognitive changes are very diverse among ageing people.**

In this section we will take a short overview of some results from laboratory studies examining age-related changes in cognitive capacities. [6]

Ageing of the brain and other organs of the body is inevitable as one gets older, but it is not necessarily accompanied by decline in cognitive abilities. Some cognitive abilities may even improve with age (e.g. vocabulary, general knowledge), while others gradually decline (e.g. memory, processing speed). There is significant heterogeneity among older people in the rate of change in abilities.

### Intelligence

Intelligence may both decrease and increase with age, depending on the definition used. According to Cattell [7], intelligence is composed of different abilities that interact and work together. These abilities show different changes with ageing. While the so called *fluid intelligence* decline over time, the *crystallized intelligence* remains relatively stable throughout life. The term fluid intelligence refers to abilities involving problem-solving, thinking and reasoning flexibly and abstractly. This ability is considered innate, biologically based and independent of learning, experience, and education. Fluid cognitive domains are executive function (e.g. decision making), processing speed, memory, and psychomotor ability. *Crystallized intelligence* is the accumulation of knowledge, skills and abilities, acquired throughout life. It is – in contrast to fluid intelligence – rooted in one's experience and prior learning.

### Processing speed

The speed, with which cognitive activities are performed as well as the speed of motor responses, begins to decline in the third decade of life and continues across the lifespan. Many of the cognitive changes reported in healthy older adults are the result of slowed processing speed. Thus, a decline in processing speed can have implications across a variety of cognitive domains.

### Attention

In case of simple auditory attention span there is only a slight decline with age, while in more complex tasks older people perform worse than younger ones. More complex tasks are ones involving *selective attention* (ability to focus on specific information, while ignoring irrelevant information), *divided attention* (ability to focus on multiple tasks simultaneously, multitasking) or *working memory* (the ability to hold in memory and simultaneously manipulate information).

### Memory

One of the most common complaints among older people is change in memory. As a group, older people do perform worse than younger adults on a number of learning and memory tests. Age-linked memory changes may be related to factors mentioned before (e.g. decrease in processing speed, reduced ability to ignore irrelevant information).

There are two types of long-term memory:

- *Declarative or explicit memory* is responsible for conscious recollection of facts and events. It can be further divided into two subtypes: *semantic memory* (factual and conceptual knowledge about the world) and *episodic memory* (personally experienced life events). Both semantic and episodic memory declines with age, but while episodic memory shows lifelong decline, semantic memory declines in the late life.
- *Non-declarative or implicit memory* does not require conscious or effortful retrieval. One subtype of it is *procedural memory*, which stores motor and cognitive skills (e.g. remembering how to ride a bicycle). In contrast to declarative memory, non-declarative memory remains stable throughout life.

*Acquisition* as is the rate of ability to add (encode) new information into memory and *memory retrieval*, which is the ability to access newly learned information, decline across the lifespan. On the other hand, *retention* of information that is successfully learned is preserved in

cognitively healthy older adults. Note: Training methods and materials that are tailored to young persons can be unsuitable to ageing workers.

### **Reaction time**

Reaction time (the length of time it takes to respond to a given stimulus) becomes slower with age.

### **Declines in intellectual functioning can be compensated by knowledge, skills and experiences.**

The changes described above can be considered as *normal cognitive changes* occurring with ageing. These changes may affect day to day function of older people, but normal age-related cognitive changes by definition do not impair the ability to perform daily activities. Even though some aspects of intellectual functioning decline (e.g. flexible coping with new problems), in most of everyday tasks it is compensated by knowledge, skills and experiences gathered throughout life.

### **Mental health and ageing**

Sometimes old age is viewed as an enriching period in life that opens up possibilities. Indeed, there is evidence that increased age may be associated with more positive and less negative affects.

On the other hand, it is also known that ageing is often accompanied by negative emotions, which can be regarded as normal. Negative life events (bereavement, losses, loneliness, health issues, financial problems, etc.) and also certain workplace situations may increase stress and anxiety. Family members or friends may help coping with difficulties, while isolation may exacerbate vulnerability.

### **Depression is one of the most common reasons for work disability and early retirement.**

Mental disorders may also appear with ageing (but not as a part of normal ageing), their incidence grows over the age of 65. The most common mental

illnesses in old age are dementia, depression, anxiety disorder and delirium. Many times there are physical diseases behind mental disorders (e.g. diabetes, circulatory diseases, malignancies). Besides musculoskeletal disorders depression is one of the most common reasons for work disability and early retirement.

The different outcomes – growth, average functioning that may (or may not) be accompanied by some negative emotions and mental disorders – reflect the trinity of successful, normal and pathological ageing, mentioned earlier.

### **Personality and ageing**

There is a general agreement among psychologists that there are five broad factors that describe personality. The so called Big Five personality traits are: *Neuroticism* (the tendency to experience negative emotions, including anxiety, depression, and impulsiveness), *Extraversion* (an interpersonal dimension that includes sociability, activity and positive emotions), *Openness to experience* (includes fantasy, aesthetics and intellectual curiosity), *Agreeableness* (including altruism, trust, and modesty) and *Conscientiousness* (including will to achieve, self-discipline and dutifulness).

### **Most people become more emotionally stable, agreeable, and conscientious, but less open and active with age.**

Research findings indicate that these traits remain stable throughout life, however some relatively small changes appear during adulthood: Neuroticism, Extraversion and Openness decline, whereas Agreeableness and Conscientiousness increase. This means that most people become more emotionally stable, agreeable, and conscientious, but less open and active with age [8].

Many things change in our lives: the world around us, our habits and behaviours, our attitudes and opinions, our social roles and interpersonal relationships, our identity. But personality itself shows considerable stability with ageing [9].

### 3.3 Ageing employees in the labour market

#### Stereotypes of ageing workers

There are many beliefs and misbeliefs about ageing people, both in everyday life and in the world of work. The term *ageing*, according to the definition of WHO, refers to the stereotypes (how we *think*), prejudice (how we *feel*) and discrimination (how we *act*) against individuals or groups based on age.

#### **Age stereotypes are often simplistic and inaccurate: being very harmful in the world of work.**

This part focuses on the beliefs and stereotypes about older people in the labour market.

In a study [10], in which managers compared older and younger workers on different performance dimensions, the statistical analyses revealed two factors: *adaptability* (ability to grasp new ideas, adapt to changes, accept new technology and learn quickly) and *general work effectiveness* (being reliable, work hard and effective, work well in teams, think before act and have interpersonal skills). Older workers compared to younger ones were seen as less effective in the factor of adaptability, but more effective in the factor of general work effectiveness.

Another study [11] that reviewed 117 articles and books on workplace age stereotypes, found the following stereotypes:

- *poor performance*: Older workers are less motivated and productive and have lower ability than younger workers.
- *resistance to change*: Older workers are less adaptable and flexible and harder to train.
- *lower ability to learn*: Older workers have a lower ability to learn and consequently less potential for development.
- *shorter tenure*: Because of shorter job tenure of older workers employer will have less time to make profit of training investments.
- *more costly*: Older workers have higher wages and use benefits more.

- *more dependable*: A more positive stereotype according to which older employees are more stable, honest, trustworthy, loyal and committed to the job.

There is another common stereotype that older people are sick more often. The evidence on sickness absence is mixed and can be attenuated by perceived fairness [12]. The root can be the type of diseases and not the age. [13] Older people may be sick rarer but longer due to chronic health conditions and longer recovery times.

Taken together, ageing workers are seen as being slower and not open to any novelties, but on the other hand as more reliable, judicious and interpersonally skilled.

#### **Employee skill predicts job performance better than age.**

Studies indicate that age stereotypes can influence employment-related decisions. Therefore it is very important to address the issue of age stereotyping. Posthuma and Campion [11] formulate some useful recommendations for employers. They are for example suggested to be aware that age stereotyping is prevalent, difficult to avoid and may affect employment decisions. Further, it is important to keep in mind that employee skill predicts job performance better than age (the variation in most work-related variables is much greater within than between age groups). Managers should be trained to identify the common age stereotypes and to know the evidence against their validity, and to identify positive characteristics of older workers.

#### **Work performance of older employees**

According to the scientific literature, the work performance of older employees is a complex and somewhat controversial issue, with often conflicting result from different studies.

As for physical work capacity (e.g. cardiorespiratory capacity, muscular strength) there is a general agreement that it declines with age. Individual differences nuance this picture of course: both poor and excellent work



capacity and health can occur at any age, but the general tendency is that functional capacity (capacity of work-related activities), or at least some aspects of it (e.g. hand strength) of healthy workers declines with age.

The question of cognitive work capacity is much more complicated. As we could see above, growing age is associated with declines in certain aspects of cognitive functioning. Despite this, many scientists argue that age may even have a positive effect on work performance.

Evidence support that work-related experience can counterweight age-related declines.

Warr [10] claims that the relationship of age and different dimensions of performance range from strongly negative (older workers perform worse than younger ones) to strongly positive (older workers perform better), and sometimes it is neutral (no difference between the two groups). Therefore we should not expect to find a universal decline in job performance with increasing age. In case of some work activities age appears to be an advantage.

The author proposes a four-category framework to distinguish between jobs that are likely to remain stable and ones that potentially change with increasing age. The model takes into account that on one hand, *basic physiological and psychological capacities* (e.g. response speed, selective attention) decline with age, while on the other hand there are *gains from experiences* (e.g. knowledge, skills, routines of behaviour, effort-saving strategies, wider perspectives on problems), that increase with age. On the basis of the combined effect of these two features four task categories can be generated [10]:

*age-enhanced activities* (e.g. knowledge-based judgement with no time pressure): task demands do not exceed basic capacities and due to work experience, performance improves

*age-impaired activities* (e.g. continuous, rapid information-processing): task demands exceed basic capacities and work experience cannot help

*age-neutral activities* (e.g. undemanding, routine tasks): low task demands and no need for work experience

*age-counteracted activities* (e.g. skilled manual or cognitive work): task demands cause increasing difficulty with age, but it can be compensated with work experience

Evidence from different domains supports that work-related experience can counterweight age-related declines. A study on typing for example indicates that older skilled typists could compensate the age-related decline in response speed by using larger text preview and thus maintaining high typing rates.

The model of *selection, optimization, and compensation* (SOC) focuses on these (age-counteracted) types of activities [14]. According to the model, we select goals that are important or relevant for us. The *selection* can be motivation-driven, from a number of possibilities or loss-based, resulting from the unavailability of relevant means or resources. In order to achieve our goal and reach optimal level of functioning, we need to optimize (acquire, allocate and refine) the goal-relevant resources (*optimization*). In case of loss or decline in goal-relevant means, we need compensatory processes to maintain level of functioning (*compensation*). As an example of the application of the model, Baltes cites the concert pianist Arthur Rubinstein, who was asked in the age of 80 how he maintained his high level of piano playing. The artists' answer was:

- he played fewer pieces (selection)
- he practiced these pieces more often (optimization)
- he used a special technique (playing more slowly before fast segments to make those appear faster) to compensate loss in mechanical speed (compensation)

#### **Age itself is less important in job performance than individual skill and health.**

As a conclusion we can say that age itself is less important in job performance than individual skills, competences and health. First, there may be larger differences in job performance within age groups than between age groups. Second, certain age-related losses can be compensated with work-relevant knowledge. More importantly, demands of work should be in balance with individual capacities. Work performance will result from the interaction of the worker's physical and mental capacities, the demands of work, and the

possibilities of adjustment of these two in case of change of either. Some of the positive and negative changes that may accompany ageing (and ageing at work), mentioned so far are summarized in Table 2.

Table 2: Examples of positive and negative changes with ageing and ageing at work

	Changes with ageing	
	Negative	Positive
Cognitive changes [4]	Fluid intelligence Processing speed Attention Memory (declarative) Memory (acquisition and retrieval)	Crystallized intelligence General knowledge Vocabulary Memory (non-declarative)
Mental health	Mental disorders (depression, anxiety disorder, dementia): incidence grows	Mental growth Wisdom Patience
Stereotypes [8, 9]	Adaptability declines	General work effectiveness increases
	Poor performance Resistance to change Lower ability to learn Shorter tenure More costly	More dependable (more stable, honest, trustworthy, loyal, committed)
Work tasks [8]	Age-impaired activities	Age-enhanced activities

### Interventions for ageing workers

Recall, that above a number of physical and cognitive changes are listed that commonly occur while ageing. These changes have serious implications for working life (see also Table 1).

Most exposures at work can have increased risk on ageing workers:

- high physical workload (e.g. lifting and carrying heavy loads, working in awkward positions, highly dynamic or static works, risk of cumulative micro-trauma to the hands)
- psychosocial risks (e.g. very intensive pace of work, externally/machine dictated pace, time pressure, attention and concentration, information overload)
- psychosocial risk/arrangement of working hours (e.g. shift work, night shift, long working hours)
- psychosocial risks/social contacts, work relations (e.g. low appreciation, little autonomy to act, lack of support from superiors)
- increased risk of accident
- extreme climatic work environments (heat, cold, extremes of humidity)
- physical risk factors (e.g. vibration, radiation, pressure, noise)
- chemical risk factors (chemical agents, dusts)
- biological agents (e.g. bacteria, viruses, parasites)

**Occupational safety and health is fundamental, and health promotion can strengthen the resources.**

Occupational safety and health (OSH) is fundamental in every intervention at work. An abundance of sources is available on this topic starting from EU legislation to textbooks and guidelines. Therefore, instead of reiterating the principles of OSH, we refer you to directly consult these sources, many of them specifically addressing the safety and health of ageing workers. It must be emphasised that the basics of any workplace intervention is proper OSH.

However, there are further possibilities in enhancing employee's health, well-being and satisfaction and, as a consequence, productivity. Health promotion interventions have a wide range of activities. Scientific literature classifies them according to their *focus* (primary, secondary or tertiary) and *level* (individual or organizational).

*Primary interventions* aim to prevent problems (e.g. illness, disease, injury, or decrease in performance) from occurring by removing risks and enhancing the causes of well-being. *Secondary interventions* aim to reduce the impact (severity, duration) of the problem once it has occurred and to prevent its further development.

*Tertiary interventions* seek to rehabilitate and maximize functioning for those who are already experiencing or suffering from the problem.

As for the level: *individual-level interventions* focus on employees (e.g. helping them to develop skills), while *organizational-level interventions* are more systemic changes that may target all employees of the organization or a specific group of them.

Both individual and organizational-level interventions can be primary, secondary and tertiary in their focus [15]. Some examples of health promotion intervention in each category are shown in Table 3.

Table 3: Examples for types of health promotion interventions of different focus and level [15]

Focus of intervention	Level of intervention	
	Individual	Organizational
<b>Primary</b>	Selection, assessment Medical examination (pre-employment and periodic)	Job redesign Working time and schedules Management training
<b>Secondary</b>	Training: <ul style="list-style-type: none"> <li>• job-related knowledge and skills</li> <li>• personal and interpersonal skills (e.g. communication)</li> <li>• coping skills (e.g. emotion-focused and problem-focused coping)</li> </ul>	Improving communication Improving decision making Conflict management Career planning Team building
<b>Tertiary</b>	Employee assistance programmes Counselling Disability management	Vocational rehabilitation Outplacement Assignment into new work task, team reorganization

This model can be easily applied to age management.

### **Primary focus, individual level interventions**

Note: Posthuma and Campion [11] provided some recommendations for employers to avoid the effects of age stereotypes on their employment decisions (hiring, dismissal). One of these call managers' attention to use ageing workers as a comparative advantage: consider that their strengths should be utilised, that there is a much wider variation in most work-related variables within, than between age groups, and that skills are more important than age in predicting job performance.

It should also be mentioned, that due to age-related physical and cognitive changes, ageing workers may need more frequent assessments to control for impact of work-related exposures.

### **Primary focus, organizational level interventions**

Job redesign (revising individual work tasks according to strengths, needs and capabilities) mentioned in Table 3, is very important for productivity and well-being of workers. In case of ageing workers it may mean decreasing physical workload, introducing short breaks in work processes or considering health risks when scheduling shift work and flexible working arrangements. Another option is to share the work duties between younger and older employees [16]. This, besides utilising the different strengths of different generations, may also be useful in beating stereotypes about ageing workers. Measures include building on the strengths of older people, i.e. reducing physical demands and using psychosocial skills and competences, e.g. in training and learning processes, in project management, as team leaders, etc.

### **Secondary focus, individual level interventions**

Ageing workers should be provided the possibility to participate in teaching, training, learning activities. Recall, that one of the most common stereotypes of ageing workers is that they have a lower ability to learn and having less potential for development [11]. The research evidence on the validity of this stereotype is inconsistent. Another stereotype is that older workers provide a lower return on investments (e.g. for further training), because they are close

to retirement. There is some evidence, however, that older workers are not more likely to leave the organization than younger ones, and the training investments return in a relatively short time. It should be noted, however, that older people learn differently than younger people and, especially in the case of computer-based systems, age-homogeneous groups with specific requirements in terms of methodology and didactics are advisable. Still, such beliefs may lead the employer to provide fewer possibilities for ageing workers to learn. However, even if there are changes in learning processes, strategies and optimal conditions in case of ageing workers, acquiring knowledge and skills may be useful for them: it may enhance their productivity and, through positive learning experiences, even their motivation (towards work or more learning). Forming multi-generational study groups with supporting and inspiring atmosphere may provide opportunity for the different generations for exchange of experiences.

### **Secondary focus, organizational level interventions**

Changes in work performance in some cases may not be due to age-related changes or work demands, but are rather attributed to social or psychological factors, such as difficulties with work community, social discord among workers, or broken trust relationships with superiors.

Social relationships are of major importance. For example, the effect of social support provided by the supervisor on well-being and job satisfaction is well-documented. Workplace social relations may be improved with team building, or can be addressed with interventions focusing on organizational communication, climate and justice. Positive changes in these domains may also enhance work motivation.

### **Tertiary focus, individual level interventions**

Some workplace situations (e.g. ageism, increasing physical and cognitive demands) may have a negative effect on ageing workers' mental health. Mental health problems (e.g. work-related stress, burnout, un-explained physical symptoms, chronic fatigue, and, as a secondary consequence, higher injury rates) may cause conflicts and poor productivity. Of course not all work-related

mental health problems are age-related, and not all age-related mental health problems are work-related. For example in many cases ageing workers bring to the workplace mental health problems that have long histories and origins outside the workplace [17]. However, interventions targeting mental health problems may be beneficial for both the worker and the workplace.

### **Tertiary focus, organizational level interventions**

Older workers are important members of the workforce. They have knowledge, skills, experiences that younger workers do not possess. As Ilmarinen [16] points out, „*the strongest combination of competences in the workplace is based on the different strengths of different generations*“. Remember also the factor of *general work effectiveness* [10] and “*the more dependable*” stereotype [11]. These positive stereotypes do have validity. Employers should appreciate this and obtain the benefits of employing older workers, possibly by assigning them into new work task or by team reorganization, if needed.

## **3.4 Work ability and ageing**

**The differences in work ability between individuals grow significantly with age.**

Work ability tends to decline with growing age. Although the mean values of the working population from 20 to 65 years remain in the categories of good and excellent, about 30% of workers over age of 45 show a marked decline in both blue- and white-collar jobs. The differences in work ability between individuals grow significantly with age. With regard to work ability, work population over the age of 45 is very heterogeneous compared to younger workers. About 15–30% of this age group have moderate or poor level of work ability. These workers are at risk of losing their work ability without preventive and corrective actions [18]. Ilmarinen [16] claims that actions in the workplace to promote work ability should cover all four floors of the work ability house.

### **Health and functional capacities (1<sup>st</sup> floor)**

There are many possibilities for achieving and maintaining health: changing to healthy lifestyle (e.g. diet, physical activities, recovery, and/or sleep), treatment of health problems, and participating in preventive and proactive measures.

### **Competence (2<sup>nd</sup> floor)**

Maintaining professional competence requires continuous updating and improving of skills and knowledge.

### **Values, attitudes and motivation (3<sup>rd</sup> floor)**

These factors are usually not targeted by direct interventions rather they are aimed to be influenced indirectly, mainly through interventions focusing on the 4th floor. Some of the 4th floor factors that may bear on values, attitudes and motivations, are associated with management and leadership skills. Fair treatment, respect and support should be expressed towards the workers. They also need feedback on their work and recommendations on how to improve their performance.

### **Work (4<sup>th</sup> floor)**

This is the largest and most prominent floor of the house containing work environment, work organisation, work arrangements, working time, work community, work tasks and management. Managers and supervisors play an important role because they are in charge of arranging work processes and individual work tasks and they make all the decisions. Also they are responsible for occupational health and safety matters, including risk assessments.

Ilmarinen’s recommendations [16] for the four floors of the work ability house seem to match the model presented at 3 [15]. Actions of 1<sup>st</sup> and 2<sup>nd</sup> floor correspond to individual level interventions, while actions of 3<sup>rd</sup> and 4<sup>th</sup> floor to organizational level interventions (risk assessment is not mentioned in Table 5.3, because it is not viewed as a health promotion intervention, but rather a legal obligation). Accordingly, Ilmarinen notes that workers are more



responsible for their health and competence (1<sup>st</sup> and 2<sup>nd</sup> floor), while the employer has more responsibility for the organisation and arrangements of the work (4<sup>th</sup> floor). Values, attitudes and other personal factors (3<sup>rd</sup> floor) can be influenced through 4<sup>th</sup> floor, but ultimately the employees themselves are responsible for their own values, attitudes and other personal factors. Thus the cooperation between the employer and employee is needed to create a better balance in the workplace and enhance work ability.

It is also worth noting that interventions that are beneficial for ageing workers are usually favourable for younger ones as well.

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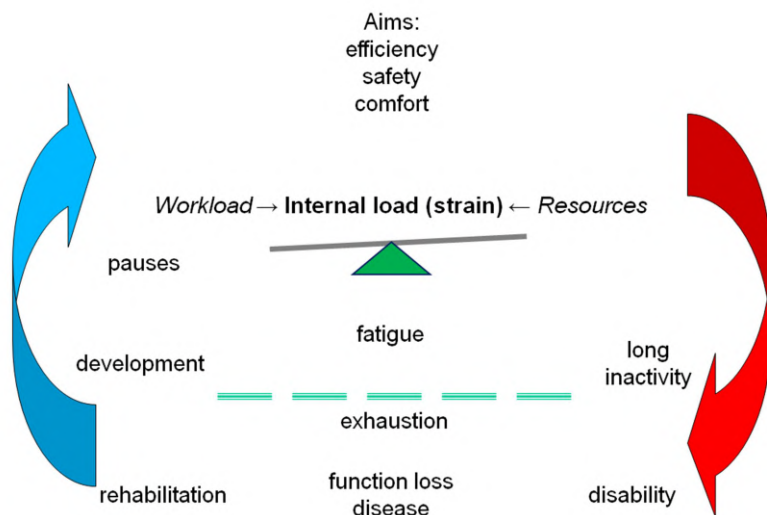
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## 4. Conducive and Limiting Factors Determining Work Ability

### **The same workload can cause different strain in each worker.**

Current work ability can be simplified to the balance between the workload and the worker's resources (Figure 5). On one hand, the worker has its individual characteristics (health: bodily, cognitive and mental functions, qualifications and competences). On the other hand the work has its unique features. The workload can be objectively measured (e.g. weights, forces, temperature, levels of pollutants, radiations) or estimated (e.g. psychosocial factors). There are non-occupational loads as well (family, financial matters, social issues, environmental, lifestyle, and hobbies – not indicated on Figure 5). All these exposures produce an effect within the worker and the individual responses are characteristic to the worker: summed up as internal load or strain. [1] All in all, the same workload can cause different strain in each worker. Work is consuming the worker's resources causing natural fatigue. During pauses the resources are regained. Overload depletes the resources and exhaustion occurs. This can culminate into function loss, diseases and disability. Furthermore, in the long run, rehabilitation can develop lost functions while long term inactivity decreases one's resources. [2]

Figure 5: The balance between the workload and the resources of the worker  
(compiled by the authors based on [1, 2])



When addressing the balance between work and worker the focus is initially on the workload: it should be matched to the individual. However, the worker can also do for this balance by building resources: living a healthy lifestyle and working in a safe and healthy way. During work the resources of the individual are used and can cause fatigue by the end of the day. The rate of fatigue can be slowed by pauses and resources are refilled during sleep, weekends and holidays. Once the resources are exhausted the risk of ill health is getting higher: the fit between the work and worker is upset.

Based on the classic house model of work ability [3], the possibilities of and tasks to promote work ability are related to the following topics:

- physical, mental health and functional capacity (which is the 1<sup>st</sup> floor of the Work Ability House)
- skills, work experience, learning (which is the 2<sup>nd</sup> floor)
- values, attitudes, motivation (which is the 3<sup>rd</sup> floor)

- workplace (which is the 4<sup>th</sup> floor)

In the following, we provide suggestions on the tasks related to maintaining work ability.

## 4.1 Physical and mental health, and functional capacity

An individual's health is an important asset to meet the demands of their work. Therefore it is strongly recommended to support workers in preventing and regaining their health. As the functional capacity is one of the very basic element of the work ability, every step which preserve functional capacity, increase the possibility of preserving work ability.

**Working with chronic disease is possible if the work tasks are suited to worker, in which occupational health services can help. Enabling access to medical and mental care and lifestyle counselling helps ageing workers regain and preserve their health.**

Mental health and physical health are important elements of work ability. Poor health might cause early retirement due to chronic pain or diseases. To retain (older) workers, it is recommended to help them in preventing or treating diseases. [4]

**Provision of affordable healthy diet choices at work helps weight control.**

Overweight is a common phenomenon in European societies and have serious health consequences, like heart disease, diabetes and the reduction of functional capacities. Most of the cases body weight is increasing with age. Optimal weight is the balance of energy (food) input and energy consumption (physical exercise). Both are practical targets for intervention. The richness (balance, variety, vitamins and microelements) of food is also a very important factor. Healthy diet can be encouraged by the provision of healthy and affordable choices at work. [4, 6]

**Increasing physical activity among passive workers is beneficial if introduced gradually and tailor-made. Workers in physically demanding tasks benefit from exercising in working and free time hours.**

Many workers are getting physically less active as time goes by. Energy consumption is minimal in sedentary occupations. They benefit a lot from physical exercises. However, this should be introduced tailored to their health and gradually. Specific exercises may be required for those workers whose physical work demands cannot be lowered. They can maintain their capacity easier if they can do these exercises in working time. [4]

**Refraining from drug (ab)use, smoking cessation and reduction of alcohol use are beneficial for every working generation.**

Smoking is deleterious to many organs and can severely decrease functional capacity. Alcohol abuse is an ongoing intoxication with severe consequences on physical and mental health. Early prevention thereof can help maintaining work ability. Furthermore, smoking cessation and the reduction of alcohol consumption are beneficial in every age and every health condition. [4, 6]

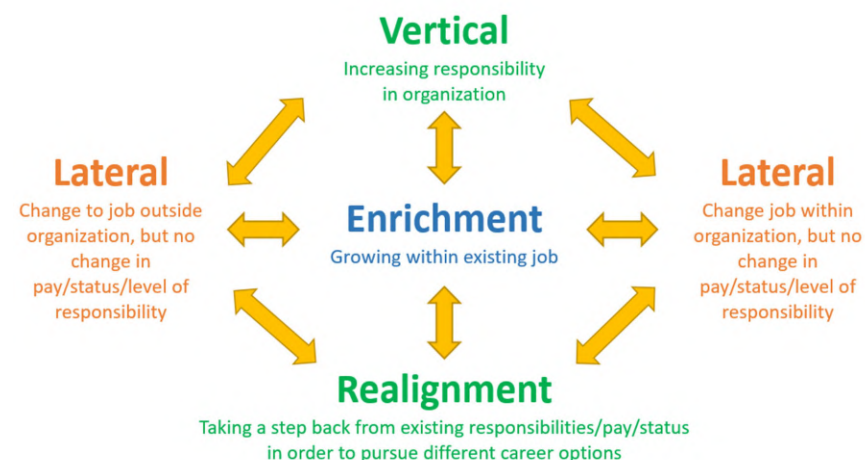
## 4.2 Skills, work experience, learning

On the second floor of the work ability house there are the skills and work experience, and learning. There are strategies to improve this level also: age positive approach, age-mixed working groups, supporting age positive organizational culture, facilitating knowledge/skill transfer, offering skill training, and retirement planning support.

**“Ahead” is not always “up”.**

Current science use a new approach towards career in the old age: The career ladder is replaced by a lattice (Figure 6) where every direction makes developmental sense. Ageing workers do not always strive to be “promoted” but have different needs they want to satisfy (e.g. flexibility, challenges, and novelties).

Figure 6: Framework for career counselling in the old age: the career lattice (adapted from Young [7])



**Older workers should be encouraged to participate in trainings.**

Older workers have different education to the younger generations. They can benefit from possibilities to improve their qualification level. Companies should provide equal opportunities for every generation in the access to trainings. The management and the supervisors should have a positive and supportive attitude. [4]

**Ageing workers can keep the pace if adequate trainings are provided.**

As technology evolves at companies the skills and knowledge of ageing workers may require updates. They may need specific training to continue to be that valuable and productive part of the enterprise as before. [4]

**Training for ageing workers is specific.**

Learning in the old age is different. The changes of the ageing human brain, the individual lifetime history points to the direction that ageing workers needs trainings that are specifically tailored to older persons. These include the needs,

the topic, the strategy, the method and speed of learning. They benefit the most from materials from teachers who understand ageing workers and are supporting learning. It is preferable to group workers according to their age because they have similar background, learning speed and feel more comfortable. This is further emphasised regarding information technology themes. [4]

#### **Workers should be involved in the decisions on trainings.**

Among the strategies for developing skills and competences, Lifelong Learning can benefit every employee. Workers above fifty mentioned the following trainings:

- Foreign language
- Information & computer technology skills
- Specific technical or professional skills
- Supervisory/management skills
- Formal certification or degree courses
- Project management skills
- Negotiation skills
- Career development
- Required professional credits

Skills can be general and specific. General skills (communication, computer use, leadership, safety and health) are useful in most working environment. Specific skills are closely related to a job and can provide a boost to the competencies in the given job (e.g. a one day course on a novelty sealant for a stonemason). [4]

#### **The reinforcement of the social network is reinforcing the company.**

Ageing workers can have interactive skills that strengthen the work community. The management can help maintaining and developing such social networks for work and free time. [4]

#### **The experience of ageing workers is a valuable asset to utilize.**

It is impossible to replace the decades of work experience culminated in ageing workers. Their wisdom and broader point of view can be creatively utilised in the enterprise. [4]

### **4.3 Values, attitudes, and motivation**

#### **Job satisfaction and work engagement are positively correlated to the work ability.**

On the third floor of the work ability house we find the values and attitudes. Maintaining work ability is not depending just on workplace demands, it is also the result of other factors, like personality of the employee. While an adult's personality cannot be changed in a large extent, it is recommended to foster a general orientation that favours positive affectivity, emotional stability, and conscientiousness.

Positive affect refers to emotions and feelings such as enthusiasm, activity, and alertness. Individuals with high positive affectivity are more energetic, concentrated, engaged, and they are more likely to take on challenges and easily cope with changes because they are also more resilient. On the other hand, people with low positive affectivity often have less energy and feel lethargic, making them more likely to quit their job as they might feel overwhelmed.

Emotional stability is the opposite of neuroticism. People with neuroticism are more prone to feel nervous, distressed, frustrated, and are often has irrational self-consciousness. This emotional vulnerability is associated with shorter life spans due to high stress levels that increase the chances of developing chronic diseases.

Conscientious employees have a strong desire to complete their tasks well and thoroughly. They also pay more attention to details, and are more organized regarding their work, that contributes to their overall performance. In general, older workers seem to be more conscientious than their younger co-workers, and this trait could be an opportunity to effectively support their growth and the learning of new abilities and skills.



Self-efficacy means whether a person feels like having the adequate abilities to perform the tasks assigned to him/her well or not, or it could be also described as the general perception of one's capabilities. Studies have shown that it is in close relation with coping with work-related stress and coping with other changes due to aging.

Employees' personal life is closely related to work ability, as it strongly determines their mental and physical health. It is recommended to take their abilities and previous experiences into account, and to try to create a positive relationship between their work and personal life.

#### **Providing open time-perspective for ageing workers is a win-win.**

There is a connection between the worker's time perspective and the work ability. Open time perspective has long term focus. They are more willing to take risks and aim the maximization of gains: typical for younger workers. Closed time-perspective has short focus. They avoid risks because it aims the minimization of losses: more and more common as one is ageing. The employer needs to realize, that the employees need very different kind of working condition and motivation systems, depending on their time perspective. As a worker thinking in open ended way based on "time since birth" perspective, makes a huge difference to the closed time perspective "time till death" perspective. In the case of working life, it means: "since the beginning of my career", and "until I retire". Research showed that workers with open time-perspective have higher work ability and less risk of leaving the labour market. Therefore jobs for ageing workers can benefit from crafting them into open time perspective. [8]

#### **Specialist experts can plan and realise interventions that address values and attitudes.**

It is very difficult to shape values and attitudes. Therefore the aim is to restructure attitudes towards deleterious behaviours (e.g. smoking) and raise and develop ambivalence. These are the seeds of changing. Psychologists can professionally manage interventions like cognitive behavioural or mindfulness trainings [9, 10], likewise interventions on corporate culture (see below).

## **4.4 Work, Workplace & Management/Leadership**

The workplace is the primary scene where work ability is featured. Therefore, this is the place where interventions are the most relevant.

#### **The special aspects of aging workers should be mainstreamed into risk assessment and management.**

It is fundamental to provide proper occupational safety and health to workers. Legal requirements are only the starting point and it is advisable to strive to reach optimum situation. The tool for diagnosis is (ongoing) risk assessment and the measures are guided by the hierarchy of controls. Aging workers feature special aspects that should be taken into consideration. The older worker can do the same tasks as the younger worker, they just need more time for recovery after demanding tasks or injuries. Inappropriate job demands can negatively affect the workers' health, well-being and thus performance. We must identify which physical, psychological, social and organizational elements are leading to a mismatch that results the decline of the employees' work ability. To create an effective plan to maintain or even improve (not only older) workers' work ability, we must take a holistic approach. [4]

#### **Accident prevention has special aspects among ageing workers.**

Due to their routine, ageing workers can have fewer accidents. However, these accidents are more serious, or even fatal due to their frailty. The situations must be identified during risk assessment where, due to their age-related changes, older workers are at special risk of injury. [4]

#### **Supervisors need training in age management.**

Supervisors and middle managers are key persons in enterprises. They require special information on age leadership, methods, and tools. They must be given authority to realise interventions making workplaces age friendly. [4]

#### **A well-designed workplace benefits everyone.**

Workstations and job tasks that can be and are matched to the needs of the individual employee are good both for productivity and well-being. Different

conditions for different workers may be needed to meet the needs of any employee, not just one that is older. [4]

## **Physical demands**

### **Ageing worker's exposure to hazards from the physical work environment should be minimised.**

Dangerous substances are toxic in any age. Detoxification (liver and kidney capacities) can be decreased as one is aging. Exposure should be avoided whenever possible. Working with loud or vibrating machinery or even just being near these can be exhausting. If it is not possible to avoid (e.g. by enclosure) or reduce (e.g. by insulation) the load it is recommended to avoid using these machines as much as possible, or to rotate between different tasks regularly. Noise is not only from machines: human noise (e.g. in large public premises) can make understanding difficult and easily distract the attention. The result is early fatigue and errors. Extreme climatic conditions (heat, cold, vaporous) and sudden changes should be avoided as well. [4]

### **Physical work demands of ageing workers should be reduced.**

The more demanding the work is (strenuous work, peak loads, repetitive movements and awkward postures) the more it is likely to harm one's work ability. It is recommended that older workers avoid working in awkward positions, repetitive and heavy lifting and bending often. Physical overload can lead to the development of chronic pain especially in older employees. Assigning them with fewer heavy physical tasks as well as the provision of ergonomic aids contributes to the prevention of chronic pain. Job rotation can be helpful if the cumulative load is indeed lower: rotation between demanding stations will not lower the strain. Older workers generally have lower load capacity because of physical decline associated with age. Although it happens at varying rates, it is important to pay close attention to older workers' physical capabilities. Women are even more vulnerable to physical work demands and need special attention. Improvement of a workplace e.g. by eliminating or mechanising demanding tasks (e.g. lifting) can turn a workstation fit (again) for an older worker. When workload cannot be lowered the reduction of working

hours is an option to adapt to the worker's resources. As far as reasonably achievable, the worker's salary should be kept level. [4, 11]

### **Micropauses are very efficient in the prevention of cumulative overload.**

The pool of resources is limited in the old age and can be used up faster. Therefore they need more frequent pauses to regenerate. The merge of pause times should be avoided. [4]

### **More time allocated for the tasks and breaking down the load into smaller pieces are helpful interventions.**

Older workers often show the need for independence in modification of their work processes according to their abilities and preferences. They know their strengths and weaknesses the best. This aspect can also contribute to the improvement of interpersonal relationships as co-workers have to cooperate to function effectively. It also makes work more engaging as they can fulfil tasks that fit their skills and abilities. [4]

### **Flexible worktime improves satisfaction.**

Older employees might need more free time to be able to take care of their health and other matters. It is recommended to let ageing workers design their schedules or, at least, their schedule should be discussed and reconciled with their involvement. Some may want to work part time: they could benefit from gradually reduced working hours. This can help retaining workers who are not able to work full time anymore. Alternation leaves may benefit some workers by providing longer periods to "recharge ones batteries". [4]

### **Reduction of irregular and shift work is recommended.**

The deterioration of sleep quality in the old age makes them vulnerable to shift work. Therefore, it is wise to reduce night shifts and irregular day shifts among ageing workers. [4]

## **Psychosocial factors**

### **Job resources support employees in meeting the demands of their jobs.**

The job resources include: organizational factors like payment and job security; task factors such as significance of the given tasks, or feedback about one's performance; interpersonal factors, which contains the support from co-workers and supervisors; and the organization of work. These resources support employees in meeting the demands of their jobs and provide direct benefits such as improved health and well-being. [12, 13]

### **Ageing workers benefit more from social support.**

With instrumental support we can alleviate strain that might be caused by the work procedures to improve work ability. Applying the stress-buffering hypothesis also contributes to the general improvement of the employees' performance by encouraging co-workers and supervisors to support each other at their work. Usually in older workers emotional goals are more important than knowledge-acquisition goals, therefore they can benefit more from social support, which is significantly beneficial to work ability. Ageing workers also need the acknowledgment of their work, the acknowledgment of them as an individual, acknowledgment of their experience-saturated competence, and respect.

Task significance refers to the extent to which the job and specific tasks influence the lives and work of other people. It contains elements such as the feeling of meaningfulness, responsibility, and the knowledge of results. Studies have shown that task significance intervention improves performance, motivation, satisfaction and helps with low absenteeism and turnover. Older workers are usually more focused on the results of their work overall, therefore it is highly recommended to involve them in such programs.

Role conflict can be a major problem if the employee receives different orders or instructions from their superiors. It definitely causes confusion, and thus strain, and might lead to uncertainty. We also have to consider the fact that the given instructions might not fit the working style of some employees, so it is highly recommended to ask their opinion on the given tasks. Providing a chance to converse about the processes of their work can also help prevent role conflict. [4, 13, 14]

### **Ageing workers need interesting work.**

It is recommended to maintain appropriate levels of arousal to prevent job boredom. If the given task is way too simple and repetitive, it can easily cause dissatisfaction and the decline of motivation. The lack of challenging tasks also makes employees less likely to think creatively. In addition, their perception of their abilities may worsen, so it is highly recommended to assign them with tasks that fit their abilities and are slightly challenging to prevent these effects. Task rotation, shorter shifts for monotonous tasks and increasing insight into the significance of the given tasks can also contribute to the prevention of job boredom. However, the final effect takes place within the worker and there are persons who do not want challenges. Thus workers must be always consulted on changes that want to create challenges. [4, 13]

### **Most ageing workers perform better if freedom is given in the way they work.**

Older workers often require a certain degree of freedom in their work, especially in determining their work procedures. Appropriate amounts of autonomy can reinforce one's sense of meaningfulness and also encourages them to be responsible. Coping with adverse experiences (sense of coherence) is a valuable resource to overcome difficult situations (understand, digest and manage) and step ahead. Those who have obtained significant amounts of work experience can also benefit from freedom in work by allowing them to utilize their knowledge, skills and previous experience. The need for freedom varies between each employee. [4]

While physical demands could be measured in most cases, some jobs such as interactive service work demand mental stamina, which is much more subjective, as mental load is determined by one's own perception. Service workers must always be friendly to customers, which can be emotionally strenuous.

### **Mental demands**

Besides the work ability model, the relationship between work and health is extensively researched via the Job Demand-Control-Support model (Figure 7),

named after Karasek and Theorell [15]. It conceptualises that stress at work is determined by the relationship between the following two basic characteristics of the work:

- (i) Psychological stress (workload), which includes psychological stressors present in the work environment, such as time pressure, overtime, personal conflicts, fear of losing a job, and so on.
- (ii) The power of control or decision, which has two main features:
  - the extent to which the employee has the opportunity to control his work, activity and use of his resources;
  - the extent to which the worker can take an active part in decisions affecting his work.

The impact of these two characteristics can be modified by a third factor: the level of social support, which includes organizational culture, work atmosphere, leadership style, help from co-workers, teamwork, and so on. There are two types of support:

- social-emotional support: trust, social belonging, appreciation etc.,
- extra help with the task.

According to Karasek's basic model, based on the combinations of workload and control, four different jobs can be distinguished in terms of stress load:

Passive work: the worker has little opportunity for control, but the psychological burden of work is also low. This situation, although it may seem attractive at times, can easily lead to stress caused by monotony and boredom (e.g. production line work, mechanical data processing, etc.).

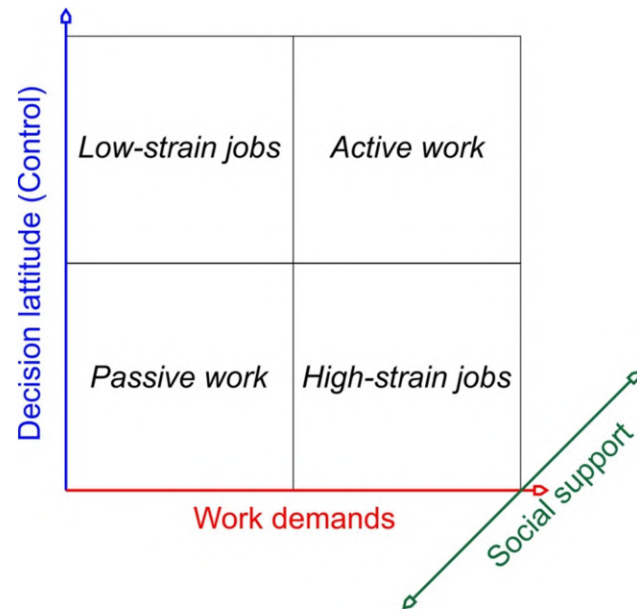
High-strain jobs: the worker has little control, but the level of strain is very high, which urges the individual to struggle. The possibility of low control over work, on the other hand, significantly limits his options. This situation generates tension between the worker's inertia and the worker's intrinsic motivation, later on it culminates into high level of stress.

Low-strain jobs: these are the so-called relaxation situations that most people basically crave. In such a workplace, the workload is typically low, while the

individual has maximum control. In this case, although the stress is very low, the individual is not provided with the opportunity for development.

Active work: situations where the worker has to face a high workload, but also has the appropriate control to perform his task. This usually results in a very active situation in which individuals experience the ability to cope with the stress that arises, which in turn provides an opportunity for continuous improvement for the individual. Such jobs are usually highly prestigious - such as a lawyer, doctor, judge, etc. - and have a high income.

Figure 7: The Demand-Control-Support model [15]



at work, need to be closely monitored by the workplace organization. The main types of these workplace stressors:

- stressors related to the task (work organisation issues: overload, inadequate working conditions, technological changes, deadlines, overtime, etc.),
- stressors related to the work environment (classical occupational safety and health risks: noise, heat, polluted air, etc.),
- individual and organizational level stressors related to roles in the organization (psychosocial issues: role conflicts, within-group conflicts, organizational climate, leadership style, etc.)

High level strain is present if the worker perceives his or her tasks burdensome. If they are given tasks that exceed their capabilities, they will inevitably feel that their goals are unachievable, thus leading to the loss of motivation and the drop of quality in their work. An unachievable task is also a major stress factor, and it is also closely related to the decline of work ability by causing burnout. While younger employees are more likely to look for a new workplace, seniors might consider retiring or continuing to work in reduced work hours.

**By changing the level of workload and control, the individual or the organization is able to shift the given situation in a more favourable (or even more unfavourable) direction.**

In the course of our work, we encounter a number of factors that can be stressful, taking into account individual and cultural differences as well as the modifying effects of the current situation. All of these, as risk factors for stress



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## 5. Personal Diagnostics: Measurement of Own Work Ability and its Analysis

### 5.1 Work Ability Index (WAI)

If we want to evaluate work ability in a structured and methodical way, we should find a sophisticated tool for measuring it. If "work ability" is an important concept, the question arises as to whether work ability can be measured objectively and how this measure could be used as an evaluation indicator. In the last two or three decades, it is clear that one of the most commonly used tools for objective determination of the level of work ability is the Work Ability Index (WAI).

In order to detect risk groups with low work ability as well as possible undesirable developments in the early stages of the employee, which would allow corrective action to be taken in time, the Finnish research team from FIOH was the first in the 1980s to come up with a solution based on the idea that only the worker him-/herself can simply summarize the multifaceted factors affecting his/her ability to work. Based on extensive clinical research and statistical analysis, they created a series of standard questions that ultimately lead to a numerical score evaluating an employee's ability to work using his/her Work Ability Index - WAI [1].

For objective evaluation and assessment of the level of work ability, a questionnaire was created, which through simple questions and prescribed answer formats gives a standardized answer to the level of work ability of the employee with possible detection of strengths and weaknesses in the complex forming the current employee work ability. The result is a single numerical value which, due to the standardization of its acquisition, is generally applicable to the assessment of the work ability of a wide range of employed persons in all areas of activities/branches and of different ages and sexes.

Due to the fact that a person's work ability is a highly individual and multi-parameter process, it was very difficult to find a tool that would be suitable for this measurement and at the same time would also meet the professional

demands that are rightly placed on objective measurement of sociological processes. In principle, therefore, it is a questionnaire method in which the respondent / employee's own opinion is as valid as the expert's opinion.

The basic premise is the requirement that the questionnaire can be completed by each employee after the instruction and its result can quantify its work ability as objectively as possible in the complexity that is inherent in work ability. This was achieved through an appropriate selection of multi criteria questions.

The WAI Work Ability Index Questionnaire is internationally standardized. The WAI questionnaire is currently implemented in a number of countries around the world and is translated into almost 30 languages. It has thus become a methodological benchmark for a comprehensive assessment of 'work ability' [2, 3]. It is used to prevent and maintain the occupational health of employees, to reintegrate them and to research this issue. It can be used for group as well as individual evaluations. It has seven main components from which the index is calculated and includes input employee identification data and questions about its basic socio-demographic data.

#### Composition of the WAI

The seven main components that make up the WAI questionnaire should provide a comprehensive view of their contributions to employee performance. In the WAI questionnaire, these components are formulated into answers to the following questions:

1. what is the current work ability compared to the best life period
2. current work ability in relation to the physical and mental requirements imposed on it
3. number of current diseases diagnosed by a doctor
4. how significant is the reduction in working capacity due to illness
5. number of days of incapacity for work during the last 12 months
6. own forecast of work ability in the next 2 years
7. mental resources of the respondent.

In these components, the questionnaire contains a total of 25 questions and 85 pre-prepared answers. These are selected by the employee whose work ability index is measured by simply ticking the answer that, in his or her opinion, most faithfully corresponds to their feelings or actual data (for example a certain diagnosis or number of sick days, etc.). The WAI index is therefore determined on the basis of answers to a number of questions that take into account the person of the worker, the requirements of the work, state of health and mental resources. The worker fills in the questionnaire himself/herself on the basis of simple instruction from an occupational health professional or occupational health doctor or other professional persons who are subject to special confidentiality requirements, who then evaluates the answers by the number of points for each of the seven questions. Their simple sum gives the total score of the WAI in the range of 7-49 points.

According to the number of points obtained, this methodology can be used to define the employee's work ability in four categories. Their description with the point range and the basic character of the recommending action is given in the following table (see next page).

The WAI questionnaire designed in this way can therefore identify staff in need of support at an early stage. Those employees who are in the area of the index is low (up to 27 points), will need as soon as possible specific measures aimed at restoring individual capacities and optimised working conditions, or additional measurements of the situation of this worker with a deeper analysis. The effectiveness of the recommended measures can be checked through repeated in-service and employment surveys.

At the same time, a high WAI score also means a lower risk for early retirement, but it also indicates a higher quality of life. The aim is to maintain the best possible WAI score even at an older age, when the out-of-work life of an employee and other so-called soft factors determining job satisfaction are becoming increasingly important. Conversely, low WAI values may not only indicate an individual's health or socio-economic problem, but may declare a possible mismatch between an employee's job requirements and work abilities.

*Table 4: WAI score points and their basic evaluation*

The range of the identified WAI index		Work ability assessment	Recommended actions
7-27		low / poor work ability	Identify and implement specific, individually focused measures aimed at restoring working ability to at least an average level of work ability
28-36		average working ability	Take measures to improve the working ability in order to move it to the level of "good"
37-43		Good work ability	Support the strengthening of some of the least evaluated factors of work ability so that the score is sustainable in the long run
44-49		excellent work ability	Maintain work ability as long as possible

The final result of the questionnaire is not only the calculation of the employee's work ability index, but the calculated score of employees also gives an insight into the conditions set for the care of employees' supporting measures to work in a particular company. Given that WAI is used to a greater or lesser extent in 52 countries around the world, it is clear that this data can also be used for international comparisons.

One of the interesting aspects of the standardized WAI questionnaire is the possibility of comparing individual and group / professional values of the WAI index with reference values valid for age, gender and the relevant profession. WAI reference values are obtained from data from a large number of measured index values for different ages and the nature of the work of employees from different fields of work. Based on the comparison of the performed

measurement with the reference values, it is therefore possible to determine whether the work ability of employees in the evaluated company or employees of the same age or the same field of work deviates from the reference values valid for them. The obtained data can be used to compare employees of the same profession employed in different companies, mutual comparison of individual professions of employees of the same age, or to compare the shares of employees with low or high WAI in different companies or between different professions.

## 5.2 Description and evaluation of individual components of the Work Ability Index (WAI) questionnaire

The seven questions of the WAI with the achievable scores are described in detail below.

### **(1) Current work ability in comparison with the best life period** (point range 0-10)

The first factor of work ability in the questionnaire is the employee's own assessment of the current work ability in comparison with the period in which he or she believes the work ability was the highest. Given that this is indicated by the employee on a scale of 0 - 10, the respondent can imagine the decrease in percent. The answer to this question is to indicate the appropriate value for the offered ten-point scale.

In practice, we encounter a somewhat different approach to the assessment of this sub-factor of work ability by men and women. The predominant rating of most respondents is directed to values 7-9, that is mean 70-90% ability against the best times in the past. Women are usually a bit stricter in this assessment, men are more likely to rate their current work ability at the top of the prevailing range of values. It is quite understandable that age in particular is inversely proportional to the chosen value of this sub-index.

### **(2) Current work ability in relation to the physical and mental requirements placed on it** (point range 2-10)

In this part of the questionnaire, the respondent is asked how the physical and mental requirements of the work they perform affect their current work ability. The WAI measurement methodology distinguishes three basic types of work performed. It is work with purely mental or physical requirements (manual work), or a combination of them.

To assess the current work ability in relation to the physical and mental demands of the work, the answer to the questionnaire is always used

separately in five levels of verbal evaluation from "very good" to "very poor". In this context, it is also stimulating for the interpretation how the respondent evaluates these demands in relation to the type of work he or she performs. The high values of this factor mean that the respondent's work is in line with his or her ideas about both physical and mental demands.

In the evaluation of this partial factor, we take into account the evaluation of both components of work ability that is mean how mental and / or physical work affects his or her work ability.

### **(3) Number of current diseases diagnosed by a doctor** (point range 1-7)

This part of the questionnaire is the only one conceived somewhat differently from all the others. This sub-factor describes the set of identifiable diseases that accompany the respondent and thus may affect his or her ability to work. Here, the questionnaire enters the area of highly sensitive personal information, which is protected in all EU countries by the relevant provisions of personal data protection<sup>1</sup>.

In Czech practice, this issue is addressed as follows:

- The WAI protocol is implemented on a personal level as a discussion of an informed respondent / employee with an occupational health service doctor (in the Czech Republic it is professionally called an occupational physician working contractually for a given organization). In that case, it is the simplest option, which does not address the issue of GDPR in this area, as information about the health status is known to this doctor and can only be added to the relevant sections of the questionnaire. In this case, however, the importance of the respondent's own opinion / beliefs about possible diagnoses that are not in his medical records also decreases, but the respondent for some reasons does not want to notify the employer indirectly.

- In the second case, used mainly in a group survey of respondents (research projects, grants, etc.), the group of respondents is jointly informed about the requirements for completing the WAI questionnaire and in this area is asked to fill in both views on one of the listed diagnoses, that is, both the diagnosis that is in his medical records and has been familiar to him or her by any attending physician, as well as those who, in his/her opinion, affect his/her health (here are often diseases or problems that could mean in his/her eyes a reduction of current application, or directly a change in the work activity). In this case, in contrast to the first situation, the respondent's own evaluation of the diagnosis becomes more important, which allows to assess in more detail (while maintaining the anonymity of the obtained data) whether in some cases some diseases are hidden, which can affect the work pace, commitment, performance, so the work ability of the employee. However, in this embodiment, we are always concerned about the disclosure of this information to a third person and the possible disclosure to the employer. Here, the most important parameter is to ensure the absolute anonymity of each questionnaire.

Aware of the fundamental sensitivity of the questions to the numbers and types of illnesses of the assessed employee, the so-called "short version" of the WAI questionnaire gradually began, in which the respondent is not asked about a particular diagnosis, but only records the group of diseases to which the respondent's disease belongs. We see its use mainly in the field of data collection of a large number of respondents (thousands of questionnaires), but it can also be used to advantage for group and individual measurements of the work ability index. The method was first used by the University of Wuppertal as early as 2000 [4], only later (2003) being taken as the basis for the INQA New Quality of Work network [5]. The German WAI-network later became one of the leading networks of workplaces dealing with maintaining and supporting the employability and work ability of employees in Germany as well as in Austria and Switzerland.

This "short version of the WAI questionnaire" was taken over by us in the Czech Republic (Age Management z.s.), with the proviso that we created its Czech

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<sup>1</sup> EU General Data Protection Regulation (EU) 2016/679

version [6]. The diagnostic groups are based on the above-mentioned German form, they are practically consistent with the original wording of question no. 3 of the Finnish version of the WAI questionnaire. However, they are supplemented by an offer of examples of the most common diagnoses based on the frequency of diseases in the Czech population according to the statistical yearbooks of the Czech Statistical Office (CSO).

Diseases / diagnoses are compiled into 13 diagnostic groups named according to the valid international classification of diseases ICD-10, supplemented by the last 14th question - another disease, not listed here, which can cover even rare diagnoses.

The methodology of this WAI question generally does not evaluate the relationship of importance of a diagnosis to work ability, because each diagnosis has a different degree of relationship to work ability depending on both age and especially the type of work performed and it is not possible to simply quantify this relationship. It is therefore assumed that any diagnosed disease causes a standard decrease in the partial value of the WAI index by one point, up to five or more diseases, which, and this is essential for the calculation of the WAI value, are listed in the respondent's medical records.

#### **(4) Decreased work ability due to illness**

(point range 1-6)

In this part of the questionnaire, the respondents answer the question of how big an obstacle in the performance of their current work is / are the current diseases or injuries that they identified in the previous question. The answers range from "I am completely unable to work" to "I do not feel any obstacles to doing my job, I do not suffer from any illnesses." From the context of this question and the whole questionnaire, it is clear that the answer to this question should to some extent correspond to the answers to questions 1 and 2 and especially to the identified diagnoses and their number in question 3.

#### **(5) Number of days of incapacity for work during the last 12 months**

(point range 1-5)

In answer to this question, respondents are asked to provide an answer to the question of how many working days they have been declared incapable of work by the attending physician in the last 12 months. They have five options from none to 100 days or more.

This component of the effects on work ability must be considered when assessing the employee's strengths and weaknesses, together with the answers to questions 3 and 4. All directly affect the respondent's state of health, and although each answer provides a different WAI sub-value, Work ability should also be assessed together. The gain of the maximum number of points for these three questions makes up almost 40% of the total score of the index and it is therefore clear that the health condition is attributed to a high degree of influence on the employee's ability to work.

By a joint assessment of these three questions, it is therefore possible to define relatively well the state of the first floor of the Work Ability House, so the floor that contributes fundamentally to the employee's work ability.

#### **(6) Own forecast of work ability in the next two years**

(point range 1-7)

The sixth question of the questionnaire follows the idea of the respondent, in which the consideration of the feasibility of the work demands meets the physical and mental requirements for the work he/she performs. His/her considerations conditioned by age or the offer of another job are also projected here.

The offer of answers in this case is compiled from the possibilities expressing the probability of a change in its current operation within two years to the opinion about the probable stay in the current position in the near future.

#### **(7) Respondent's mental resources**

(point range 1-4)

This last question of the WAI questionnaire consists of three sub-questions, each of which has pre-prepared texts asking the respondent whether he / she feels sufficiently active in carrying out normal day-to-day activities, where he /



she feels active and alert recently, and finally whether he / she is positive in thinking about their future. The answers that can be used characterize the individual questions in the maximally positive answer "always / constantly" to the maximally negative answer "never".

This question, although the contribution to the overall score of the respondent is not very large (max. 4 points), is important for the overall understanding of the specific work ability of the employee. The answers can be compared with the answers of the respondent to question no. 2 "Work ability in relation to physical and mental requirements" and also with question no. 6 "Forecast of work ability in the next two years". A comprehensive evaluation of these three parameters / factors of work ability can provide interesting data for the evaluation of some aspects of other floors of the House of Work Ability, especially concerning the motivation, competencies or non-working life of the respondent.

### 5.3 Basic interpretation of WAI measurement results

(number of obtainable points 7-49)

It is obvious that work ability almost always decreases with age. Statistically, this decrease can be expressed as a curve having several sections in relation to the age of the respondent. After the first start of employment, the value of WAI almost always decreases (more strongly from around the age of 45) relatively quickly, when a recent graduate of theoretical school teaching is confronted with the requirements of the work process in a certain position, for which he/she only gradually acquires sufficient detailed knowledge and subsequent competencies. This situation gradually stabilizes with the gain of special skills, and by the age of 40-45 there is only a small to slight decrease in working ability. This is followed by a phase of increasing rate of its decline, in which the main role is played by the gradual loss of human physical abilities in particular.

We usually see that the rate of this decrease in WAI with age is statistically slightly higher in women than in men. The only exceptions are women over the age of 60 and men over the age of 64 (currently valid retirement limits in the Czech Republic), for whom there is often the effect of a so-called "healthy older

employee" whose zeal for work and life, supported by relatively good health, supports its continued persistence in the work process. And it is these workers who are to be the subject of specific attention and support from the employer. Studies have shown that people with a high WAI score have a low risk of early retirement and, on the other hand, a high quality of life - even after retirement [3]. Studies applying WAI have also shown that it is possible to improve and maintain employability - even in old age - if the right measures are applied at both the individual and company levels.

The data obtained by individual evaluation of the employee's work ability can be compared from several points of view. It is primarily the use of a wide range of statistical evaluations of data obtained on the level of work ability of a defined group of employees in relation to the basic socio-demographic data of the evaluated persons (age, gender, length of employment). These can be considered as the most important factors, but the evaluation can also focus on selected health status factors (e.g. BMI index, etc.), or others that characterize the measured group of employees.

Another important evaluation criterion is the comparison with the so-called "WAI reference values", which are based on the statistical evaluation of a sufficiently large amount of data obtained by this method for workers and employees of various professions and age categories. The reference values can then be used, for example, to compare individual employees of the same profession employed in different companies, or vice versa to compare individual occupations with the same age, or to compare the shares of employees with low or high WAI in different companies and between different professions.

The primary goal of such an assessment is to determine how many employees in different occupational groups show low or average work ability. Attention should be paid to these workers in particular. If the necessary supportive steps are not taken by the employer, a significant part of them may fall into the category of incapable work.

## Data confidentiality

The data obtained through the Work Ability Index (WAI) questionnaire are and must remain strictly confidential and treated as health information. Ideally, the only data controller in the company should be an occupational health service physician. Even aggregate strictly anonymized data characterizing the status of employees in a company cannot be passed on to anyone other than an authorized person (for example occupational health and safety worker or HR specialist) and the employer must not receive information in a form that could reveal the identity of his employees. Completing the questionnaires of the ability index is always voluntary and it is necessary to insist on their strict anonymization during further processing of the obtained data. Refusal to complete the form must not in any way affect the behaviour of the collaborating professional, doctor or employer towards the employee.

Since the completion of the WAI questionnaire is always voluntary and the use of this method to assess the work ability of groups of employees in a company, employees prefer anonymous completion, the quality and reliability of the data is very variable, both for questions related to with socio-demographic data, as well as for issues decisive for the calculation of the Work Ability Index itself. This fact must be taken into account responsibly by the data processor.

## Evaluation of the level of work ability using the WAI index

The questions of the WAI questionnaire are evaluated with a final score ranging from 7 to 49 points. A score of 49 points represents maximum work ability, while 7 points indicate very poor work ability. It should be noted that the term "weak / poor work ability" (workers with less than 28 points) here means that the work demands and possibilities of the worker are not in line. This may be due to inappropriate working conditions or restrictions on the part of the worker, or both. For the second group of workers with a "lower WAI", a score of 28 to 36 points is referred to as moderate work ability, it is characterized by an imbalance between their skills, their health status and some weakness of their work ability. It is usually a medical condition, but it can also be a worker's

mental resources. For these employees, the potential causes of their weaker working ability should be clearly identified with the aim of improving it.

The remaining two groups with points in the range of 37-49 still have good to excellent work ability, which, unless a significant decline in any of the seven sub-factors of the WAI index is identified, requires virtually no major intervention to improve it. For the time being, the large series of WAI values show that roughly half of the measured employees are concentrated in these two groups of employees. These ratios are also achieved in the Czech national database of measured WAI values.

In conclusion, we can state the basic characteristics of the index of work ability, so what this index is and also what cannot be expected from it, if it is not possible to interpret it.

## 5.4 Summary

### What is the Work Ability Index (WAI)? [4]

- The WAI is a tool focused on the practical use of the concept of work ability through its standardized objective measurement. The index shows the employee's own assessment of work ability.
- It is a suitable tool for predicting the development of changes in work ability in different occupational groups ...
- with knowledge of weak and conducive factors of work ability, the support of the worker can be precisely ensured already in the initial phase of a problem.
- The WAI can also be a useful tool in determining a worker's incapacity risk in the near future.

### What, on the other hand, is not the WAI?

- **It is not just an indicator of a worker's health, functional capacity or employability**

It is wrong to interpret WAI as an indicator of a particular worker's health. The WAI score only reflects the degree and quality of the interaction between work and worker. The health of the worker plays an important role here, but it is only one of many factors (see 'Work Ability House'). Likewise, the functional capacity of the employee is not measured / determined by this method. In principle, the objective assessment of work ability must not be confused with the assessment of an employee's employability. Although employability is an important, sometimes the main condition for getting a job, the concept of employability covers a wider field of policy measures and the labour market.

- **The WAI itself does not directly identify the causes of low work ability**

On the contrary, it is a strength of the WAI method that it does not specify what the causes of low work ability may be and what measures are to be taken individually or by the employer. The range of potential causes of low work ability is large and multi-layered and cannot be included in a simple methodology.

However, the results of the ability index and its values of individual factors can fundamentally help to identify the causes of low WAI value and both participants in this process should actively participate in identifying the reasons for the determined value of the WAI index, i.e. the employee's ability level.

- **The WAI does not specify specific measures to remedy the situation**

If both the individual and the organization want to build on the results of the work ability measurement, it is desirable that in cooperation with the occupational physician and other participating experts (preferably outside their own workplace / organization) they evaluate the achieved WAI measurement results and interpret them using the "Work Ability House". This procedure will make it possible to identify and take measures for both the individual and the defined group of employees that will be acceptable and especially feasible at both levels.

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## 6. How to Implement Individual Counselling to Support Work Ability – Recommendations for HR Department Staff / Lecturers / Advisors / Mentors / Coaches

Repeated interviews with the client can be perceived in the narrower sense as the final stage of counselling aimed at supporting work-ability. In fact, the effective support of working capacity is a long-term systematic consultancy, which is repeated several times (e.g. every year or once every three years and so on.) In this section, an inspection must be carried out under the personal schedule of the client, the formulation of additional recommendations to promote labour skills, as well as overall client-oriented feedback.

For its implementation, it is necessary for the consultant to have precise knowledge of the client's Work Ability Management documentation (the client's personal file focused on his work-ability). In this folder is gathered all relevant information about the client obtained during all phases of individual counselling: interviews - mapping the situation - personal diagnostics (measuring their own working capacity and its analysis) - planned activities (factors affecting workload, identified indicators of reduced ability to work, the chosen technology strengthening personal and professional readiness for the next career) - contract outputs (formulation of individual measures and professional goals with regard to the client's strengths, list of recommended training and counselling programmes, client's personal plan).

Although individual counselling requires the counsellor to be 100% focused on all the details of this process and throughout the implementation of the counselling, paradoxically it must not be done mechanically, strictly, but relaxed and with an open mind. Despite the fact that during the entire period of individual counselling, the counsellor is there exclusively for the client, every single counselling interview can enrich the counsellor as well.

### 6.1 Work Ability Support Advisor

In general, we can say that a counsellor is a person who directly provides counselling. He or she is an individual who is personally mature and has the necessary education, competencies, an adequate general overview, and a set of personal prerequisites for the performance of this responsible service. Paradoxically, the counsellor does not give priority advice, but helps the client to clarify their thoughts about themselves and the world by providing them with positive thoughts. The main task of the counsellor is to ask the client appropriate questions. It is these issues that should help the client define appropriate individual measures.

In the context of Work Ability Management, the Ability Support Advisor should be a person,

- whose professional knowledge of age management and work ability management is sufficient,
- who has a range of competencies focused on managing the counselling process,
- and who has a set of key personality assumptions.

Among the key personality preconditions of a work-ability support counsellor we can include:

- communicativeness (ability to communicate with adults), including verbal expression skills
- ability to manage one's own emotions (self-control),
- optimism and peaceful self-confidence
- responsibility
- tact, discretion, professional secrecy (including the ability to inspire confidence)
- observational and analytical skills, ability to deduce and understand the context

- emotional affection and at the same time a rational approach to problem solving
- willingness (need) to constantly educate (or self-educate)
- ability to empathize with others (empathy)
- ability to motivate to action
- the ability to have a positive effect on the thinking of adults
- willingness (need) to help and advise others
- patience, helpfulness, and accessibility
- organizational skills
- ability to cooperate with others
- ability to overcome conflict stressful situations, frustration tolerance
- interest in the world and social events.

Each counsellor must follow the code of ethics of the relevant counselling organization in the performance of his or her work. From the point of view of a career support consultant, the code of ethics should contain at least the following points:

- respect for the client's natural human dignity
- respect for the basic human rights and freedoms of the client
- recognition of diversity - advice must be provided regardless of the gender, race, religion, culture and social status of the client
- support for maintaining one's own identity, personal integrity, personal independence, and individual diversity of the client
- support for the development (or maintenance) of the client's work-ability.

Counselling aimed at supporting work-ability must also be perceived from the point of view of socio-andragogical<sup>2</sup> counselling, which solves several social

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<sup>2</sup> Andragogy refers to principles and methods adult education as distinct from the education of children, which is called pedagogy.

problems (e.g. unemployment - current and future) through adult education and learning. It is precisely "educational means that support the process of upbringing and education in the process of social and andragogical counselling, as well as the process of self-arranged adult learning with the intention of developing their intellectual, emotional, value oriented, motivational, will qualities and social abilities, resp. ability to live and thus the ability to cope with individual, professional and social tasks, personal social situations and social problems." [1]

When counselling to support work-ability, it is essential that the counsellor also has the basics of work and general psychology, but even more important to realize the fact that we are not psychologists (most of us), but experts in age management and work-ability management, so we should not interfere in areas that do not belong to us.

### Active listening

"Active listening is a way in which we not only register what the client says, but at the same time encourage him and her to further share information, freely express thoughts, ideas, opinions and attitudes by non-verbal and verbal means." [2]

"The primary activity in active listening is to **experience an active and authentic interest** in the person who shares something (informs - thinks aloud), **and to make this interest clear**. This means perceiving the effort to explore the other person's perspective, being interested in perceiving a part of her/his inner world and trying to understand him/her. This active participation can strengthen the partner in her/his existence. On the contrary, the opposite conduct may lead to the relationship not even emerging at all, becoming superficial or hostile. [3]

## 6.2 Teaching aids and room preparation

Specific requirements for the implementation of individual counselling are low. All you need is a quiet room where you are unlikely to be interrupted (preferably impassable), which is well ventilated and with pleasant lighting.

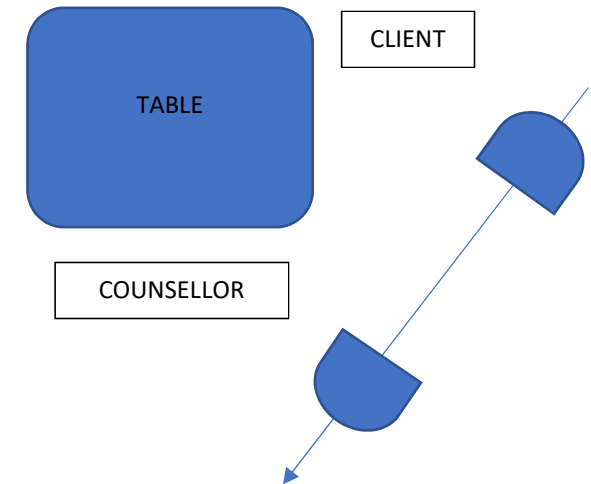
Nevertheless, due care must be taken in the selection and preparation of the room. Even a small detail can affect the overall course and outcome of the counselling meeting. It is extremely important that the client is not immediately greeted by the smell, that during the meeting they do not sit in a draft, and with their back to the door, that there are no blinking neon lights in the room, that the client does not look straight into the sun, etc. The availability of hot and cold drinks is recommended. A small bouquet of flowers adds colour to the room. The effort is to create a peaceful, peer-to-peer, "living room" atmosphere where the client feels comfortable and does not want to run away from it.

For the actual implementation we need:

- one table
- two comfortable chairs (best upholstered)
- two pens (consultant, client)
- Work Ability Management client documentation:
  - WAI client questionnaire
  - Report with evaluation (analysis) of WAI client questionnaire
  - Completed forms from completed consulting activities and interview:
    - professional and personal goals identified by the client
    - a summary of strengths and weaknesses identified by the client,
    - advisory set of potential educational and counselling activities - > list of educational and counselling activities selected by the client,
    - list of supporting institutions (e.g. for psychological problems, conflict resolution, debt counselling, ...)
    - personal plan for the development of the client's work ability with the measures implemented
  - Pre-printed (or laminated) schemes: House of Work Abilities, Wheel of Work Abilities.
  - Business card of the consultant (its importance will be explained in the next chapters) resp. other relevant promotional materials about the organization.

During the implementation of individual counselling, we propose the following form of client and counsellor sitting.

Figure 8: Posed advisor and client



### 6.3 Draft of the Counselling Process based on the outputs of the Work Ability Index & the Work Ability House

#### Definition of basic terms

Explanation of the Concept of Work Ability and Description of Individual Factors of Work Ability



### Advisor, expert

- knows the concept of Work Ability
- knows and can explain the individual and work-related factors of Work Ability (introduces the client to the "house" and the interrelationships)
- knows the conditions of long-term successful work ability

- **Functional capacity** describes a person-related characteristic, such as gender, health and age, and acquired (learned) knowledge, skills and abilities.

Individual aspects of functional capacity are a prerequisite ("building blocks") for performing work.

- **Person's Work ability describes a set of factors** that allow people in a specific work situation to successfully complete the tasks assigned to them at a given time. It describes the relationship between individual capacities and work requirements.

(Definition: The holistic model of work ability developed by the staff of the Finnish Institute of Occupational Health (FIOH) in Helsinki, in addition to the mentioned factors affecting work ability, also includes family background, a close community and society.

The effect of all these internal and external factors is then represented by the model: Work Ability House.

- **Employability of the person** (that is mean readiness to perform the given job, or entry into a new job, work profession):

Employability is a broader concept based on basic employment opportunities. The concept of employability includes human characteristics with regard to the requirements and opportunities in the internal and external labour market.

These three areas are interconnected.

Without any functional capacity, there is no work ability and no employability. However, people with reduced capacity (explanation of reduced capacity - physical and/or mental disability) may have sufficient ability to work, with the setting of suitable working conditions and the content of work, which reflects and compensates the limitations. Similarly, people with a very high level of performance / functional capacity may have a reduced ability to work if their job requirements do not meet them, for example if they are overworked or underemployed.

In the counselling process, it will be important to monitor (map) and at the same time use two complementary views (concepts), that is mean work ability management in relation to age / ageing and career management (changing roles of a person during a working career).

### Advisory process procedure

#### Personal Diagnostics

### Advisor, expert

- knows the tool for measuring work ability (WAI questionnaire components)
- can work with the "digital coach" platform
- is able to interpret the corresponding value of WAI and the results achieved in connection with the individual floors of the house of work ability
- can conduct an interview with a client focused on individual floors

#### Advisor/expert

1. Entrance interview (consultant - client / person) (deliver time frame approx. 1 hour)

## 2. Situation mapping using the Work Ability House model

**Work ability** is a cornerstone of age management. It is the balance between a worker's personal resources (health and functional capacity, education, knowledge, skills, values, attitudes and motivations) and the work requirements placed on them (the content of the work, its complexity and organization, as well as the demands arising from the work environment, team and management). [1]<sup>3</sup>

Due to the fact, that the personal resources of the employee change and the demands of the work change during the whole professional career, the support and search (mapping) of the optimal work ability is necessary for the whole working life.

### Concept of the Work Ability House

For optimal setting and mapping of individual areas (internal and external), which together create and co-determine the current work ability, the Work Ability House model is used, which consists of 4 interconnected floors and is built in the environment, which has an integral effect on a person's overall work ability.

Table 5: Work Ability House – Advisor maps: Topics and Tasks

		Advisor maps (monitors) – Topics	Advisor maps (monitors) – Tasks
1. floor	Functional Capacity	Bio-psycho-social aspects of current life	Finding out the current state, mapping its individual components, subjective priorities
	Health	Health status, handicaps, diseases, work-life balance, lifestyle, rhythm of life, sleep, diet, rest	Recapitulation of the current state, offering an understanding of the context, what surprises me, what I did not realize
2. floor	Formal Education	Formal and non-formal education, mapping of necessary knowledge according to the monitored area (profession)	Awareness of my knowledge portfolio, what I have ever learned, whether I do not need to improve my qualifications.
	Competence	Skills and Competences related to the given (sought) profession (field), use of lifelong learning (where, when, how, from whom), finding out the learning strategy of the given person	Summary of skills and competencies, situational parallels (what, when, how, from whom I learned) How I use my competencies. There is something I need to supplement, deepen.
3. floor	Values / Attitudes	Hierarchy of values of a person, Values in connection with a working career (what I care about, what I need, limits and limits of values)	What values I profess, values have a place in my career, they are consistent / change over time. How my values are reflected in attitudes (ie especially in behaviour)

<sup>3</sup> Ilmarinen, J. *Jak si prodloužit aktivní život. Stárnutí a kvalita pracovního života v Evropské unii*. Příroda, Bratislava, 2008, ISBN 978-80-07-01658-3

	internal versus external Motivators	The method of obtaining and dealing with motivation in connection with work performance. Internal + external motivators - origin (motivational maps) possibility?	What gives motivation to me? I have enough motivational aspects in current life. What motivation prevails, what I lack?
4. floor	Working Conditions	What physical working conditions, health and safety, what the client needs, his role in the team, (what he needs, what he offers)	What work environment do I need, is it realistic, can I build the environment?
	Job position / area	Mapping of the current situation and the required state (improvement, change), realistic expectations from the client, what he wants, offers)	Recap of my expectations, what I'm actually looking for

- What is needed to stay healthy at work?
- What are your eating habits, can you, for example: in a higher BMI score, change your diet?
- What does your day / night biorhythm look like?
- What limits you the most in the area of physical / psychosomatic health (fitness) in your life?
- What and how regularly do you attend preventive medical examinations?
- Can you rest? How do you rest, can you find time to rest (gain strength) during work?
- How do you know that your life satisfaction is deteriorating?
- On a scale of 0 - 10, what integer would you choose for current life satisfaction?
- On a scale of 0 - 10, what integer would you choose for your current level of work ability?

In the given initial interview (that is mean the introductory mapping phases), the consultant proceeds to the model of the Work ability house and fills the individual floors with the information he receives from the client. During the initial interview, the client receives feedback on the individual aspects that "create" the individual floors for the "emergence" of work ability. At the same time, the client has the opportunity not only to understand his "internal areas", but also the current needs / values and goals related to the position in his career.

### Round questions for the counsellor-client mapping interview

#### 1. floor (health and functional capacity) bio-psycho-social circuits

## 2. floor knowledge - skills - competences (lifelong learning)

- What is your education (formal and non-formal)?
- When you need to learn something, how do you learn / master it?
- What do you want to do in the next 1-2 years to develop and maintain qualifications, competencies and professional knowledge?
- How have you educated and taught during your working career?
- What competencies have you learned during your working career?
- Which competencies do you use in your work and have you learned (acquired) them out of the work?
- Are you planning your professional career, where are you going?

## 3. floor values - attitudes - motivation

- What values are most important in your current life?
- Have your life values changed recently?
- What values do you value most in your working life?
- How would you characterize yourself while working?
- What motivates you at work?
- How can you reconcile / connect your personal, family and work life?
- Is there a certain predominant balance / or any area?
- What can be done to maintain an appropriate work-life balance in your current life situation?
- What motivates you in your work? On the contrary, what takes / reduces your motivation?
- Where do you see yourself in working life in 5 years?

## 4. floor work environment - work team - leadership style (company management)

- When, where and with whom do you like to work?
- When and where do you come up with the most important ideas / solutions associated with work activities?

- What do you expect from optimal cooperation with colleagues, with managers?
- Can you influence the work environment of your workplace? What can you change, suggest?
- What do you value most about your employer?
- What would be a clear obstacle to the employment relationship between you and your employer?
- How should working conditions be set to support the ability to handle a given job well? (work environment, job description, work team, way of communication, management and leadership of people)

## Proposal for initiating the counselling process

For properly targeted questions, specific search for areas of support, development, new adoption for each part of the Work Ability House, the consultant and the client need to understand the client's current needs related to his professional career (work situation in life - from the point of view of age management of working life).

The following principles may be useful for meaningful order formulation (from the client's point of view) and subsequent orders (common advisor-client topic). (The principles are loosely based on the SFBT-Solution Focused Brief Therapy methodology, that is mean short, solution-oriented therapy).

- When it's broken, don't do it!
- When it works, do more!
- If that doesn't work, do something else!
- Small steps can lead to big changes!
- The solution does not necessarily relate to the problem!
- No problems / difficulties / limits persist all the time, there are useful / positive exceptions!

**And a fundamental postulate: the future can be created, negotiated and prepared for the present!**

### Setting up and conducting a counselling interview:

The basic framework for the counselling process between the advisor and the client is set as follows. We assume the time range of the basic counselling interview in the time allowance of 60 - 90 min. (note the possibility to vary).

The counsellor is a professional especially for the individual approaches presented and is responsible for the process of the counselling interview. The client (person) is the holder of the order concerning the area of personal working ability (improvement, maintenance, or specific use of work ability for a given job position, etc.).

Based on the offer submitted by the consultant and the postulated (named) order by the client, a contract is created during the counselling interview. The client's contract is primarily an agreement (a set of steps and goals), which she or he concludes on an individual level (with him-/herself) with the support and subsequent accompaniment by the consultant.

The contract is reciprocal, acceptable to both parties.

Based on the defined contract (note here it is possible to use for the needs of the manual for example: SMARTER method the contract should be: S - specific / understandable, M-measurable / motivating, A - achievable, R- realistic / works with client resources, T - embedded within the time frame, E - ethical / evaluable, R - reusable).

The key methods used in this counselling process are: the concept of Work Ability, Work Ability Index measurement (WAI questionnaire), and the model of support, development and use of work ability in the holistic concept of the Work Ability House.

During the counselling interview, the counsellor will acquaint the client with the current value (WAI). This can be obtained by filling in the online questionnaire by the client (or jointly) by filling in the questionnaire during the interview. The consultant will acquaint the client with the current WAI score and present an understandable scale (traffic light).

The resulting value of WAI is confronted with a defined contract and then the model of the Work Ability House is used for mapping and possible recommendations (support) in individual floors (areas), which comprehensively create the client's work ability in connection with preferred work direction (career change, etc.).

1<sup>st</sup> floor of **Health** – This area includes all activities that promote health (physical and mental, physical activities, eating habits, adherence to regular medical examinations, drinking regime, smoking / non-smoking, alcohol, the art of rest, etc.)

What can you do to improve (maintain) your health in view of the fact that you will have to work for another XX years?

2<sup>nd</sup> floor **Competences** area - what knowledge, skills and competencies are needed in connection with the required contact, it is necessary to focus on them, supplement them, or master them. What are the prerequisites for lifelong learning for the client, what does he/she expect from her/his current / future employer.

3<sup>rd</sup> floor area **Attitudes, Values and Motivation** - How are you going to fulfil your self-contract? The planned changes (steps) will affect your personal, family and work life. What kind of motivation will play a role in the gradual achievement (fulfilment) of individual steps (goals) leading to the set contract.

4<sup>th</sup> floor area **Workplace** includes the physical working environment as well as soft conditions (corporate culture, method of communication, etc.) During the interview, we monitor the requirements for the working environment, corporate culture, content and content of work activities. The counsellor explores offers from the client to the employer and on the other hand investigates requirements for benefits, management, corporate culture etc. from the employer from the client's point of view.

The conclusion of the counselling interview is marked by a summary of individual findings related to support, development of work ability in individual floors (areas) of the WAH. The consultant together with the client "returns" to

the formulated contract and "offers" individual variants (options) supporting (directed) to the implementation of the specified contract. If necessary, it is desirable to arrange another advisory meeting between the consultant and the client, which has the opportunity to map the agreed shifts, mapping the implementation process, difficult tasks, the possible need to re-formulate the required contract.

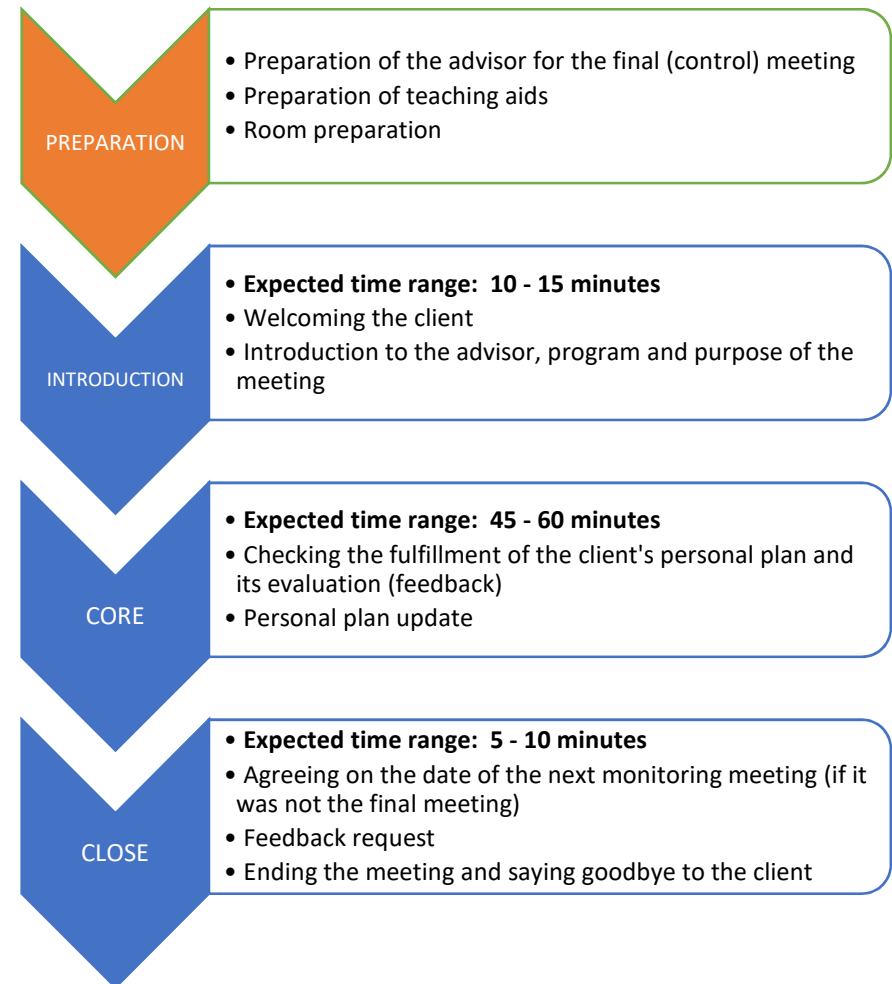
#### 6.4 Individual counselling aimed at supporting work-ability – final (review) meeting

We can define counselling to support the work ability of employees as a process in which an effective counselling relationship is established, which allows the client (employee) to be aware of their own working skills and decide to develop these work ability, or keep as long as possible. In the implementation of the counselling process, in addition to professional frameworks defined by the concept of age management, we also use a humanistic approach focused on human psychologist Carl Roger's work and knowledge from the theory of optimal survival - FLOW professor Mihalya Csikszentmihalyia. [4]

Objectives of the final (review) meeting:

1. Review of the fulfilment of the client's personal plan, formulation and updating of recommendations, feedback
2. Overall assessment of the course and benefits of individual counselling aimed at supporting work-ability.

Figure 9: Phases of the final (review) meeting





## The course of the final (review) meeting

Counselling to support work-ability is a managed process with a clear structure and defined content with a professional specialization in development, resp. maintaining working capacity.

## Preparation of the advisor for the final (review) meeting

Given that a repeated interview with a particular client takes place after a longer period of time, it is important that the counsellor refreshes (repeats) information about that client. The source of information is the client's Work Ability Management documentation (file folder). In exceptional cases, it is even permissible for the final (review) interview to be conducted by a new consultant who has not yet cooperated with the client at all. In such a case, it is extremely important that even in this phase of individual counselling aimed at supporting work-ability, the importance of the professional relationship between the client and the counsellor is not underestimated.

### Content of Work Ability Management client documentation:

- Signed consent to conduct counselling
- Copy out of the assurance of confidentiality
- WAI client questionnaire
- Report with evaluation (analysis) of WAI client questionnaire
- Completed forms from completed consulting activities and interview:
  - Professional and personal goals identified by the client,
  - a summary of strengths identified by the client,
  - advisory set of potential educational and counselling activities -> list of educational and counselling activities selected by the client,
  - list of supporting institutions (e.g. for psychological problems, conflict resolution, debt counselling, ...)
  - personal plan for the development of the client's working skills with the measures implemented.

On the basis of telephone, resp. e-mail contact, identification of the client and agreement on the date and place of the counselling meeting

## Preparation of consulting auxiliary material

Preparation of materials for the meeting (pens, sample schemes, pre-printed forms, etc.)

## Room preparation

The consultant arrives well in advance at the place where the counselling meeting will take place so that they have time to prepare and fine-tune the details. In the case of new premises that the consultant does not know, it is necessary to verify the condition of the room in advance. This can happen either in person, or asking the landlord (or the person who provides these premises) for a thorough description and photos.

## Welcome the client (1-3 min.)

The counsellor tries to welcome the client right at the door (or opens the door for them) of the room where the counselling interview takes place. They welcome the client with a natural smile and is the first to shake their hand proactively (we maintain social distance during a coronavirus pandemic). They accompany the client to the place where they should sit down and marks this place with a suitable gesture. Despite the fact that this is only a short period of time, the counsellor tries to start an informal but very important conversation from the moment of the handshake and the welcome.

## Suitable questions:



*How are you doing? How do you feel?*

These basic questions can be extended according to the specific situation:

(e.g. a counselling interview takes place in August during working hours at the workplace at 17:00)



*Did you have a long day? How was your day at work today? Do you still have a lot to do today? Already after the holidays? and so on.*

Although this is a series of mandatory social conversation issues that are not foreign to the client and are commonly encountered, it is an extremely important part of the individual counselling. Immediacy guarantees the feeling of "old acquaintances."

Purpose of this phase:

- induce a sense of security and well-being - the first steps to overcoming barriers from the unknown
- perception of verbal and non-verbal expression of the client - important for the next choice of method and pace of communication with the client, e.g. disclosure of backup topics,
- obtaining the first information about the current mood of the client.

At this stage, it is very important to differentiate between whether the client will be welcomed by a consultant with whom they have already worked together on the client's personal plan, or this is a new consultant with whom the client meets for the first time.

If it is a counsellor who already knows the client, this welcome can be supplemented by other phrases that serve as a catalyst for open communication.



*It's nice to see you again. I was very much looking forward to our meeting.*

If the final (review) meeting is led by a new advisor who is unknown to the client, it is essential that the advisor pays sufficient attention to the part of the advisor's presentation.

**Introduction to the advisor, programme and purpose of the meeting** (3-5 minutes)

When the counsellor manages to settle the client and sits themselves down, it is important that the counsellor takes the initiative and follows up on the initial welcome and informal interview. The consultant gives the client a business card. This step sends a clear signal that they care for this cooperation and, in case the client is interested in continuing professional contact, is prepared for

the continuation. So, for a counsellor, it's not just "paid" 60 minutes. And then they act as if "we don't know each other!"

Introduction of the counsellor might have different forms. As an example, the technique using a business card where the consultant introduces themselves an erudite scholar (and not some impostor) and also points out their competence range. What does the expertise include and what it does not. The client must get the feeling/impression that the introduction of the counsellor and the time spent with the counsellor makes sense and is not part of any comedy.

*Example for beginners:*



My name is XY and I am a consultant in the XY organization, which is a pioneer in the fields of age management and work-ability management not only in Slovakia, but also actively collaborates on research tasks in international projects with experts from all over Europe [client is informed about the organization 's reputation. I have been doing consulting work for the last 20 years and I still like my job [it is important to send a signal to the client that the consultant does their job with enthusiasm and not out of inertia just for money ..., resp. did not become an expert on the issue from evening to morning]. Even though I have a degree Mgr. [see the business card that the client has in their hand resp. in front of them] I am neither a psychologist nor a therapist [the counsellor also shows their "weaknesses", where their competencies end], but I am an andragogist [this usually works for the client and arouses their interest - it sounds exotic] and I try to solve, with socio-andragogical counselling, several social problems among which we can include the state of working ability. The information provided in this office is intended only to support your ability to work. No one else can access it! [trust is the cornerstone of counselling] **Why is this final (review) meeting important?** [a rhetorical question with which the counsellor bridges topics. Accurate presentation of the reasons and goals of the counselling meeting is extremely important for dispelling the client's concerns.

There is no doubt that Work Ability Management - job management is a concept in which everyone only gets, everyone is a winner.

The counsellor should handle this part energetically, at a suitable pace for the client. With their enthusiasm, they properly "capture" the client. The client has the opportunity to verify whether the information obtained during (or before) completing the WAI questionnaire corresponds to those with which the consultant has now acquainted him.

Conducting the WAI questionnaire, the interview/dialogue and documentation (x minutes)

The part of conducting the conversation is missing, in my opinion. Please elaborate on what is documented and how (e.g. only the decisions on goals and measures agreed with oneself).

**Client space - verification of positions (3 - 5 min.)**

After a relatively comprehensive introduction to the counsellor, it is necessary to naturally start a discussion with the client and check their attitude to the issue of supporting work ability, especially in the context of the actual application of the personal plan in practice.

Example for beginners:

Mr./Mrs. X we can contact you Mr. Ján [the counsellor is trying to establish a stronger connection with the client with the use of the first name. In the vast majority of cases, clients agree with this proposal. However, if this does not happen, the counsellor must respect the client's self-identification and adhere to it. So more formal if necessary:] Mr. Novak, how did you do in implementing your personal plan? Which goals have already been achieved? Which are still being implemented? [if there is no response from the client, resp. would be minimalist, it can be supplemented by other questions] Has your opinion on the support of working ability changed in any way? Does it make sense to deal with this topic in Slovakia?

It is necessary for the counsellor to pay due attention to this part because, without knowing the views and attitudes of the client to the issue, it is almost impossible to properly communicate with the client.

In most cases, for meetings where the client has to declare their activity or active participation in overcoming identified obstacles (something like doing your "homework") - the client comes with their own ready-made version - a report. It is very important to accept this client's report, but for further professional advice it is necessary to go through all aspects of it thoroughly with the help of control questions.

**Table 6: The auxiliary control questions are based on the concept of the House of Working Ability**

Floor	Questions
<b>1. HEALTH, FUNCTIONAL CAPACITY</b>	How have you managed to improve your eating habits? Has your day / night biorhythm improved? What successes have you achieved in improving physical / psychosocial health (fitness)? Have you participated in preventive medical examinations? Have you managed to improve your relaxation techniques? On a scale of 0-10, what number would express your satisfaction with life? On a scale of 0-10, what number would represent your current work-ability? (0 means worst possible level, 10 means best possible level)
<b>2. KNOWLEDGE SKILLS COMPETENCES</b>	Which of the planned educational and counselling activities did you manage to complete? resp. have you managed to complete any educational activity since the compilation of your personal plan? Did you manage to learn something new at work? Has there been any change in your career goals? Has your job position changed? Have there been any new activities (e.g. hobbies) outside the workplace that affect your competencies?
<b>3. VALUES</b>	Have your values changed? Do you still remember the values you defined in your personal plan?

<p><b>POSITIONS MOTIVATION</b></p>	<p>Has your motivation at work changed? Are there any new stimuli or barriers that affect your motivation? Do you agree with the statement that since compiling your personal plan you have managed to better reconcile your personal, family, and work life? YES / NO - describe the specific changes. What helps you to achieve harmony between personal, family, and work life? resp. what / who spoils it for you? Do you remember where you wanted to see yourself in 5 years when making a personal plan? Are you on the right track?</p>
<p><b>4. WORKING ENVIRONMENT, WORKING A TEAM, COMPANY MANAGEMENT STYLE</b></p>	<p>Has anything changed about when, where, and with whom you like to work? How is your cooperation with colleagues, with superiors? Do you perceive it more positively or negatively? Have your expectations of colleagues, superiors, changed? Have there been any changes in the corporate culture? The interest of managers, in your opinion, has increased, resp. putting your views into practice? Do you still remember what you valued most about your employer? Has anything changed? Has your employer's attitude to the issues of supporting the management of work tasks changed in terms of working conditions, job description, working climate, way of communication, and people management?</p>

**Feedback request (1-3 minutes)**

Complete either online or have a pre-prepared form.

**End of the meeting and farewell to the client (1-3 minutes)**

The counsellor accompanies the client to the door, where they welcomed the client. They shake hands and say goodbye.

*Goodbye. I am very glad that I was able to meet you and in case of any questions, you have my contact details ...*

**Arranging a monitoring meeting (1-3 minutes)**

If this is not the final meeting of the counselling process aimed at supporting work-ability, it is necessary to arrange another meeting in order to verify the client's progress and fulfil the agreed measures. It is important to plan a monitoring meeting in the range of 10 - 12 weeks of implementation of an individual counselling meeting.

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## 7. The Value of the Work Ability Index as an Indicator for Being Sustainably Employable for Labour Organizations or Individual Employees – How to Strengthen Personal and Professional Readiness for a Longer Working Career

### 7.1 Introduction - The Canary in the Coal Mines<sup>4</sup>:

Being sustainably employable has been high on the agenda of employers, employees and policymakers over the past decades. This is not least due to demographic developments (ageing population and dejuvenation) and the related developments in the labour market. Also qualitative changes occur: An increasing dynamic and flexibility of the world of labour with global competition requires a perspective that considers not only employee performance against the background of existing or future work patterns within the company, but also against the background of the demands of the labour market. Different and new aspects and elements are required: expertise but also competences, communication skills etc.

The challenge is to have workers who are well-equipped, healthy, motivated, and preferably at work until retirement age. So it is important to minimize the risk of outages and to detect potential outages early. The WAI is the ideal instrument for detecting an increased risk of illness and unemployment, especially in combination with other instruments. In that sense, the WAI has the function of the canary in the coal mine: Is there an increasing risk? Work ability and the Work Ability Index (WAI) are important elements of being sustainably employable and can give employees and employers more insight

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<sup>4</sup> Song from 'The Police' (Songwriter: Gordon Sumner) on the album Zenyatta Mondatta (1980)

into their current situation, into the individual and organizational strengths and weaknesses, the opportunities and the possible risks, for instance early failure of employees. Other elements of being sustainable employable are vitality and employability. The differences will be explained later but being sustainably employable is based on these three elements.

In the Netherlands specialised private companies provide occupational health and safety services (the so called *arbo-diensten*). The *arbo-diensten* plays an important role in promoting sustainable employability and improving working conditions. These occupational health and safety services focus on both the labour organization and the individual employee.

In this contribution, we examine four approaches that occupational health and safety services in the Netherlands use to improve sustainable employableness and working conditions, all based on the Concept of Work Ability and the use of the WAI. The WAI is used by these services as the instrument to predict a higher risk on absenteeism or unemployment.

We examine the following questions:

1. What is the role of the organizations? What is the responsibility and the role of the employer in improving being sustainably employable of his/her employees? And if so which one?  
In the Netherlands many instruments have been developed to support employers in this regard. Instruments aimed at various aspects, such as prevention (preventing outflow) or curation. The challenge is how to strengthen employees' willingness and ability to actively work on sustainable employable, lifelong learning.
2. Employees in the Netherlands have been given in recent years more responsibility to ensure their own employability. What measures and initiatives can employees take and deploy themselves to improve on being sustainable employable, such as a personal (training) plan.

In this paper we discuss these questions analysing four different approaches on this problem. The aim is to support both approaches: individual strategies and instruments also need a labour organisation that focuses on work ability and on being sustainable employable. First, we will introduce in short the (development of) Dutch policy on sustainable employability and the role of the so-called *arbo-diensten*. Then we will discuss before presenting four cases the concepts of sustainable employability, vitality, and work ability.

## 7.2 The Working Conditions Act and the Occupational Health and Safety Services

What is the Dutch policy on working conditions and the responsibility of employers and employees? In general, the following concept has shaped recent Dutch policy: a belief in the market forces, deregulation and liberalization and strengthening the responsibility of employers and employees, both collectively and individually. Since the Working Conditions Act (1998), the focus has mainly been on strengthening the company level: successive governments have emphasized the (financial) responsibility of employers and employees in shaping good working conditions, safe and healthy work and sustainable employability. The role of the government is limited: the government should set the standards more open. The companies had to fill in those standards themselves, such as company limit values for exposure to hazardous substances. The labour policy rules were (largely) abolished, and the drawing up of so-called working conditions catalogued by sectors was promoted.

Another observation is that under the influence of globalization and the EU's internal market, the perception of the role of government has changed radically. Since the 1990s, the Dutch government has increasingly focused on “keeping the Netherlands competitive” in an international perspective. Wage moderation, a flexible labour market, low administrative burdens, favourable tax rates and effective market forces were important goals. So the main responsibility for working conditions, sustainable employable in general is the responsibility of employer and employee.



There has also been given a clear financial interest in improving working conditions. The costs of sick leave for instance are an important incentive for employers. In the Netherlands the employer must pay his employee when he or she is sick for two years. At the end of these two years there is an examination whether the employee is incapacitated. During these two years both employer and employee are responsible for his or hers return to work. So being sick costs the employer a lot of money.

We can illustrate this by looking at the development of sick leave in 2019, the last pre-Covid year. The source is the yearly report on sick-leave and working conditions in the Netherlands.

In general, the average cost for an employer who is sick is about € 450,- every day the employee is absent. That is wages, replacement, loss of production etc. In total that is a huge amount of money. In 2019, 25 % of the employees in the Netherlands had health problems attributable to work. Exposure to hazardous substances annually costs more than 3,000 lives and 17 % of employees report burnout complaints. Also notable is the increase in social insecurity at work (aggression and violence, bullying, and sexual intimidation or harassment). There were also 114,000 industrial accidents resulting in absenteeism in 2019.

The costs of continuing to pay wages to employees who are absent are estimated at 13 billion Euros. The share of work-related absenteeism amounts to 6 billion Euros. The costs of continued wage payment for occupational diseases have risen sharply: from 1.2 billion Euros in 2014 to 2.5 billion Euros in 2018, and are highest in health care (€ 540 million), followed by industry (€ 310 million) and trade (€ 300 million). The increase is due to the rise in wage costs themselves and the increase in the number of new mental occupational diseases, mainly because employees with a mental occupational disease have been absent for more days. As a result, the costs of absenteeism for mental occupational diseases rose from 1 billion euros in 2014 to 2.1 billion euros in 2018. [1]) So, reducing sick leave saves an employer a lot of money.

Sickness is a part of the costs for an employer, but certainly not the only aspect. A low work ability proves also to be a costly affair for the employer. There has been some research on the relationship between the loss of workability and

production loss. In the literature this is called presenteeism and it refers to the problem that if employees come to work with health complaints or who are ill, but do not report sick, they are less productive. [2]

Often their work does not match their health. This further reduces work ability, which can lead to further loss of productivity. [3] In addition, reduced work ability increases the risk of long-term outages. Decreased work ability is often less visible than absenteeism due to illness. And employers usually don't keep records of employees with reduced work ability. Many organizations appear to suffer significant loss of production due to the reduced work capacity of their employees. It is often about 10 % of the wage bill. This 10% also includes the loss of productivity of people who are sick at home (that is average before Covid-19 4 %) Presenteeism costs more than absenteeism. The ratio is approximately 1.5 : 1. [4]

### **From politics to reality**

As we have seen in the Netherlands employers are obliged to ensure that their employees can work safely and healthily. What this exactly means can be found in the Working Conditions Act (1998), the Working Conditions Decree and the Working Conditions Regulation. In order to strictly comply with these laws, every employer must have an occupational health and safety policy: every employer in the Netherlands must offer appropriate care to their employees and inform and supervise (sick) employees on occupational risks. Not only the employer has obligations, but the employee must also comply with a number of rules. The aim is to stimulate employers and employees to invest in preventing illness and absenteeism.

The Working Conditions Act was renewed on 1 July 2017. Employers now must have a basic contract for Occupational Health and Safety Services. According to this basic contract employers must agree minimum requirements for healthy and safe work with, for example, the company doctor and the occupational health and safety expert. Such a basic contract is now mandatory. This contract sets out the minimum rights and obligations for the employer, employee and the health and safety service provider.

Most Dutch companies have a contract with specialized occupational health and safety companies for services on working conditions, prevention etc. There are different types of health and safety companies:

- The employer can choose to hire external (occupational health and safety) experts for certain tasks, in collaboration with its own employees who perform certain tasks as experts.
- The employer can choose to set up an internal health and safety service.
- The employer can conclude a contract with an external health and safety service.

If the employer decides to shape the occupational health and safety services himself, several conditions must be met:

- There must be consent from the employees, via the collective labour agreement or via the representation of employees (Personnel Representative (PVT) and the Workers Council, 'Ondernemingsraad' - OR).
- The employer must engage a certified expert for the assessment/testing of the Risk Inventory and Evaluation (RI&E).
- The employer must always engage a registered company doctor for the (sickness) absenteeism of his employees, the working conditions consultation hour, the occupational health examination and the appointment examinations.

How this common responsibility works can be shown at the arrangements on employees who have fallen ill. Most labour organizations use a health and safety service for absenteeism support for sick employees. If an employee fell ill, he/she must report that to his employer and then a period of two years of potential sick-leave will start. In these two years both employer and employee must do their utmost to get back to work as soon as possible. Back to work to his 'own' employer or, when for instance there is the problem of disturbed working relations, somewhere else. So, there are two so-called tracks: the first track is aimed at a return to the company, preferably his own job. The second track is aimed at a new job somewhere else.

Both employer and employee have clear responsibilities to try to end the period of sickness. Two years is the maximum-period. After 2 years of illness, the sick employee may be eligible for a benefit. This concerns a (partial) disability benefit.

Due to the obligation to continue to pay the wages for days lost during the sickness period, employers have a major financial interest in reducing the absenteeism of their employees. The average per day is around € 450,- per employee. Absenteeism leads to economic damage because personnel costs are lost, without any return.

In addition, employers have a moral and legal obligation to limit work-related absenteeism. After all, health complaints are the direct result of work lead to individual and social damage. Through preventive policy and good absenteeism management, employers can reduce absenteeism and thus increase their effectiveness.

If an employer does not do enough with reintegration of his employees, the Employee Insurance Agency can impose a penalty. An employer must then continue to pay wages for a maximum of one year longer.

What happens if an employee is not cooperating with his reintegration? In that case, the employer may withhold the wages. Or, in extreme cases, dismiss the employee. A district court must agree to this.

During the sickness period there are different moments when action must be taken. For instance, after six weeks from the first day of illness it is mandatory to call in a company doctor and there must be a diagnostic analysis of the problem and an advice. Then there must be a plan of action (after 8 weeks). After one year of illness there must be an occupational health report.

Figure 10: Process of the Sick-act

Within 8 days	week 2:	week 6:	week 8:	week 52
Intake	Diagnose	Advise	Plan of approach	Occupational Health Report

The company doctor plays an important role in this process. He is not the only one, however. The occupational health and safety service has four types of experts: the company doctor, the occupational hygienist, the safety expert, and the occupational and organizational expert. The doctor assesses whether the employee is incapacitated for work. In doing so, he/she looks at the normal activities of the employee, but also whether there are possibilities to do alternative work.

Who assesses whether an employee is ill? An employer cannot and may not assess whether an employee is ill. Firstly, the employer is not a doctor, but secondly, privacy rules prescribe that only a doctor may pass judgment on an employee's fitness for work.

Sometimes the employer and the sick employee do not agree about the illness or reintegration. In that case, they can consult the collective labour agreement. This usually includes a dispute settlement.

Together with the employer and employee, an occupational health and safety service is responsible for ensuring that the employee can return to work responsibly as soon as possible. Some occupational health and safety services use, among other things, the WAI as an instrument to support employers and employees in preventing absenteeism. They have a license to use the WAI from Blik op Werk.

### 7.3 The concept of sustainable employability, work ability, and vitality

In recent years, more and more attention has been paid to various aspects of employees' sustainable employability. What is the difference in sustainably employable, work ability, and vitality? Van der Klink et al. [13] call workers sustainable employable if they continuously have realizable possibilities and conditions to (continue to) function in their current work and in future work, while maintaining health and well-being. In her inaugural lecture, Tinka van Vuuren [5], among others, referred to work ability as one of the three elements of being sustainably employable. Van Vuuren referred to a report from the Dutch Social and Economic Council, which noted in *A question of common sense: broad prevention policy within labour organizations* [6] that sustainable employability is made up of three elements: vitality, employability and work ability.

- **Vitality** can generally be understood as: life force, energy, and inspiration, (see Schaufeli and Bakker [7]). In relation to the working environment, this can also include the motivation of employees. Motivation is related to a complex set of factors, such as leadership style, the extent to which responsibilities are assigned to different levels in the organization, employment conditions, appraisal and remuneration policy, variety in work, opportunities for promotion, work atmosphere and work pressure.
- **Work ability** is the extent to which one is physically, psychologically, and socially able to work in one's current position (Ilmarinen, Tuomi & Seitsamo, 2005 [8]). Work ability can be quantified, among other things, by using the Work Ability Index (WAI), which measures the physical, psychological, and social work capacity of individuals. The WAI checks whether the individual meets the set professional requirements. A Finnish evaluation showed that a low WAI score was strongly associated with a higher chance of incapacity for work and more direct costs due to absenteeism. Based on the WAI, it is possible to conduct a follow-up investigation or to take measures that are tailored to the individual. In

addition, the WAI can stimulate the development and implementation of an integrated sustainable employable policy within an organization.

- In a study by SEO Economic Research, employability is defined as “the extent to which people can find and keep productive and rewarding work during their lifetime”. **Employability** is in this sense more dynamic: it never stops. Employability policy is aimed at the continued employability of personnel and can include instruments such as training, remuneration and promotion options. Employability fits the modern needs of the dynamic knowledge economy, in which the employee maintains his labour value in order to remain secure in his job (and not necessarily in his job). With an employability scan it is possible to create a capacity and personality profile. This scan can be used to determine which work suits the employee, so that the employee can train and develop himself in a targeted manner (De Vries, Gründemann, Van Vuuren & Willemsen [9]; De Vries, Gründemann & Van Vuuren [10]; Van Vuuren, Caniëls & Semeijn [11]).

In order to be healthy and productive at work and to maintain pleasure in work, it is necessary to have a good work ability so that one can participate in work (see Jehoel-Gijsbers [14]). But a good health and work ability alone is not enough: for this, the employability must also be in order, so that people can also be productive. And there may be a good work ability and good employability, but a lack of vitality. And then it is also less successful to be healthy and productive at work and to keep pleasure in the work. In short, if one wants to be employable in a sustainable way, it is necessary to have a good work ability, great employability, and high vitality.

This broadening reflects the changes in thinking about being sustainable employable in recent years, according to Van Vuuren. Initially, attention was mainly focused on prevention of drop-out and illness. According to Van Vuuren, this was mainly a negative, defensive approach. Recently, a more positive perspective has focused on promoting well-being, health, and employability. So instead of focusing on negative aspects, such as work stress and incapacity for work, employee dropout and complaints, the sustainable employable approach focuses on promoting well-being and health and on circumstances and

preconditions that support and reinforce this. In this way it becomes possible to work longer and to function optimally at work. [5]

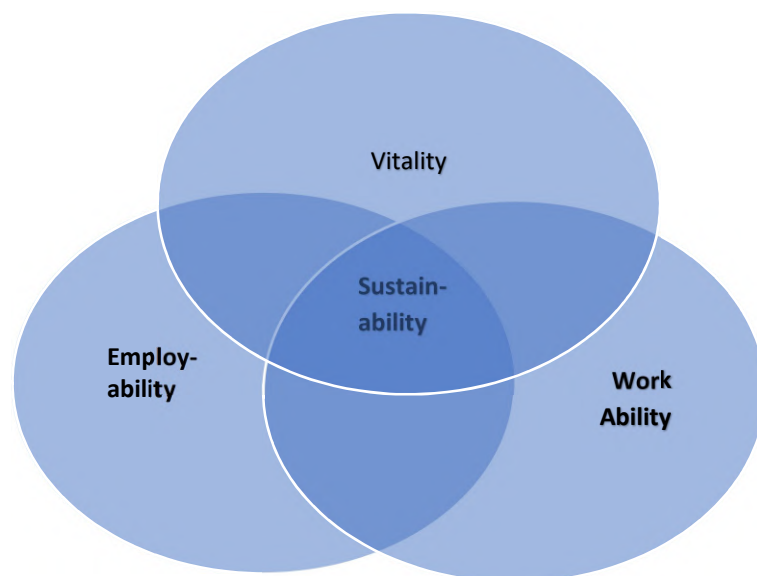
Ouweneel, Schaufeli and Le Blanc [12] note that analogous to this shift, the practice of work-related psychological interventions has also undergone a clear development: from curation, via prevention to amplification (i.e., strengthening). By amplification, Ouweneel et al. mean interventions aimed at actively promoting the psychological well-being of employees [12]. These three types of interventions differ in the nature of the target group and in content, namely:

- Curation, aimed at less vital employees through recovery: mitigating and reducing the consequences of reduced vitality, work capacity and employability.
- Prevention, aimed at risk groups through retention: prevention of reduced vitality, work capacity and employability.
- Amplification, aimed at all employees through reinforcement: increasing vitality, work capacity and employability.

These measures therefore go further than just reducing and preventing absenteeism. The third, amplification, is about increasing the work capacity of all employees. Also, from those who seem to be okay in the present day.

This tripartite division shows that it is not enough to take curative and preventive measures if a company want to improve working conditions and being sustainably employable. After all, these focus on counteracting and preventing absenteeism. It is also important to focus on increasing the work capacity of employees.

Figure 11: The components of sustainable employability



Source: SER A question of common sense: broad prevention policy within labour organizations [6]

## 7.4 Fitting practices: observations from the licensees

In the Netherlands the arbo-diensten plays a central role in reducing absenteeism and developing instruments and interventions both aimed at the labour organization and the individual employee. All three components on being sustainable employable we see in these instruments aimed at curation, prevention, and amplification. Starting point, also historically for most arbo-diensten is the WAI and the Concept of Work Ability. In more recent years the WAI has been expanded and other questionnaires are used as well. The WAI is more and more used as the canary in the mines: it gives a clear warning if the air is polluted, or if someone work ability is decreasing so action has to be taken. The way the arbo-diensten can use the WAI is restricted. For using the WAI they can get a license of Blik op Werk. One of the provisions to use the

WAI is that it cannot be used as an instrument for selecting employees. For instance, if someone's work ability moderates the employer cannot use this outcome for ending a labour contract. Let's take a closer look on four approaches: Immense Advice, Holland Fit, Adaptics and PreventNed.

### Immense Advies

According to Erwin Visser of Immense Advies, the company "is more a research agency than a consultancy firm". Immense Advies focuses on prevention and thus the early identification of an increased risk of dropout. "The vision we use is based on the ideas of Ilmarinen and the House of Work Ability". According to the House of Work Ability, the work ability of employees is determined by an interaction between the load capacity of employees to cope with the demands and stress (in terms of personal resources: health, competences, and motivation) and the load and development opportunities that employees experience from work (in terms of circumstances, content and job requirements, influence management and leadership). The house is used as a metaphor to reflect this interaction. Each 'floor' also includes various investigations: from the Periodic Medical Examination (PMO) to the WAI and the Risk Inventory and Evaluation (RI&E).

Based on different questionnaires Immense Advies has developed an online tool for labour organizations, the Net Employability Score (NES), which maps the health, involvement and thus the degree of the work ability, vitality and the employability of employees. The purpose of the NES to be derived from this is to provide a picture of the sustainable employability of an organization.

The NES score is linked to a dashboard that aims to give managers insight into the different aspects of employees' sustainable employability within their department at a glance.

Method: risks analysis of job-groups. Each process starts with a conversation with the employer in which they make it clear that the basis for work ability, employability and vitality lies in pursuing a good health and safety policy. This means that there must be a picture of what the most important risks are for the company and which groups are involved in the organization. For each job

group, work-related health risks are determined. Immens Advies assess the risk level and formulate measures to control or eliminate work-related health risks. This results in drawing up a health risk profile for each job group, which is related to the RI&E. With these profiles, the organization has an instrument at his disposal to influence health and vitality in a function group. With this they also look at what the organization will have to deal with in the coming years.

In the view of Immens Advies it is mainly the organization that is responsible for improving someone's work ability, employability, and vitality and thereby sustainable employable.

How? The WAI and work ability is the basis: it gives an indication of a potential risk, but no more than that. Immense starts with mapping out the working conditions: "We make, among other things, a workplace risk profile. This risk profile is made visual by using a dashboard with different indicators such as the physical requirements and capacity of the work. We also look at the mental aspects of the employees, we look at the personality of the employee and at things such as job demands, resources, and recovery. And of course, we also look at the physical aspects at the workplace." The results and the dashboard will be discussed with all those involved in the work organisation. The results are recorded in a dashboard for managers who can keep track of prevention and absenteeism in this way.

To inform the employer about the company the results are made comparable with other companies in comparable sectors and situations. This benchmark is based on different questionnaires that Immens Advies uses and gives an insight in the question: How good or bad is your score?"

For Immens Advies the focus is the labour organization. The employer plays an important role in improving working conditions and thereby in the work ability, employability, and vitality in the short term and for the long run the sustainable employability. "It is important that you can influence working conditions. It's about making problems visible and benchmarking internally, then you can really take steps in the field of sustainable employability."

In the view of Immens Advies the instruments that focus on lifestyle of private circumstances are overestimated. In the Netherlands there is a lot of attention to role of the individual, especially on lifestyle and personal development. Research shows however that the impact of lifestyle on work is very limited. Erwin Visser concludes: "for example: there is hardly any relationship between smoking cessation and work ability. What you must do is of course to make aware, that with this lifestyle you won't last, that you can't go any further. But not much more than that."

### **Holland Fit: WAI as the starting point for analysis**

For Holland Fit, the concept of Work Ability and the Work Ability Index (WAI) is the basis for looking at sustainable employability for employees. According to Erik Steenbakkers, director of Holland Fit, there is no better, validated instrument with a good predictive value. The Work Ability Index uses Holland Fit as a starting point. It is the basis for further research. Holland Fit has, based on the WAI, developed different questionnaires on different other aspects that combined gives a good picture on workability, vitality and employability of an individual employee and of the labour organization. To be able to diagnose why the work ability is excellent, good, moderate, or poor, Holland Fit has therefore supplemented the WAI with a series of questions and instruments to gain insight into someone's personal situation. The additions can go about themes such as lifestyle, including, for example, someone's sleeping pattern or about exercise, smoking, alcohol, nutrition, and relaxation. And also, personal characteristics, about enthusiasm, about someone's resources, but also about organizational characteristics, including the relationship with the manager and the facilities that the organizations make available like education and other employee-benefits.

Holland Fit's approach is ultimately aimed at organizing movement, in behavioural and organizational change, and that takes place step by step. The aim is to build awareness, the use of the right skills and a vital environment. It is about the balance and cohesion between the various components: motivated, deployable employees strengthen the strength of organizations and vice versa.



So, Holland Fit's focus is on both the individual and the company. Holland Fit starts with a quick scan, based on the WAI to map the current work ability. Insight in one's work ability is the starting point for instance a personal plan to do take the necessary steps for improving work ability but also being sustainably employable. The outcome is used to develop a plan with concrete goals. "The first step in our approach is the phase of awareness as a starting point for change. The aim is to take measures as early as possible aimed at prevention instead of curing. Awareness is important because our experience shows that people want to change but not be changed and that starts with awareness".

The second step is activation: Holland Fit has an online environment, activation teams, in-house activities, various forms of structural communication and activation. So: no one-off activities, but a program over the longer term. The third step: Building an environment that shows that the organization finds vitality important: training the managers. A precondition for a successful vitality policy is the role of managers who communicate openly with employees, who create a safe working environment and culture and who can communicate well. "Many managers have not been chosen for this, so there is a lot of work to be done."

It is also important to have an overview of the preconditions: Do managers have sufficient time to fulfil this role. Are they not unilaterally judged on the achievement of certain targets in their dashboard and the dashboard also contains data on, for example, vitality of work ability? For example, is early identification a point in the dashboard, but also how is the sick report process organised? Is that such responsibilities are clearly assigned, that contact is made quickly, etc.? In short, step four is to reorganize the environment in consultation, more focused on improving the organization. "We often reverse the concepts: not an absenteeism percentage, but a work ability percentage: 95 % can be used instead of 5 % absenteeism".

In the view of Holland Fit the focus is on the individual employee. But the labour organization determines the context. "Just like with the individual employee, the challenge is to jointly formulate goals that you as an organization would like

to achieve what are the goals you want to achieve in the field of work ability, employability and vitality". The aim is to realize a widely supported culture in the organization in which healthy aging is normal. "That may seem modest, but it is a big task". For example, it also includes matters such as safety, a safe work culture, continued development, and structural attention to teaching health skills. This therefore goes further than just complying with the Working Conditions Act. The role of Holland Fit is different, but the core is that the organization itself is responsible and owner of the problem. "We advise, support and coach, but the organization and the individual must (want to) do it."

Getting people and organization into a process of change that often happens in small steps. Changing behaviour is a slow process that requires constant attention. Therefore, the added value must be clear to the participants. The gain from participating must be significantly greater than the assumed risk or loss. What matters is providing building blocks that you can do something with, both for the individual and the organization.

### **Adaptics**

"For Adaptics, the WAI is an important pillar of the services we offer, but it is certainly not the only one", says Daan de Boer, director of Adaptics. The origin of Adaptics lies in absenteeism, prevention and especially the more medical aspects of absenteeism. Adaptics has a reputation in the field of periodic medical examinations (PMO): "We are a health organization and the WAI fits in well with that." Adaptics sees the WAI as a valuable questionnaire that provides insight into possible drop-out and that is why the WAI is a standard part of the studies that Adaptics does. There are strong correlations between the PMO and the WAI when it comes to absenteeism and the WAI also provides insights into future absenteeism. A low work ability means a higher chance of dropping out and/or absenteeism and therefore a referral for further investigation follows standard. The results are personal and do not lead to segregate employees: it cannot be used to end a contract for instance.

Initially, Adaptics was mainly focused on doing research and making the right diagnosis. More recent Adaptics also develops instruments: it is a cycle: research> analysis> intervention> monitoring> adjustment> The questionnaires are a combination of the WAI, PMO and own questionnaires. Adaptics uses these questionnaires for making risk profiles for each employee.

Adaptics focusses on short-cycle interventions. It is a lesson of the research that Adaptics does. In order to make more impact, you have to intervene more quickly. This also has the advantage that the costs of such interventions are lower than if you were to do this once every three years.

Adaptics looks at both the organization and the individual. In recent years, much has been put on the individual's plate. As an employee, you are individually responsible for being sustainably employable. In principle, that is a correct position, says Daan, but it has gone a bit too far in recent years. It has also moved too quickly from a responsibility from the employer to the employees. For example, you see major differences in organizations and there are, for example, entire departments where things are not going well. Then it can't just be the individual responsibility. But in general: an employee is personally accountable for being sustainably employable. The employer must set frameworks and be clear: "Being a good employer". Daan: "The question is: What do we do for our employees. For example, most companies have an intervention arc and that is of course good, but in my view the core is to organize movement, to challenge your employees to continue to develop. What we see is that many managers do not have that conversation: what we call static personnel policy. Many managers have grown according to the Peter's principle but are not authentic leaders. For sustainable employability you must move to a situation with more attention to movement and dynamics. And enter into a structural conversation about it".

So: interventions that are aimed at the organization on the one hand, especially the managers, and on the individual on the other. These are 'broad' interventions aimed at continuous attention to the different aspects of work ability, vitality and employability.

## PreventNed

Happiness at work or job satisfaction is a guiding principle for PreventNed in what they do. Their credo is therefore: happy people, good results. Work ability is a central concept for PreventNed. Happiness at work is related to work ability. Measuring work ability with the WAI works like a perfect thermometer. It acts like a traffic light: A good or excellent work ability is green; a moderate work ability is orange, and a poor work ability is red and red indicates that there are certainly threats to work ability and there is an increased risk of absenteeism.

PreventNed is a research and consultancy agency and has developed a tool based on the Work Ability Index to map as much as possible themes that affect work ability in a broad sense. In contrast to other approaches, often customary in HR, where a specific problem or theme is often tackled by deploying a (rapid) intervention. In the view of PreventNed this short-term approach is to be limited. PreventNed conducts research on several themes. Understanding the question how you can be sustainably employable is about good framing and asking the right questions and making correlations: "Every year we learn more, and we can further tighten our questionnaires. Themes are leadership, job satisfaction/satisfaction, degree of self-sufficiency, work-life balance, etc. Themes are based on the experience of 20 years of research in which we collaborate with scientific institutes (Erasmus University). We are currently investigating about 60 variables and this number could increase, it is ongoing research. Themes of these variables are questions on work ability, employability, and vitality."

PreventNed has its own database. Based on their own research they see also changes in problems that affect employees, such as work pressure. "From our analyses ten years ago, about 10% of the employees surveyed had a high load. That's now (2021) about 35%. The question is also whether this will lead to more sickness, which is not yet the case. Employees indicate that there is more work pressure and it is remarkable that they do not drop out faster/more often as a result. That also says something about the complexity of the problem and that there are several problems that cause, for example, absenteeism: it may

concern the home situation (work-life balance), the degree of autonomy in the workplace, but also the financial position. But also worries about: what exactly does the future look like. Job security, prospects of a permanent appointment and thus, for example, the possibility of buying a house, etc.”

Work ability, employability and vitality play a role in all phases of an employee’s life. Instruments must be directed to all aspects of this generational approach: prevention, curation and amplification. But there are a lot of limitations. Self-control is important for employees in the modern labour market. But it is not easy to realize and every age group has its own questions.

## 7.5 Conclusions

### Different approaches

This paper describes various approaches that aim to increase sustainable employability of employees in the Netherlands. As stated being sustainably employable has been high on the agenda of employers, employees and policymakers over the past decades. The reasons are diverse: quantitatively changes on the labour market (greying and dejuvenation) and qualitative changes. New and other skills are required from an employee in the future. There are different approaches on improving employees’ sustainable employability. One approach focuses on the role of the employer and the other one on the employee. In this paper we explore these different approaches:

What is the role of the organizations? What is the responsibility and the role of the employer in improving being sustainable employable of his/her employees?

Employees in the Netherlands have been given in recent years more responsibility to ensure their own employability. What measures and initiatives can employees take and deploy themselves to improve on being sustainable employable, such as a personal (training) plan.

In the paper we follow the analysis of prof. Van Vuuren and the Dutch Social and Economic council and distinguish vitality, work ability and employability. Being sustainably employable is composed of these three elements:

- Vitality can generally be understood as: life force, energy, and inspiration. In relation to the working environment, this can also include the motivation of employees.
- Work ability is the extent to which one is physically, psychologically, and socially able to work in one’s current position. Work ability can be quantified, among other things, by using the Work Ability Index (WAI).
- Employability is defined as “the extent to which people can find and keep productive and rewarding work during their lifetime”. Employability is in this sense more dynamic: it never stops.

### Good practices

The good practices use all three elements of being sustainably employable. What we see is that their interventions are based not only on the WAI but on a broader diagnosis aimed at improving work ability, employability and vitality. It is the combination: a good health and work ability alone is not enough: for this, the employability must also be in order, so that people can also be productive. And there may be a good workability and good employability, but a lack of vitality. And then it is also less successful to be healthy and productive at work and to keep pleasure in the work. In short, if one wants to be employable in a sustainable way, it is necessary to have a good work ability, great employability, and high vitality.

This broadening reflects the changes in thinking about sustainable employability in recent years. Initially, attention was mainly focused on prevention of drop-out and illness. According to Van Vuuren, this was mainly a negative, defensive approach. Recently, a more positive perspective has focused on promoting well-being, health, and employability. So instead of focusing on negative aspects, such as work stress and incapacity for work, employee dropout and complaints, the sustainable employable approach focuses on promoting well-being and health and on circumstances and preconditions that support and reinforce this. In this way it becomes possible to work longer and to function optimally at work.

This change we also see in the type of interventions that are used:

- Curation, aimed at less vital employees through recovery: mitigating and reducing the consequences of reduced vitality, work capacity and employability.
- Prevention, aimed at risk groups through retention: prevention of reduced vitality, work capacity and employability.
- Amplification, aimed at all employees through reinforcement: increasing vitality, work capacity and employability.

These measures therefore go further than just reducing and preventing absenteeism. This tripartite division shows that it is not enough to take curative and preventive measures if a company want to improve working conditions and being sustainable employable. After all, these focus on counteracting and preventing absenteeism. It is also important to focus on increasing the work ability of employees.

### **Company or individual**

In the Netherlands interventions are aimed at the company and the individual. There are clear differences in vision on the issue of being sustainably employable when it comes to the responsibility of employers and employees. Employers and employees are responsible for being sustainably employable in different ways, exemplary is the discussion about the employee's lifestyle and the extent to which employers bear responsibility for this, for example for the consequences of an unhealthy lifestyle. That is why some approaches see the employee in principle as responsible for his/her own sustainable employability and not the employer. In that view, in a sense, the employer is a passer-by in the working life of an employee who changes employer on average once every nine years. Employees are also responsible for a healthy lifestyle. The influence of employers is limited, as is their responsibility for sustainable employability and lifelong learning.

Other approaches point to the responsibility of the employer and the work organization about increasing a person's sustainable employability. This includes above all a legally regulated responsibility framed in the working conditions legislation and concerns safety and a healthy working environment.

Not only in the formal legal sense, but also in a more informal way: the possibilities to combine work and private life, for example, which will reduce work pressure and therefore the chance of dropping out. The work organization is pre-eminently the place for targeted interventions, as this is where the greatest and broadest gains can be made.

### **Financial incentives**

The responsibility of both employer and employee is also the result of Dutch social policy. In the last decades, employers and employees are made responsible for a good work ability and preventing absenteeism. When we look at the way sickness of employees is organized both employer and employee are responsible for a quick return to work. The policy is mainly based on financial incentives: a period of two years during which the employer still must pay sick leave. It is one of the main reasons why arbo-diensten also developed instruments for the labour organization and management to get a grip on absenteeism and on the different aspects of work-related diseases, working conditions, work ability, vitality and employability. These instruments start with a broad diagnosis and then depending on the problems different types of interventions are made. The WAI is the 'oldest' of the questionnaires that they use. In the last years there are several other questionnaires additional to the WAI. The arbo-diensten see the WAI as a screening and detection instrument, in the words of one of the approaches sends a signal about the work ability of the worker: red for direct risk, orange, increased risk and green for good work ability. It is a starting point: the canary in the mines. The WAI provides a first insight into the risks that employees are facing.

### **Benchmark**

Finally, the WAI is also used, in combination with the other studies, as a benchmark and an instrument that gives the employer insight into the work ability of his/her employees in relation to other comparable sectors and professions: where do I stand as an organization? "How employable are my employees and how is their work ability compared to other comparable companies?" Here too, the WAI provides more of an initial insight and the

results of the WAI help to create more focus for both the employer and the employee. It is more than just a comparison tool. It provides insight into the position of the company in relation to the direct competitors, in terms of competitiveness, productivity, labour market and absenteeism. In that sense, the WAI also has strategic value. And can be the starting point for a program of action to improve the work ability of the employee or the work ability for the whole company. Using the House of Work Ability and the WAI also helps to initiate a conversation between employee and employer about work ability. And that is not only important in the case of absenteeism due to illness. By mapping out the work ability of individual employees, a picture is created of the effectiveness of the entire organization instead of just the percentage of employees who are sick. This helps to identify bottlenecks in good time and to take appropriate measures. This is a big plus, especially with psychosocial factors such as high work pressure and low autonomy. After all, these factors often only surface late and it takes a relatively long time to do something about them. In addition, labour productivity increases along with work ability.

There is not a lot of research on the costs of a declining or stagnating employability. Some research shows that the loss of productivity or declining work ability is more than the costs of sickness.

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## 8. List of figures and tables:

Figure 1: Work ability is the result of the relationship between the worker and work requirements .....	15
Figure 2: House of Work Ability .....	16
Figure 3: Work Ability, Work Ability House, Age Management .....	19
Figure 4: Life-course perspective of functional capacities. (Adapted from WHO [4]) .....	25
Figure 5: The balance between the workload and the resources of the worker (compiled by the authors based on [1, 2]) .....	50
Figure 6: Framework for career counselling in the old age: the career lattice (adapted from Young [7]).....	53
Figure 7: The Demand-Control-Support model [15] .....	64
Figure 8: Posed advisor and client .....	89
Figure 9: Phases of the final (review) meeting.....	101
Figure 10: Process of the Sick-act .....	118
Figure 11: The components of sustainable employability .....	122
Table 1: Erikson's theory of psychosocial development .....	23
Table 2: Examples of positive and negative changes with ageing and ageing at work.....	38
Table 3: Examples for types of health promotion interventions of different focus and level .....	41
Table 4: WAI score points and their basic evaluation .....	70
Table 5: Work Ability House – Advisor Maps: Topics and Tasks .....	93
Table 6: The auxiliary control questions are based on the concept of the House of Working Ability .....	107



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