



Working and ageing

**The benefits of investing
in an ageing workforce**

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Foreword

The year 2012 is the European year for active ageing and solidarity between generations. Slowly but steadily, the attitude towards population ageing is changing. Whereas early reports and analyses saw it as a megatrend or even a demographic time bomb that would have very negative consequences for Western economies and societies, more recently the opportunities that population ageing brings have been emphasised. Recent debates have identified the emerging silver economy as a potential driver of future growth and prosperity.

From the beginning of the new millennium, since it became clear that active ageing and working longer is needed to sustain health, welfare and pension systems, the EU and Member States' policies have emphasised the importance of lifelong learning. However, this does not mean that Europe is fully prepared for the challenges that ageing brings. Reaping the benefits of the knowledge, skills and competences of ageing people remains a challenge, and participation in lifelong learning among people in this age group is still consistently below that of younger age cohorts.

Successful active ageing relies on a sound understanding of the concept of ageing, the dynamics of the workplace, and in what ways learning and human resource policies at enterprise level can help in making longer and satisfying careers a reality. Cedefop has, over the past few years, been engaged in research that considers the interactions between learning, ageing and working to support lifelong and active ageing policies at EU and Member State level. This publication is the third in its series 'Working and ageing'.

With general ageing trends having been addressed in the first volume (*Emerging theories and empirical perspectives*) and guidance and counselling in the second (*Guidance and counselling for mature learners*), this publication now discusses the value of investing in an ageing workforce. It is based on contributions from an international workshop that Cedefop organised in cooperation with the European Commission in September 2011. The workshop on *Learning later in life – uncovering the potential of investing in an ageing workforce* gathered researchers and policy-makers from all over Europe to discuss and debate evidence-based active ageing practices and policies.

The evidence presented in this publication points towards the importance of showing the benefits of learning, developing demographic literacy in organisations and expanding the evidence base on the value of learning later in life using interdisciplinary research. The long-term trend of ageing remains a prominent element of policy debates on the EU's future challenges. Making the right choices in active ageing policies and practices at workplace level requires sound evidence. I am convinced that this publication can build on the achievements made in the European Year for Active Ageing and Solidarity between Generations by providing new insights that can support lifelong learning and active ageing policies in Europe and the Member States in the years ahead of us.



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Acting Director

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CHAPTER 1

Introduction: the value of investing in an ageing workforce

Antje Barabasch, Alexandra Dehmel and Jasper van Loo

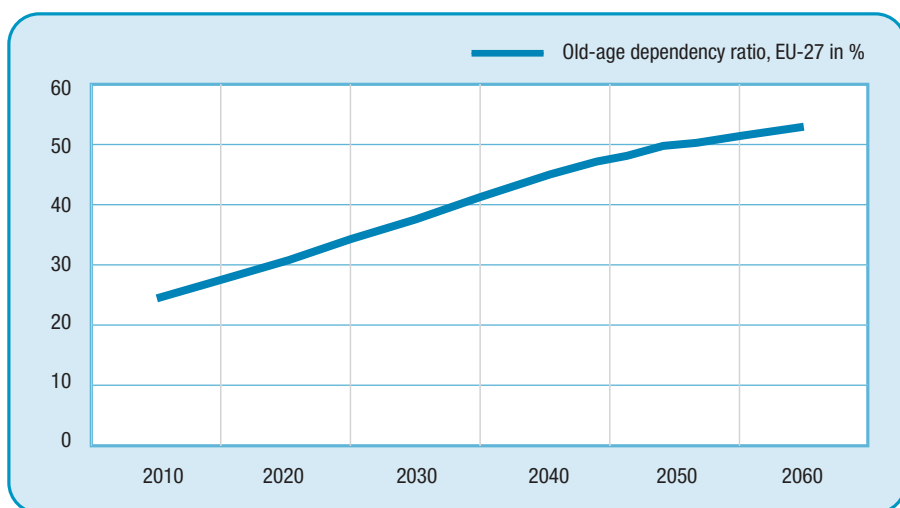
The ageing of the European Union's population and workforce poses major challenges to societies and economies, requiring, for example, changes in labour markets, societal structures and social security systems. To tackle these challenges and to make use of new opportunities, action from stakeholders on all levels is required, including enterprises. Research findings suggest that, although employers view workforce ageing as an important trend and anticipate negative impacts, they still do little about it. How can their investment in an ageing workforce be encouraged? Such investment can, for instance, take the form of implementing age-sensitive workplace design and management concepts or promoting lifelong learning for ageing workers. Promoting evidence on the value of investing in an ageing workforce and the identification of key areas for successful investment could encourage enterprises to take action.

After presenting data on demographic change in Europe, its impact and the need for action (Section 1.1), this chapter provides insight into the values of investing in an ageing workforce and shows why it is worth the effort (Section 1.2). It debates the concept of 'work ability' (Ilmarinen and Tempel, 2002) and reveals the benefits of ageing workers' work ability. Using the concept's four determinants of work ability as a framework, key areas for enterprises' successful investment in an ageing workforce are identified (Section 1.3). This chapter also shows that investing successfully in an ageing workforce is a complex task that requires integrated approaches, as it covers many different aspects, ranging, for example, from occupational health care to combating negative age stereotypes and the provision of intergenerational working and learning environments. Last but not least, an overview is given of the various contributions to this publication (Section 1.4).

1.1. Introduction: population ageing and the ageing paradox

As a result of an increasing life expectancy and lower fertility rates, the population in Europe – and in many other parts of the world – is ageing steadily. According to the latest projections by Eurostat, there will be only two people of working age (15-64) in the EU for every person aged over 65 years by 2060, compared to a ratio of four to one today (Eurostat, 2012). Figure 1.1 shows this ratio – old-age dependency ratio (population aged 65+ in relation to the population aged 15-64) – and illustrates that a major surge is expected during the period 2015-35, when the baby boomers (i.e. people born between 1945 and 1965) start to retire.

Figure 1.1. **Old-age dependency ratio**



Source: Eurostat, online data code: tsdde511.

Population ageing is a major trend that has an impact on societies and economies in Europe and beyond and influences all spheres of life, from labour markets to societal structures, social security systems and infrastructure, to name but a few. On the labour market, population ageing leads, for instance, to changing age structures in enterprises, increasing labour market exit rates in the coming years, potential loss of critical organisational knowledge and experience, and possible skills shortages when

employers face difficulties in recruiting new employees to replace outgoing staff. These impacts can be addressed by a range of measures, for example by providing incentives to encourage longer careers, by introducing flexible working and retirement schemes, by promoting more inclusive labour markets, by implementing appropriate knowledge management approaches, by providing conditions that enable intergenerational working and learning, and by supporting lifelong learning for all – irrespective of age – through investment in continuing vocational education and training (CVET) and the development of learning-conducive workplaces.

When it comes to population ageing, its (potential) negative consequences are often highlighted, but it tends to be forgotten that an increasing life expectancy is one of the greatest achievements of mankind. It can provide us with many new opportunities if we manage to reap the full potential of the ageing population and address the challenges ahead (European Commission, 2012). Within this context, lifelong learning – and vocational education and training (VET) as an important part of it – plays a crucial role. The new Council Resolution on a renewed European agenda for adult learning (Council of the EU, 2011) emphasises the importance of learning later in life to promote active, autonomous and healthy ageing. It encourages Member States to focus on ‘enhancing learning opportunities for older adults in the context of active ageing, including volunteering and the promotion of innovative forms of intergenerational learning and initiatives to exploit the knowledge, skills and competences of older people for the benefit of society as a whole’. Although supporting adults’ participation in lifelong learning is high on the political agenda (e.g. European Commission, 2006; 2007; 2011; Council of the EU, 2008; 2011), participation rates are still rather low – especially for the age group 50-64 years (Eurostat’s labour force survey shows an EU-average participation rate of 5.3% for this group in 2010).

Research on population ageing in general and the ageing workforce in particular has increased significantly over the past decade. Attention has been given, for example, to the working patterns and needs of ageing workers and the factors that promote or inhibit longer working lives. Assuming that learning plays a major role in promoting longer and successful working lives and a smooth transition to retirement, the learning patterns of ageing workers have been examined and first insights into how to design and facilitate their learning at work have emerged. Despite the increase in research, however, there is still relatively little solid research evidence available on the impact and potential of learning later in life and of investing in an ageing workforce. More insight is needed into the impact of policies aiming to maintain and improve

work ability and to keep people in the labour force (productive ageing), and into the conditions that need to be in place to ensure that we can tap the potential of an ageing workforce. Sound evidence and the identification of key factors for successful investment could encourage companies and individuals to invest in an ageing workforce and inform policy-making, for example in VET.

Such encouragement is needed. Research reveals that there is an ageing paradox: employers are aware of the realities and potential negative impacts of population ageing but do too little about it (van Loo, 2011). Van Dalen et al. (2009) compared, for example, employers' attitudes and actions in dealing with older workers in four Member States (Greece, Spain, the Netherlands and the United Kingdom). The results show that, although most employers anticipate future problems due to a shrinking and ageing workforce, only few employers implement or consider implementing substantial measures aimed at recruiting or retaining older workers, for example in terms of easing the leisure-work trade-off, reducing stress at work, adjusting tasks and capabilities, and adjusting working conditions to the needs of older workers. Research presented in this publication (e.g. Tullius, Chapter 7) points to the same direction, showing a gap between discourse and actual practice, and a need for action.

Following the line of argument as outlined in this introduction, Section 1.2 provides some insight into the values of investing in an ageing workforce and shows why it is worth discussing. It introduces the concept of work ability (Ilmarinen and Tempel, 2002) and reveals the benefits of ageing workers' preserved and improved work ability. Using the concept's four determinants of work ability as a framework, key determinants for enterprises' successful investment in an ageing workforce are identified in Section 1.3. Section 1.4 outlines the background and context of this publication and presents an overview of the various contributions.

1.2. Ageing and work ability

Investing in an ageing workforce is beneficial in many respects, not only for enterprises and individuals, but also for the economy and society as a whole. It can, for example, help to maintain and promote the active participation of ageing people in the labour market and in society, to limit the pressures on social care, health and pension systems and to improve individual quality of life and wellbeing (European Parliament and Council, 2011). The chapters in Part I provide further insight into the benefits of investing in an ageing workforce.

Among the potential outcomes of investing in an ageing workforce are the preservation and the improvement of ageing peoples' work ability. Research shows that improved work ability has benefits that go well beyond labour market outcomes. The concept of work ability is well known and has been developed by Juhani Ilmarinen and others in a multidisciplinary research team at the Finnish Institute of Occupational Health. It is mainly based on the results of an 11-year follow-up study of over 6 500 workers. Work ability is described as the balance between a worker's individual resources and the demands of work. 'The concept emphasises that individual work ability is a process of human resources in relation to work' (Ilmarinen, 2001) and thus comprises a combination of various individual and work-related factors as shown in Box 1.1.

Box 1.1. **Determinants of work ability**

- health and functional capacities (physical, mental and social functional capacities);
- education and competence;
- values, attitudes and motivation;
- work environment, work organisation, work management and leadership.

The theoretical framework of work ability is often described and illustrated by the 'work ability house' (Ilmarinen et al., 2003), a construction with four floors (first floor: health and functional capacities, and so on), combining all aspects which are essential for the maintenance and promotion of work ability under one roof. Outside, but very close by the 'house', are the worker's family, his private social life and society. They also have an impact on the individual's work ability, but are – in contrast to the various components of the house – not significantly influenced by the enterprise. Based on the concept of work ability, a measurement tool – the work ability index (WAI) – has been developed to assess an individual's perceived work ability. Today, the WAI is implemented internationally and translated into more than 20 languages. It indicates, for example, whether measures should be implemented in one of the above-mentioned fields. Studies have shown that it is possible to improve work ability, even in older age, and that improved work ability in ageing workers has considerable value in many respects (Ilmarinen, 2001):

- better employability;
- better productivity and quality of work;
- higher life quality and better wellbeing;

- as a long-term effect, good retirement ability, meaningful, successful and productive third age.

Although it is widely acknowledged that investing in an ageing workforce has substantial value, there is still a gap between discourse and practice (the ageing paradox). Therefore, central questions are: what are the main barriers and obstacles for investing in an ageing workforce and learning later in life? How can we overcome them? Which innovative ways of thinking can be identified? What are facilitating factors, and how can they be used and further exploited? What should we focus on and invest in (in broad terms, i.e. efforts, time, money, etc.)? Are there any key factors for successful investment?

1.3. Determinants of successful investment in an ageing workforce

Due to their holistic nature, the four determinants of work ability by Ilmarinen and Tempel (2002) presented earlier (Box 1.1) provide a useful framework to address the questions raised above and to identify determinants for successful investment in an ageing workforce. These determinants are interrelated, and often support each other mutually.

1.3.1. Health and functional capacities (physical, mental, social): protect health, promote functional capacities and foster job changes

Research reveals that physical and mental functional capacities change during ageing (Ilmarinen, 2001). Many studies look into the changes in functional capacities of ageing people and the effects of these changes on work performance, investigating whether there are age-related declines (for an overview, see e.g. Bohlinger and van Loo, 2010; Skirbekk, 2004). Overall, both positive and negative relationships between age and work performance can be found. As physical functional capacities weaken with age, negative relationships are usually found when factors such as muscle power or speed form the basis of work activity. When it comes to mental functional capacities, relations are more complex, because there are increases and decreases in capacities, with differing impacts on work performance. Research in this field often builds on the concept of crystallised and fluid intelligence introduced by Horn and Cattell (1966; 1967). Fluid intelligence refers to the capacity to solve problems in novel situations and to think logically, while crystallised intelligence involves the use of accumulated knowledge and experience.

There is considerable evidence for age-related stability or even an increase in crystallised intelligence and a decrease in fluid intelligence (Ackermann, 1996; Kaufmann and Horn, 1996). However, individuals seem to develop and adopt strategies to compensate for lost functions, and counteract by increases in experience, wisdom, commitment or high motivation (Ilmarinen, 2001). Empirically, however, still very little is known about other mental factors such as motivation (Warr, 2001), although it is assumed that they play a key role (Ypsilanti and Vivas, 2011). Research that explores such factors (e.g. motivation, emotions, social factors) in more depth and investigates how the different factors are related is needed.

What implications do these findings have for our context? As physical functional capacities weaken, certain characteristics of work such as heavy physical work or shift work are problematic for older employees, not only from a purely economic perspective (decline in productivity), but also because negative impacts on health and thus work ability are likely. It is advisable to address this by taking appropriate measures, for example by investing in special equipment that is designed to reduce the physical demand or in innovative, age-aware approaches to shift work. Occupational health care and safety legislation as well as the development of new, integrated health management concepts (including physical, mental and emotional health) can play a central role here (Leibold and Voelpel, 2006). With an ageing workforce, the implementation of age-appropriate ergonomics and of preventive health programmes that promote physical, mental and social resources is increasingly important. In this context, physical exercise seems beneficial – it promotes not only health and physical capacities but also mental ability (Kliegel and Jäger, 2009). Furthermore, the transfer of ageing employees from jobs requiring a major physical input to other, less physically demanding fields of work should be fostered, ideally with due account being taken of the individuals' experience and expertise. The facilitation of internal job changes to new positions better suited to the ageing workers' changing capabilities or preferences is an important strategy to retain them in employment. Practical examples of how companies promote internal job changes and other innovative approaches to attract, accommodate and retain older workers are provided by Dychtwald et al. (2006).

In an ageing society, another important aspect as regards health and functional capacity is the occupational rehabilitation of older individuals who are unable to pursue their profession on health grounds (Peschkes, 2009). This underlines that, in addition to preventive approaches, curative measures are required to deal successfully with ageing.

1.3.2. Education and competence: providing tailored learning approaches and promoting lifelong learning and competence development

Education and competence are important determinants for work ability. As continuous change has become a main characteristic of working life, their relevance is steadily increasing. In this connection, lifelong learning plays a crucial role. The concept of lifelong learning has emerged as a key focus at national and international level since the early 1990s, as formal qualifications and conventional education and training models appeared to be no longer sufficient to deal with the new demands, not only in the labour market but also in society in general (Dehmelt, 2005). Education and training are now perceived as the basis for continuous, i.e. lifelong, learning, which is aimed at promoting individual motivation and ability to extend and update knowledge, skills and competences continuously throughout life (Dehmelt, 2005; Achtenhagen and Lempert, 2000). Lifelong learning is vital for people of all age groups, but the participation of older people in particular in lifelong learning needs to be increased, since their participation is significantly lower than that of younger generations (Cedefop, 2011b). Addressing this issue is currently also high on the political agenda (Council of the EU, 2011), and many EU Member States have introduced their own measures to encourage lifelong learning aimed specifically at this age group.

Continuous vocational training and learning at the workplace is an important part of lifelong learning and should be encouraged (Cedefop, 2011b). Tailoring the learning approaches to the needs and preferences of the individual (ageing) worker is crucial in this context. Research findings suggest that learning styles and preferences differ between generations (cf. e.g. Chapter 12: Ropes and Ypsilanti), and that certain forms of learning tend to be more suitable for ageing people. Tailored approaches can increase individuals' motivation and the outcomes of the learning activity and thus stimulate further participation in learning. A considerable amount of literature provides examples of didactical principles for the design of learning measures for older workers (Callahan et al., 2003; Dessinger and Moseley, 2007; Sonntag and Stegmaier, 2007). Job-related and work-integrated forms of learning are, for example, considered to be particularly powerful for ageing people, as they are closely linked to professional practice and refer to previous professional and learning experience (Bohlinger and van Loo, 2010). Learning at the workplace – learning while working – plays an important role, too (Cedefop, 2011b). To expand learning opportunities in the workplace, the development of learning-conducive workplaces is crucial. Characteristics of such workplaces are,

among others: autonomy at work and freedom to control work (e.g. ability to choose or change order of tasks, method of work, speed or rate of work); communication and cooperation (e.g. teamwork) as well as complexity of work and need for learning (e.g. work involves solving unforeseen problems independently, complex tasks and learning new things).

Despite the great potential that intergenerational learning offers for an ageing workforce, it is often still not incorporated systematically in enterprises and is far from being exploited to its full extent. Intergenerational learning can be defined as interactive processes between and among people from different generations where one or both partners learn (Ropes, 2011). It can take place on the job (i.e. while working) or during other phases (e.g. training courses), and is often not unilateral but reciprocal, with benefits for all participating parties. Examples of intergenerational learning in enterprises involve mentoring, tutoring and coaching models (usually one-to-one relationships between individuals of different ages, developmental in nature), multigenerational work teams or specific learning arrangements in initial or continuing VET that build on intergenerational learning. Schaper et al. (2009) provide specific examples of different approaches and outline the respective potentials of intergenerational learning and working. The benefits for individuals and enterprises are manifold. They include, among other things, the retention of critical organisational knowledge and expertise that older workers possess (this is an issue of knowledge management), for example through the transfer of knowledge to younger generations, and the combination of the strengths of individuals from different generations (e.g. consolidation of younger generations' expertise on new technologies with older generations' experience), which might lead to the application of knowledge in different ways and foster innovation and organisational renewal. Furthermore, intergenerational learning contributes to strengthening intergenerational relations, to reducing barriers and to breaking negative stereotypes between generations (Ropes, 2011; Spanning, 2008) – the importance of these aspects are addressed in more detail below.

Last but not least, when it comes to supporting training and learning in an ageing workforce, guidance and counselling services can play an important role. They consist of much more than simply directing people to particular learning activities; they involve, for example, an assessment of skills and learning needs, including, where required, the recognition of prior learning or experience, selecting and tailoring different training options according to the learners' needs, a strong focus on long-term career concerns, and support to assist people to become more self-managing (Cedefop, 2011c). Responsive

and comprehensive guidance and counselling services that are an integrated part of personnel development approaches have great potential, and research suggests that their full potential has not been tapped yet (Cedefop, 2011c).

1.3.3. Values, attitudes and motivation: promoting positive perceptions of age and ageing workers

Negative perceptions of age and of ageing workers are major barriers for investing in an ageing workforce and in learning later in life. They might prevent not only employers but also employees from investing in learning. Research on stereotypes and on attitudes towards older workers has spanned the past six decades (among the first were Tuckmann and Lorge, 1952, and Kirchner and Dunnette, 1954). A great deal of research reveals the existence of negative stereotypes and of negative attitudes towards older employees (Lyon and Pollard, 1997) and demonstrates discrimination against them, for instance with respect to selection for employment, promotion or access to training (Chiu et al., 2001). However, findings from other studies suggest that attitudes may become more positive and less different as compared to attitudes towards younger employees (Kluge and Krings, 2008). There are, however, doubts as to whether such a change in attitudes actually leads to real changes in human resource practices (Kluge and Krings, 2008), and this is the crucial question in our context.

Although attitudes and stereotyping by employers and related aspects such as the relationship between age and participation in various types of learning have received considerable attention, individual as well as societal views and beliefs on age and their impact on working life, learning and retirement decisions have been far less prominent (Paloniemi, 2006). This perspective is, however, very important. Active ageing policies and practices can only create the conditions to foster training participation of ageing workers, to extend working life, etc., whereas decisions, for example to engage in training or to retire, ultimately lie with the individual. As Rothwell et al. (2008) point out, recent evidence suggests, for instance, that employee attitudes (or intrinsic values) are becoming increasingly important motivators for continuing working after the age of 60. Individual attitudes towards learning, motivation and a positive self-image are important factors when it comes to learning later in life. Negative perceptions of age might diminish the individual's capacity to learn and to be productive. The way age, in terms of the ability to work and to learn, is perceived is a factor that can have not only negative but also positive impacts.

It is important to foster and to build on positive perceptions of age and to combat negative ones at all levels (society, enterprise and individual). This is

in line with Schalk et al., who recommend in their recent overview and agenda of research on work and ageing for Europe that ‘the advantages and positive age stereotypes of older employees should be promoted’ (Schalk et al., 2010). Positive age stereotypes include, among others, experience, loyalty and reliability (McGregor, 2001; Taylor and Walker, 1994).

1.3.4. Work environment: promoting age-sensitive workplace design, management and leadership

The work environment is a crucial determinant for the work ability of ageing workers. An ageing workforce requires changes in (physical) workplace design and in personnel management and leadership approaches (Buckle et al., 2008; Griffiths, 1999, 2000). The age-sensitive design of workplaces is closely related to issues of health and functional capacities. As such, it was already touched upon earlier in this chapter. There are, however, several other important factors.

Research shows that age-related demographic changes in the workforce bring about role reversals in the workplace (Collins et al., 2009). For example, an increasing number of older workers might have to report to much younger superiors, which challenges traditions, violates established age norms and creates status incongruence. Potential problems arising from this include younger supervisors being reluctant to give orders to older workers, and older workers feeling uncomfortable taking directions from younger supervisors (Collins et al., 2009). Perceptions and expectations – of both the supervisor and the superior – play a major role here, for example older workers’ expectations of their younger supervisors’ leadership behaviour and skills (e.g. lack of leadership and mentoring skills as a result of shorter life and working experience). It is important to overcome such negative perceptions and expectations.

Furthermore, developing and implementing management and leadership approaches that are adapted to the ageing workforce is crucial. Over the past decade, several models for managing an ageing workforce have been developed, and many of them attribute an essential role to leadership as a means of dealing with age diversity (Vanmullem and Hondeghem, 2009, who refer to models developed by Ilmarinen, 2001, Walker and Taylor, 1998, and others). Leadership can be defined as the ability to influence a group towards the achievement of its goals (Vanmullem and Hondeghem, 2009; based on Yukl, 2006). Some studies show the impact of leadership on various factors, for example on the motivation of an ageing workforce (Vanmullem and Hondeghem, 2009).

The adoption of new management and leadership approaches also poses new challenges for the initial training and further development of (potential) managers. In this connection, it is important to emphasise that the issue must not be limited to how to manage and lead older workers (e.g. strategies to motivate them, to discern concerns and to encourage faith in their own capabilities), but is far more holistic. It is about managing an age-diverse workforce and includes, as such, for example understanding age-dynamics at the workplace, fostering multigenerational teamwork, dealing with age-related stereotypes and promoting intergenerational learning. Demographic changes in the workforce pose new challenges to workers of all ages and in all positions. In this respect, attention must be paid to all age groups and their specific needs. Vanmullen and Hondeghem argue that '[...] leaders must have insight into the needs and capabilities of different age groups and try to accommodate this through a diversity of leadership styles' (Vanmullen and Hondeghem, 2009).

These management and leadership approaches need to be an integrative part of a holistic concept of age-aware human resource management in an organisation. Research reveals that, although the importance of such encompassing concepts is recognised in theory, much remains to be done in practice (ageing paradox).

1.4. Context and overview of the publication

Our overview shows that promoting active ageing and implementing age-aware approaches in enterprises is a very complex task, as it covers many different areas, ranging, for example, from age-sensitive workplace design and occupational health care to leadership concepts and issues of values and design principles for ageing learners' continuing vocational training. It is important to acknowledge this complexity and understand existing barriers to facilitate factors and develop innovative ways forward. This is a core challenge for researchers, policy-makers and practitioners alike. Joint efforts, close cooperation and interdisciplinary approaches (e.g. education and training, gerontology, psychology and economics) that integrate the various issues in a holistic and coherent way are crucial.

Cedefop aims at contributing to the further development of this field. It provides a platform for the exchange of knowledge and good practices, conducts research on ageing, learning and working and the role of VET for active ageing, and informs evidence-based policies. This publication is part of these activities.

This is Cedefop's third volume in the series *Working and ageing*. The first volume focused on emerging theories and empirical perspectives on ageing, learning and working (Cedefop, 2010), providing a review of current research strands and work in this field. The two core messages were that:

- (a) successful active ageing requires commitment and involvement from all stakeholders in a context that supports learning and recognises the specific needs of an ageing workforce;
- (b) a sound understanding of ageing, working and learning and the interconnections between these processes is needed.

While the first volume covered a rather broad spectrum of relevant themes, the second looked specifically into how successful active ageing can be promoted through guidance and counselling approaches (Cedefop, 2011a). It showed that guidance and counselling is crucial for longer and more satisfying careers by supporting ageing people in terms of learning, career development and employability.

The theme of this publication is 'Learning later in life – uncovering the potential of investing in an ageing workforce'. The rationale for pursuing this thematic focus is that, although research on an ageing workforce in general and ageing workers in particular has increased significantly in recent decades, there is still very little solid research available on the impact and potential of learning later in life and of investing in an ageing workforce. More insight is needed into the impact of policies aimed at keeping people in the labour force and into the conditions that need to be in place to ensure that we can tap the potential of an ageing workforce.

This publication is an outcome of an international seminar, jointly organised by Cedefop and the European Commission in September 2011. Over 70 researchers, policy-makers and practitioners from all over Europe participated in the event and shared their expertise and experience. It aimed not only at stimulating dialogue between research, practice and policy to support evidence-based policies for active ageing, but also at sharing new insights and identifying future research needs. The seminar consisted of two policy forums (Box 1.2), presentations and discussions.

Box 1.2. Policy forums: content and major outcomes

POLICY FORUM I:

from demographic time bomb to valuable human resource

Discussions on the implications of ageing societies have led to reforms in EU Member States, but there are still many challenges to making longer and satisfactory careers a reality. Research consistently shows that most enterprises and the public sector recognise ageing as a megatrend in our societies, but only very few adapt their human resource practices to cater to the needs of ageing workers, including their possible post-retirement contribution. Despite encouraging results from initiatives that show the value of investing in ageing workers, better access to and more participation in lifelong learning remains a core challenge. This forum discussed what policy-makers can do to encourage stakeholders at all levels to take action.

The major issues that were raised included, among others:

- small and medium-sized enterprises (SMEs) face particular challenges. More substantial and targeted strategies that help SMEs in dealing with the challenges of an ageing workforce are needed;
- the development of good practice for training older workers and its dissemination has to be fostered, and more funding should be available for this target group;
- older workers' low self-esteem as learners and negative self-perceptions are major barriers for engaging in learning and need to be addressed.

POLICY FORUM II:

learning later in life: on the right track or time to change how we move forward?

Demographic change confronts Europe with new challenges, but also with new opportunities. In recent years, active ageing policies have been emerging in many EU Member States. Are we on the right track? Do the current policy measures fit our vision of inclusive learning societies? Are all the relevant stakeholders being involved in developing integrated and comprehensive active ageing policies? How can EU and national policy-makers design and implement the approaches to adult learning and continuing training that work best? What are the obstacles to ageing workers engaging in learning and how can we eliminate them? How can their smooth transition to active retirement be assisted through learning?

The aim of this forum was to discuss these issues and to propose innovative ways forward.

The major issues that were raised included, among others:

- the involvement of all stakeholders, their cooperation and the sharing of responsibilities is important;
- more evidence on what enterprises do in the field of active ageing and learning is needed;
- what competences are crucial for active ageing, and how can they be fostered?
- there are often psychological elements/effects behind active ageing policies. They are usually neglected, but they are important because they have an impact on implementation of the policies.

The papers presented at the international seminar addressed various issues on learning later in life and investing in an ageing workforce. This publication features a selection of these papers and comprises – in addition to the introductory and concluding chapters – three parts:

- investing in learning later in life: benefits and barriers;
- emerging models of age-awareness in organisations and sectors;
- international and interdisciplinary perspectives on working, ageing and learning.

1.4.1. Investing in learning later in life: benefits and barriers

The contributions in Part I, *Investing in learning later in life: benefits and barriers*, analyse the value of investing in an ageing workforce and reveal why it is worth making this effort. There is still very little solid research available on the impact and potential of learning later in life and of investing in an ageing workforce, although such evidence can encourage companies and individuals to invest in learning. The chapters in Part I contribute to filling this gap. They look not only at benefits but also at barriers. Revealing the barriers – for individuals and companies – is extremely important, as this helps to determine how learning should be adapted and how age-aware human resources management should be developed to tap the full potential that both have to offer. All five chapters in Part I take up the perspective of individual learners and use empirical data on their self-reported opinions. This is an angle that has only recently received attention. As Thomas Zwick rightly highlights, ‘Knowledge of the demand side,

namely the opinion of older training participants, is scant, however, mainly because of the lack of data' (Chapter 2).

In *Training effectiveness – differences between younger and older employees*, Thomas Zwick uses recent data on Germany to analyse self-reported effectiveness for those employees who participate in training and investigates determinants of individual training participation and training characteristics with a focus on age patterns. He shows that there are large differences between old and young employees with respect to training goals and the self-assessed effectiveness of training. The findings suggest that older employees prefer different training contents and forms, and that the main reason for the low self-perceived effectiveness of their training is that the firms do not consider these preferences adequately. To increase training efficiency and the motivation to participate in training, the specific needs and interests of older employees have to be considered.

This is also one of the conclusions that Roberto Angotti and Stefania Belmonte make in Chapter 3, *Investigating the learning-age gap in Europe and Italy: attractiveness and benefits of learning later in life*. Building on data from European surveys, they first show that the average participation rate of older employees in lifelong learning across Europe and in Italy is comparatively low and elaborate on the determining factors. In a second step, the authors use their own data from a survey among Italian employees and analyse the employees' expectations and perceived benefits of participation in training to find factors and conditions that could improve older workers' participation in training.

Andrew Jenkins addresses the topic *Successful ageing, wellbeing and learning later in life* and presents outcomes of a study that identifies the effects of participation in learning on the subjective wellbeing of older adults (Chapter 4). He uses data from the English longitudinal study of ageing (ELSA), a large-scale, nationally representative survey of the age group 50 plus. The survey considered different types of learning (formal courses, music/arts/evening classes and gym/exercise classes) and several wellbeing measures. It revealed that participation rates in learning are still rather low, despite the clear wellbeing benefits. A key finding was that music, arts and evening classes were most significantly positively associated with changes in the subjective wellbeing, as compared to the other types of learning. Building on these findings, he highlights the importance of encouraging older adults' participation in learning and using the full spectrum of adult learning.

In Chapter 5, Kurt Schmid reveals barriers to and benefits of further vocational training for older employees. He mainly presents data from Austria,

but he also provides a European perspective by comparing them with data from other Member States. Data for Austria indicate that participation in and outcomes of training are simultaneously influenced by a multitude of factors (e.g. educational attainment, occupational status, individual cost-benefit analyses), and that chronological age on its own is neither a significant barrier to CVET participation, nor does it impede training outcomes. Using employment and training data across the EU, he further shows that country-specific regulations (legal and actual retirement ages, replacement rates, labour market situation for older employees, etc.) seem to be more important for the labour market participation of older adults than further training participation by itself.

De Baets and Warmoes outline in Chapter 6, *Learning later in life: the older worker's perspective*, the results of an investigative study on older workers' perspectives on the requisites for effective training. According to the authors, Belgium is an example of a country that has a low participation rate of older workers of which the causes and consequences need to be tackled. In addition to an extensive literature review, the results of seven focus groups conducted with adults above 45 years of age and of 11 individual semi-structured expert interviews are presented. The conclusions drawn show that a wide range of influencing internal factors (experience, anxiety and insecurity, and motivation) needs to be considered when new training programmes are designed.

1.4.2. Emerging models of age-awareness in organisations and sectors

Part II examines emerging models of age-awareness in organisations and sectors. Research reveals that a major reason for the ageing paradox – employers are aware of the realities and potential negative impacts of population ageing, but do too little about it (van Loo, 2011) – might be a lack of adequate competences and approaches within organisations. Contributions in Part II confirm the need for action in this field and address it by showing different emerging models of age-awareness in organisations. Two out of the three chapters are on particular sectors. They show that differentiation matters and that sector-specific approaches are important.

Knut Tullius presents findings on three core sectors of the German economy: the metalworking and electrical industry, the chemical and pharmaceutical industry and retailing (Chapter 7). He uncovers constraining and enabling factors for establishing age-oriented corporate working and learning environments. Using recent empirical research on the three sectors, he shows that the effects of demographic change and the ways that companies address these changes differ. He highlights that, although there is

widespread consensus that an ageing and shrinking labour force is making age-oriented working and learning conditions a necessity, research indicates that companies in Germany seem to do little about it, and discusses possible explanations for this gap. On this basis, he presents collective bargaining agreements as an important step in the right direction and illustrates this with the specific example of a new collective agreement in the German chemical industry.

Insight into another sector in Germany is provided in Chapter 8 entitled *The impact of lifelong learning for coping with the challenges of demographic change in the logistics sector – good practices from Germany* by Verena Leve, Barbara Zimmer, Sandra Mortsiefer and Anja Kurfürst. After a brief presentation of general impacts of demographic change and current CVET figures in Germany, they reveal the particular challenges that the logistics sector is facing. An initiative that aims at dealing with these challenges by improving human resources management is the ‘Intelligent corporate personnel policies for logistics’ project. The authors present the lifecycle-oriented personnel management approach, developed and implemented in this project. This comprehensive approach encompasses all phases of working life, from recruitment to retirement, and incorporates a number of different elements. A key area is personnel development and further education.

In Chapter 9, *Organisational demographic literacy: developing a conceptual framework*, Mirko Sporket introduces the concept of demographic literacy – based on the encompassing Unesco concept of literacy – for organisations. In a first step, he gives information about population dynamics and organisational uncertainties that emerge from these developments. Building on that, he argues that organisations have to develop specific knowledge and competences that will enable them to deal successfully with these challenges. Organisations must gather, assess, manage and apply demographic information and knowledge so that they may strategically plan, adapt and design appropriate policies.

1.4.3. International, interdisciplinary and other perspectives on working, ageing and learning

The contributions featured in Part III on international, interdisciplinary and other perspectives on working, ageing and learning look at our theme from a different angle and open new perspectives. An international perspective is added by going beyond European borders. One chapter explores the situation across the Atlantic and provides input to discussions currently under way in Europe. The consideration of developments in the wider international context

and their relation to the developments in Europe are valuable for many reasons. For instance, it helps us to gain a better understanding of the issues, systems and developments in Europe, as we relate the information from abroad to our own context and reflect on what happens ‘at home’. It can also serve as a source of inspiration for future policies, approaches or research needs in Europe. These are the classic benefits of international and comparative research (Crossley and Watson, 2003) that also apply in our context. Part III adds not only a wider international scope but also a wider interdisciplinary perspective. This perspective is important because active ageing is a highly complex topic that needs – in a holistic and integrative way – to be addressed by different disciplines, such as business economics, education and training, gerontology, psychology, sociology and health. Part III consists of three contributions.

Antje Barabasch and Alexandra Dehmel present a comparative analysis of the situation in Europe and in the US and Canada. In Chapter 10, *Working beyond 65 in Canada and the United States*, they look at similarities and differences between Europe and the other side of the Atlantic in terms of ageing trends. Issues that are discussed include, among others, participation in the labour market, entrepreneurship among older workers, sectors employing older workers, attitudes of employers and employment strategies, anti-age-discrimination policies and access to and participation in lifelong learning. The aim of Chapter 10 is to gain a deeper understanding and to open up opportunities for policy transfer.

Birgit Luger, Sebastian Anselmann and Regina H. Mulder provide information about the informal learning activities of older trainers at work by presenting the results of a qualitative study on this topic (Chapter 11). They identify various informal learning activities of older trainers and show how they differ from those of younger trainers. With their focus on informal learning in work contexts, they address a highly important theme that deserves further attention.

In Chapter 12, *Factors influencing intergenerational learning: towards a framework for organisations to ensure successful learning in older employees*, Donald Ropes and Antonia Ypsilanti present the outcomes of a multidisciplinary literature review and show the potentials of intergenerational learning. Their review covers relevant work from the fields of cognitive psychology, occupational health, educational science, human resource development and organisational science. It provides a framework that helps organisations not only to understand better the concept of intergenerational learning, but also to develop and implement intergenerational learning in their

contexts. Furthermore, this contribution provides valuable information about generational differences and influencing factors on learning and work performance.

To conclude, Antje Barabasch, Alexandra Dehmel and Jasper van Loo give an overview of lifelong learning policies in Europe, examine the evidence presented in this publication and outline several implications for lifelong learning and active ageing policies. The evidence points towards the importance of showing the benefits of learning, developing demographic literacy and expanding the evidence base on the value of learning using multidisciplinary research.

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PART 1

Investing in learning later in life: benefits and barriers

Training effectiveness – Differences between younger and older employees

Thomas Zwick

Investigating the learning-age gap in Europe and Italy: attractiveness and benefits of learning later in life

Roberto Angotti and Stefania Belmonte

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CHAPTER 2

Training effectiveness – Differences between younger and older employees

Thomas Zwick

This chapter shows that training is less effective for older than for younger employees. Training effectiveness is measured with respect to key aspects such as career development, earnings, adoption of new skills, flexibility and job security. Older employees' training goals are less ambitious. An important reason for these differences during the life cycle might lie with the content and training forms offered by firms. Older employees' returns on training are higher when that training is informal and directly relevant, and where its content lends itself to crystallised abilities. The incidence of training in its more effective forms is not higher among older employees, however. Given that other decisive variables on effectiveness such as training duration, financing and initiative are not age-sensitive, suboptimal allocation of the content and forms of training is therefore a critical factor in the reduced effectiveness of training.

2.1. Introduction

Most papers on continuing training for older employees concentrate on their lower training incidence (Taylor and Urwin, 2001; D'Addio et al., 2010). A greying economy faces a problem when older employees receive less training because that lack of training adversely affects their productivity and employability. The main reasons proposed in the literature for the lower training incidence among older employees are the shorter amortisation period of investments (Cunha et al., 2006), lower motivation to invest in training (Warr and Fay, 2001) and the perceived lower adaptability of older employees (Warr, 1993).

Less attention has been given to whether and why training measures for older employees may be less effective than for younger employees. For example some papers argue that training for older employees is not effective

in increasing their relative productivity (Göbel and Zwick, 2009). The training supply side is relatively well researched – personnel managers might think that older employees are less able or willing to learn (Warr and Birdi, 1998). Knowledge of the demand side, namely the opinion of older training participants, is scant, however, mainly because of the lack of data. This chapter therefore uses German linked employer-employee data (WeLL) that has recently become available to analyse age patterns in characteristics and self-reported effectiveness of training for participants.

The structure of the chapter is as follows: Section 2.2 presents a short overview of the literature on age differences in effects of training. Section 2.3 describes the data set and the empirical strategy. Section 2.4 discusses the main hypothesis that older employees prefer different training contents and training forms. The main reason for the low training effectiveness of training older employees is that firms do not take their preferences into account. The fifth section presents the conclusion.

2.2. Background

For many years the number of German enterprises offering training for older employees has been less than 10%. Only around one quarter of these enterprises has specific training measures for older employees (Bellmann and Leber, 2004; Göbel and Zwick, 2009) ⁽¹⁾. Lower training participation among older employees may be a consequence of differences between older and younger employees with respect to qualification levels, gender or other characteristics relevant to training. Tippelt et al. (2009) for example show that female, less well-educated, older or sick employees participate significantly less in continuous training. We also know that employment is a crucial prerequisite for training – participation in training among the unemployed, when compared with the figure for the employed, falls with age (Alferoff, 1999; von Rosenblatt and Bilger, 2008). The complete attribution of training differences to age in bivariate descriptive statistics might create artefacts (Gallenberger, 2002). We therefore need a multivariate approach to measure unbiased correlations between age and training.

⁽¹⁾ The share of training establishments and the share of employees trained in Germany are on average comparable with other European countries (Bannwitz, 2008). Also the difference of 9% in training participation of older employees (aged 55 or older) compared to all employees is exactly the average value for all Member States.

Work motivation does not necessarily decline with age – yet age may negatively affect motivation for certain tasks, such as training. Warr and Fay (2001), for example, argue in a theoretical model that work motivation is influenced by incentives, habits, comparison with (younger) peers, and social pressure. Older workers might be less motivated to participate in training because (financial) incentives are lower than for younger employees or comparable incentives are less attractive. Training might be perceived as an unwelcome break in routines that are more entrenched for older employees (especially employees who have not received training for a long time). The effectiveness of training for older employees may be lower than for younger employees because some aspects of the capacity to learn deteriorate over time. Finally, the social pressure to participate in training might be lower than for younger employees. There has been little empirical research, however, as to whether employers make an attempt to adapt the training structure and methods to suit the preferences of older employees (Armstrong-Stassen and Templer, 2005).

Stamov-Roßnagel and Hertel (2010) stress that the main focus for older employees is to match their resources to external demands. Younger people primarily strive to progress, while older people more often focus on maintenance, the harvesting of prior investment returns, and loss prevention. The authors argue that interest in tasks that involve acquiring new skills, knowledge or career opportunities should decrease with age. Motives such as autonomy, positive relationships with colleagues and supervisors, and self-realisation increase in importance over the life cycle. Callahan et al. (2003) accordingly find in their metaanalysis that a clear explanation of why training measures are necessary, and how they are relevant to work problems, increases training performance in older learners. This might mean that training forms that complement the motivation of older employees, such as training directly targeted at specific problems relevant to the workplace, or training in communication, are more attractive to this group of workers and their participation in it is more efficient.

Kanfer and Ackerman (2004) argue that the motivation for certain tasks changes with age because of the differences in various skills. They stress that motivation for training declines with age because a reduction in fluid cognitive ability slows learning; furthermore, the timeframe for the development of crystallised ⁽²⁾ expertise in which performance may be sustained with less effort decreases. Callahan et al. (2003) also argue (but do not find) that the

⁽²⁾ Crystallised skills are general knowledge, range of vocabulary and verbal comprehension.

lecture method (which places a relatively heavy demand on cognitive ability) is less effective than more active learning methods. The effectiveness of training in skills that do not make heavy demands of fluid ⁽³⁾ intellectual abilities such as conflict management might be higher for older employees, however.

There are very few empirical analyses on differences in training characteristics and effectiveness during the life cycle. Baethge and Baethge-Kinsky (2004) mention that self-assessed training competence, self-managing disposition and competence development activity do not differ between age groups. Only the anticipation of training needs declines with age in their study. Warr and Birdi (1998) stress that voluntary learning activities and training motivation decline with age. This endorses the assessments given by personnel managers, who say that the biggest disadvantage of having older employees is their low trainability and interest in training (Boockmann and Zwick, 2004; Loretto and White, 2006). Self-assessment and managers' perceptions may reduce interest in training because peers do not expect older workers to participate regularly in training and therefore social pressure to do so is lower (Warr and Birdi, 1998).

Beicht et al. (2006) show that there are hardly any differences in the type and financing of training that people attend during the life cycle. The older the training participants, the more modest are the goals associated with training ⁽⁴⁾. In addition, older training participants assess the benefits of training more sceptically. These factors are all significant in multivariate regressions including individual characteristics and establishment size. This study includes employees and people outside the labour force, but does not take into account differences between these groups.

This chapter concentrates on differences between training characteristics and training efficiency during the life cycle. On the basis of the theoretical and empirical evidence discussed above, the following three main hypotheses are proposed:

- (a) training characteristics (content, financing, depth and breadth) do not change during the life cycle.

⁽³⁾ Fluid skills are associated with working memory, abstract reasoning, attention, and processing of novel information.

⁽⁴⁾ The list of goals comprises job security, interesting/more demanding job, higher earnings, better opportunities, greater independence, and another job.

The fact that employers do not offer age-specific training is a problem because training motivation and efficiency change over the life cycle. More specifically:

- (b) older employees assess on-the-job and less formal training forms to be more effective in comparison to courses during leisure time and formal training;
- (c) older employees rate the content of applied training to be more effective than that of theoretical training that has no direct relevance to the problems they encounter. They also rate training in areas where they do not have a learning disadvantage, such as communication and management training, to be more effective than training in fields that are easier to learn for younger employees, such as new technologies.

2.3. Data and estimation strategy

The *Berufliche Weiterbildung als Bestandteil Lebenslangen Lernens* – Continuing training as part of lifelong learning' (WeLL) data set combines individual answers on training behaviour with socio-demographic information and some establishment characteristics. So far, there are two waves available from the years 2007 and 2008. The first wave comprises answers by 6 404 employees in 149 enterprises ⁽⁵⁾. The second wave comprises repeat interviews with 4 259 employees from the first wave and interviews with 636 newly hired employees from autumn 2008 in the same enterprises. The sample is not representative for the workforce but tailored towards analysing intra-firm processes with respect to continuing training (Bender et al., 2009).

This chapter mainly looks at determinants of individual training participation and training characteristics with a focus on employee age. These items are more or less time invariant within less than one year. It therefore does not make sense to include the panel dimension of the data set. To avoid including some employees once and other employees twice, which would result in biased estimations, the data cover all employees from the second wave but only include the 4 084 employees from the first wave who were not included in the second wave. The final sample therefore consists of 6 349 employees. In addition, some employees report more than one training episode. To

⁽⁵⁾ Telephone interviews with individual employees were conducted between October 2007 and January 2008.

prevent employees who have been observed more than once (who probably differ from the other training participants) from biasing the results, only one training episode per employee (the first one reported) is taken into account.

To guarantee anonymity, the data do not include the precise age of the employees but only report whether employees were born in 1951 or before, between 1952 and 1961, between 1962 and 1971 and in 1972 or later. In 2007, the employees in the oldest age group were therefore at least 56 years old and in 2008, they were at least 57 years old.

Unfortunately, most establishment information is reported only in aggregated form for reasons of anonymity. We therefore only know whether an establishment is in the size bracket 100-199, 200-499 or 500-1999 employees. In addition, a division can be drawn between manufacturing firms and firms providing services.

Nevertheless, it is possible to integrate the most decisive determinants for training participation of (older) employees (Bannwitz, 2008): gender, qualification, professional position, and motivation for individuals with the size and sector of establishments. In addition, tenure is added in order not to confuse the effect of age on training with the effect of tenure (Göbel and Zwick, 2009). Finally, two individual characteristics that are closely related to training and might easily be confused with age are included: self-assessed health and the possibility of leaving the labour force within the next year.

2.4. Training differences between age groups

Table 2.1 shows that in terms of the extent, financing and initiative for training, older employees are remarkably similar to other age groups ⁽⁶⁾. These findings are in line with those reported for Germany by Beicht et al. (2006) and for the UK by Taylor and Urwin (2001) ⁽⁷⁾ and confirm hypothesis 1. The WeLL questionnaire also covers training topics (information and communication technology, foreign languages, commerce and quality management, technical content, communication, leadership, environment, health and security) and training forms (seminar, on-the-job training, job rotation, self-induced learning, professional orientation, quality circles). Descriptive and multivariate analyses reveal that older employees are offered more or less the same training content

⁽⁶⁾ Accordingly, coefficients for age groups in multivariate explanations of these aspects of training, as is the case for those presented below, are far from significant (not shown here).

⁽⁷⁾ Warr (1993) reports a reduction with age in time spent in training, however.

as younger employees. Their participation in management and communication training is only a little more frequent than for younger employees. Additionally, older employees are offered more or less the same forms of training as younger employees. They participate less frequently in on-the-job training and job rotation but more frequently in presentations and seminars (this is also the case in Great Britain, see Warr, 1993). Participation in training in the form of quality circles, professional orientation or self-induced training does not differ significantly between age groups.

Table 2.1. **Descriptive differences between training dimensions and age groups**

Training dimension	Entire sample	Birth year 1951 or earlier	Birth years 1952-61	Birth years 1962-71	Birth year 1972 or later
Duration in hours	44.57	41.71	47.77	43.30	42.36
	(104.32)	(87.87)	(115.28)	(101.07)	(97.79)
Period in months	2.32	2.29	2.31	2.34	2.34
	(1.89)	(1.87)	(1.87)	(1.91)	(1.93)
Number of training courses	1.77	1.77	1.74	1.78	1.80
	(1.12)	(1.39)	(1.13)	(1.26)	(1.25)
Costs borne by participant	0.16	0.15	0.15	0.16	0.17
	(0.36)	(0.35)	(0.37)	(0.36)	(0.38)
Initiative by participant	0.41	0.41	0.42	0.41	0.42
	(0.49)	(0.49)	(0.49)	(0.49)	(0.49)
Initiative by employer	0.23	0.23	0.23	0.23	0.22
	(0.42)	(0.42)	(0.42)	(0.42)	(0.41)
Training required by law	0.17	0.16	0.18	0.18	0.17
	(0.38)	(0.37)	(0.38)	(0.38)	(0.37)
Training satisfaction	5.74	5.58	5.74	5.73	5.92
	(2.64)	(2.77)	(2.69)	(2.60)	(2.50)

NB: Standard deviation in brackets.

Table 2.2 documents the small differences over the life cycle for the provision of those training contents and forms whose effectiveness is subsequently tested. The finding that training form and content are very similar over the age groups is in line with hypothesis 1. Employers that offer training therefore do not take account of the recommendation that (a) informal and unplanned learning should play a greater role for older employees than formal and ‘normal’ learning (Weiss, 2009); (b) older employees should be offered more practical and relevant training that produces quick results (Stamov-Roßnagel and Hertel, 2010); and (c) older employees dislike training content that puts them at a disadvantage compared to younger training participants (Kanfer and Ackerman, 2004).

Table 2.2. **Determinants of selected training characteristics**

	Self-induced learning	Seminar	Training on the job	ICT training	Technical training	Communication and management training
Birth years 1952-61	0.01	-0.01	0.04*	-0.00	-0.00	-0.02*
Birth years 1962-71	-0.02	-0.01	0.08***	-0.00	-0.01	-0.01
Birth years 1972 and later	-0.01	-0.04**	0.12***	-0.01	-0.02	-0.00
R-squared	0.03	0.08	0.01	0.00	0.00	0.00
Observations	5 590	5 590	5 590	5 590	5 590	5 590

NB: OLS regressions, clustering adjusted for 149 enterprises, same covariates as in Table 2.3.

Significance levels: ***<0.01, **<0.05, and *<0.1.

If hypotheses 2 and 3 are correct, namely that older employees prefer training topics and training forms that are different from those preferred by younger employees, then the training of older employees should be less effective if employers do not take these differences into account. Indeed, there are significant differences between older and younger training participants with respect to the goals and the effects of training (Tables 2.3 and 2.4). For all aspects, the oldest age group attributes less importance to training goals such as higher productivity, higher job security, higher earnings, adjustment

Table 2.3. **Determinants of training goals**

	Higher productivity	Adoption	Promotion	Higher earnings	Job security	New orientation
Realschule	0.12***	0.11***	0.03	0.02	0.05***	0.01
Gymnasium	0.24***	0.21***	0.08***	0.01	0.03	0.04***
Female	-0.00	0.01	-0.05***	-0.04***	0.02	-0.01
Birth years 1952-61	0.06***	0.06***	0.08**	0.06***	0.07***	0.02*
Birth years 1962-71	0.04**	0.05***	0.11***	0.10***	0.05***	0.05***
Birth years 1972 and later	0.09***	0.08***	0.21***	0.16***	0.10***	0.10***
Tenure 2-5 years	0.06**	0.06**	0.03	0.03	0.06**	0.04*
Tenure 6-15 years	0.05***	0.06***	0.05***	0.05***	0.06***	0.03*
Tenure more than 15 years	0.05***	0.05***	0.04***	0.04**	0.05***	0.01
Good health	0.05***	0.04**	0.04***	0.05***	0.04**	0.01
High probability of leaving work	-0.11***	-0.11***	-0.08**	-0.08***	-0.12***	-0.03
Eastern Germany	-0.01	-0.00	-0.02*	0.00	0.01	-0.01
200-499 employees	0.01	0.03	0.02	0.01	0.01	0.03**
500-1999 employees	0.05*	0.05**	0.04*	0.04**	0.05**	0.03**
Services sector	0.04**	0.04**	0.00	-0.00	0.02	0.01
R-squared	0.03	0.04	0.04	0.02	0.02	0.02

NB: OLS regressions, clustering adjusted for 149 enterprises, number of observations: 5 303, reference categories: *Hauptschule*, birth year 1952 or older, employer with fewer than 200 and more than 50 employers, tenure less than two years.

Significance levels: ***<0.01, **<0.05, and *<0.1. Table 2.4

Table 2.4. **Determinants of training effects**

	Higher productivity	Adoption	Promotion	Higher earnings	Job security	New orientation
Realschule	0.09***	0.06	0.01	0.00	0.03**	0.01
Gymnasium	0.17***	0.04***	0.04***	-0.00	0.02	0.07***
Female	0.02	-0.02***	-0.02***	-0.01***	-0.02*	-0.01
Birth years 1952-61	0.05**	0.04**	0.02**	0.00	0.02	0.02*
Birth years 1962-71	0.03	0.03*	0.05***	0.01	0.02	0.04***
Birth years 1972 and later	0.06**	0.09***	0.11***	0.05***	0.06***	0.11***
Tenure 2-5 years	0.06**	0.05**	0.02*	0.01	0.04	0.03**
Tenure 6-15 years	0.08***	0.07***	0.02**	0.01	0.03*	0.02*
Tenure more than 15 years	0.06***	0.05***	0.02**	0.01	0.03**	0.01
Good health	0.05***	0.03	0.02***	0.02***	0.04***	0.01
High probability of leaving work	-0.10***	-0.09***	-0.04**	-0.01	-0.06**	-0.00
Eastern Germany	-0.01	-0.00	-0.01	-0.01	0.01	-0.02**
200-499 employees	0.01	0.03	0.01	0.00	0.01	0.00
500-1999 employees	0.05*	0.06**	0.03***	0.01	0.02	0.01
Services sector	0.04**	0.05**	-0.00	-0.02***	0.00	0.00
R-squared	0.03	0.03	0.03	0.01	0.01	0.03

NB: OLS regressions, clustering adjusted for 149 enterprises, number of observations: 5 303, reference categories: *Hauptschule*, birth year 1952 or older, employer with less than 200 and more than 50 employers, tenure less than two years.

Significance levels: ***<0.01, **<0.05, and *<0.1.

Table 2.5. **Self-assessed effectiveness of different training forms**

Effects of training	Higher productivity	Adoption	Promotion	Higher earnings	Job security	New orientation
Seminar						
Birth years 1952-61	0.08*	0.09**	0.03*	0.01	0.09***	0.07***
Birth years 1962-71	0.09**	0.11**	0.09***	0.03*	0.10***	0.13***
Birth years 1972 and later	0.04	0.09*	0.15***	0.05*	0.09**	0.21***
Training on the job						
Birth years 1952-61	0.01	0.02	0.03*	0.01	-0.01	0.02
Birth years 1962-71	0.01	0.04	0.04**	0.02	0.00	0.06**
Birth years 1972 and later	0.07	0.09*	0.11***	0.05***	0.02	0.12***
Self-managed learning						
Birth years 1952-61	0.02	0.01*	0.03	-0.01	0.04	0.04
Birth years 1962-71	-0.01	0.08	0.05	0.01	0.02	0.08***
Birth years 1972 and later	0.07	0.09	0.09***	0.05*	0.06	0.07***

NB: OLS regressions, number of observations (enterprises): seminar: 1 401 (142), training on the job: 2 104 (146), self-managed learning: 950 (134); R-squared: seminar 0.04, training on the job 0.05, self-managed learning 0.06; same covariates as in Table 2.3.

Significance levels: ***<0.01, **<0.05, and *<0.1.

to new job, promotion, and new professional orientation ⁽⁸⁾. Younger employees assess the effects of training significantly more positively than their older colleagues ⁽⁹⁾. Only the financial and job security effects of training are comparable for the oldest and younger age groups – here only the youngest age group differs significantly ⁽¹⁰⁾. The literature states that more modest goals associated with training and lower effectiveness of training for older employees

⁽⁸⁾ This is in line with findings by Beicht et al. (2006).

⁽⁹⁾ Also in line with earlier findings by Beicht et al. (2006).

⁽¹⁰⁾ There are no differences between men and women and higher and lower qualified employees with respect to their age-related-training goals and effectiveness pattern (not shown here).

Table 2.6. **Self-assessed effectiveness of different training contents**

Effects of training	Higher productivity	Adoption	Promotion	Higher earnings	Job security	New orientation
Information and communications technology						
Birth years 1952-61	0.04	0.08*	0.01	0.02	-0.02	-0.00
Birth years 1962-71	0.03	0.09**	0.04**	0.03**	0.01	0.03
Birth years 1972 and later	0.03	0.13**	0.10***	0.03	0.05	0.10***
Technical training						
Birth years 1952-61	0.09*	0.10**	0.05**	0.00	0.03	-0.00
Birth years 1962-71	0.07	0.11**	0.06***	0.03**	0.02	0.06**
Birth years 1972 and later	0.07*	0.04	0.11***	0.04**	0.05	0.15***
Management and communication						
Birth years 1952-61	-0.06	0.03	0.04	-0.02	-0.01	-0.00
Birth years 1962-71	-0.12**	-0.02	0.06*	-0.02	-0.02	0.04
Birth years 1972 and later	-0.04	0.07	0.08	-0.01	0.06	0.08*

NB: OLS regressions, number of observations (enterprises): information and communication technology: 937 (141), technical contents: 1 009 (143), management and communication: 554 (127); R-squared: information and communications technology 0.06, technical content 0.06, management and communication 0.07; same covariates as in Table 2.3.

Significance levels: ***<0.01, **<0.05, and *<0.1.

are the consequence of a genuinely lower ability and willingness to learn (Warr and Fay, 2001) or of differences in personnel managers' perceptions (Koller and Gruber, 2001; Boockmann and Zwick, 2004).

Based on the observation that the training input of older and younger employees are fairly similar with respect to the extent, form and content of training, this chapter proposes a new explanation as to why training effectiveness is lower for older employees: employers do not give consideration to age-related changes in training preferences. If our hypotheses are sound, we should find that the effectiveness of more abstract and formal training forms (e.g. formal seminars) is lower than that of more

applied and directly relevant training forms (e.g. training on the job or self-induced training). This hypothesis is confirmed by the results for age as a determinant of training effectiveness for different training forms (Table 2.5). The relatively high effectiveness of self-motivated training for older employees might also be a consequence of the greater time flexibility that is highly valued by older employees (Callahan et al., 2003).

In line with Kanfer and Ackerman (2004), we find that training contents that demand more fluid cognitive ability, such as information and communications technology or technical content, are less effective for older employees than training in communication and management skills where the main demand is on crystallised cognitive ability, see Table 2.6. These findings support our third hypothesis that older employees are not keen on comparing themselves to younger training participants in areas in which they are at a structural disadvantage.

There is no age difference in satisfaction with training between age groups. This demonstrates that older employees are not inherently inclined to answer questions on training more pessimistically or more negatively than younger employees ⁽¹¹⁾. It is clear, however, that lower training effectiveness is particularly detrimental to older employees' training motivation and training participation. It therefore reduces the scope of performance improvements that can be achieved through training (Kanfer and Ackerman, 2004).

In a series of checks on robustness, the age effects on training effectiveness and training goals were separated by gender, health and the intention to leave employment. The sample data sets thus obtained indicate whether the age effects are different for these subgroups. The youngest and oldest employee groups are more likely to intend leaving employment ⁽¹²⁾. There are no age effects on training effectiveness or training goals for those who intend to leave employment. The age effects are therefore entirely caused by those employees who intend to stay in the labour market for more than one year. It is not surprising that the share of employees who state that they are healthy declines from 85% in the youngest group to 69% in the oldest group. The age effects on training effectiveness and training goals are smaller for those who state that they are sick, but they do not disappear completely. Finally, the effects of age on training effectiveness and goals are stronger for men than for women (these results are not shown here).

⁽¹¹⁾ See descriptive evidence in Table 2.1. A multivariate estimation on the basis of the covariates in Table 2.2 produces insignificant age coefficients.

⁽¹²⁾ The figures are 7% and 9% respectively – the figure for the age groups in the middle is around 1%.

2.5. Conclusions

Training intensity, initiative, payment, content and forms remain surprisingly similar over the life cycle. This chapter however shows that there are large differences between old and young employees with respect to training goals and the self-assessed effectiveness of training. The pursuit of training goals such as increased income, higher productivity, promotion, job security or adaptation to job changes is significantly lower among employees who are older than 55 than it is among younger employees. This translates into lower self-assessed effectiveness of training among older employees.

The theoretical literature stresses that older employees prefer training forms that deliver practical and immediately relevant knowledge, and training content that can be mastered using crystallised intelligence. Indeed, this chapter shows that the self-assessed effectiveness of training in communication and management is higher for older employees than training featuring abstract technical contents or information technology. Accordingly, self-induced and on-the-job training are also more effective for older employees than participation in seminars and formal training. Unfortunately, firms do not generally offer these more effective training methods on a broader scale to their older employees. This chapter therefore concludes that the lower training effectiveness and reduced goals associated with training older employees are a consequence of firms' offering inadequate training forms and content.

The implication of this chapter for management is that the large gap between employers that offer training for older employees and those that offer specific training measures for older employees (Göbel and Zwick, 2009) should decrease. Management has to consider the specific training needs and interests of older employees to increase training efficiency and the motivation to participate in training.

This chapter only reports on self-assessed answers given by training participants. It would be useful to obtain (personnel) managers' assessments of training to get a complete picture of differences in training over the life cycle. In addition, only a few establishment characteristics can be included here. It is likely that the inclusion of establishment characteristics that are potentially correlated with training effectiveness and the age pattern of training (such as industrial relations, the qualification structure of the establishment or profitability) will provide additional explanations for the reduction in training effectiveness among older employees.

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Annex

Table A 2.1. **Descriptive statistics of dependent training variables**

Variable name	Mean	Std. Dev.	Description
Training effects			
Higher productivity	0.38	0.48	Higher productivity important effect of training
Adoption	0.34	0.47	Adoption to new challenges important effect of training
Promotion	0.08	0.27	Promotion to higher hierarchy important effect of training
Higher earnings	0.03	0.18	Higher earnings important effect of training
Job Security	0.23	0.42	Higher job security important effect of training
New Orientation	0.08	0.28	New professional orientation important effect of training
Important training goals			
Higher productivity	0.51	0.50	Higher productivity important goal of training
Adoption	0.46	0.50	Adoption to new challenges goal of training
Promotion	0.25	0.44	Promotion to higher hierarchy goal of training
Higher earnings	0.29	0.45	Higher earnings important goal of training
Job security	0.37	0.48	Higher job security important goal of training
New orientation	0.12	0.32	New professional orientation important goal of training
Training forms and contents			
Technical content	0.18	0.38	Technical content training
ICT training	0.17	0.37	Information and communication technology training
Communication management training	0.10	0.29	Communication and management training
Self-induced training	0.17	0.37	Training form was self-induced training
Seminar	0.25	0.43	Training form was a seminar
Training on the job	0.38	0.48	Training form was on the job training

Table A 2.2. **Descriptive statistics of explanatory variables**

Variable name	Mean	Std. Dev.	Description
Hauptschule	0.22	0.41	Employees with highest schooling degree lower secondary education (Hauptschule)
Realschule	0.43	0.49	Employees with highest schooling degree intermediate secondary education (Realschule)
Gymnasium	0.34	0.47	Employees with highest schooling degree higher secondary education (Gymnasium)
Female	0.38	0.49	Female yes/no
Birth years 1951 or older	0.14	0.35	Employees born in year 1951 or before (aged 55/57 or older)
Birth years 1952-61	0.37	0.48	Employees born in years 1952-61 (aged 46/47 - 55/56)
Birth years 1962-71	0.33	0.47	Employees born in years 1962-71 (aged 36/37-45/46)
Birth years 1972 and later	0.16	0.37	Employees born in year 1972 or after (aged 35 or younger)
Tenure < 2	0.12	0.32	Tenure less than two years
Tenure 2-5 years	0.10	0.29	Tenure between two and five years
Tenure 6-15 years	0.26	0.44	Tenure between 6 and 15 years
Tenure more than 15 years	0.42	0.49	Tenure more than 15 years
Good health	0.78	0.41	Topical health situation good or very good
High probability to quit	0.03	0.18	High self-assessed probability to quit employment within next 12 months
Eastern Germany	0.39	0.49	Workplace located in Eastern Germany
100-199 employees	0.14	0.35	Establishment has between 100 and 199 employees
200-499 employees	0.24	0.43	Establishment has between 200 and 499 employees
500-1999 employees	0.61	0.49	Establishment has between 500 and 1999 employees
Services sector	0.49	0.50	Establishment in services sector

CHAPTER 3

Investigating the learning-age gap in Europe and Italy: attractiveness and benefits of learning later in life

Roberto Angotti and Stefania Belmonte

Demographic trends make it necessary for individuals to work longer and adapt to change. Lifelong learning plays a central role in promoting active ageing, which allows people to maintain high levels of participation in economic and social life. Access to learning activities is essential when working life is extended. However, despite the increasing need for learning later in life, participation and access to learning decrease with age. How is it possible to improve access to learning for older workers?

This chapter identifies the main barriers to investment in an ageing workforce and learning later in life, uncovers factors that encourage it, and highlights the benefits of training. It first elaborates on the factors that contribute to the low participation and access to learning of older people, based on an analysis of several European and Italian data sources (LFS, AES, CVTS, Indaco) on participation in learning. Attention is paid to both the supply side (companies) and the demand side (employees and individuals). This enables an in-depth analysis to be made of the learning-age gap across Europe and in Italy.

The second aim of this chapter is to identify factors and conditions that could increase ageing workers' participation in training. It is assumed that participation would increase if training became more attractive for older workers, and the attractiveness of training is linked to the benefits it brings with it. Using the ISFOL-Indaco survey of Italian workers, we analysed the expectations and the perceived benefits of participation in training from the perspective of employees. Our main finding is that among workers aged 54 and over, training seems to produce mainly 'non-material' rather than 'material' gains. However, there are unexpected gains from participating in training, particularly in relation to material benefits. A greater awareness of these could

improve the motivation and participation of people in training and change attitudes among employers and policy-makers, encouraging them to invest more in people later in life.

3.1. Introduction

Active ageing refers to a process of optimising opportunities for participation in the social and working lives of older people ⁽¹³⁾. The term ‘participation’ implies the opportunity for older people ⁽¹⁴⁾ to access and participate in economic and social life, assuming they possess adequate skills to that end. Demographic trends and active ageing require adapting lifelong learning systems to the needs of an ageing workforce. Generally, when older people participate in the various areas of life, whether economic, political, or cultural, they need basic skills ⁽¹⁵⁾, that are regarded across Europe as elements of citizenship. In the framework of the knowledge society, access to lifelong learning for the ageing population becomes essential for personal fulfilment and to address labour market needs.

The EU has stressed the impact of population-ageing on economic and social systems and has asked governments to implement adequate policies (European Commission, 2006, 2007, 2009). At the same time, several studies of current skills policies promoted at international level (OECD, 2011b; European Commission, 2010a), have highlighted how skill shortages and

⁽¹³⁾ WHO defined active ageing as ‘the process of optimising opportunities for health, participation and security to enhance quality of life as people age [...] It allows people to realise their potential for physical, social, and mental wellbeing throughout the life course and to participate in society according to their needs, desires and capacities, while providing them with adequate protection, security and care when they require assistance.’ (World Health Organisation, 2002, p. 12). The European Decision establishing the European year for active ageing and solidarity between generations refers to this definition and also explains that promoting active ageing means creating better opportunities so that, inter alia, older women and men can play their part in the labour market, also fostering active participation in family life and society. (European Commission, 2011, p. 1 pt 9 and p. 8 Art. 2).

⁽¹⁴⁾ By ‘older people’ we mean mainly those people more than 54 years old or, when analysing statistical data, those aged 55-64 or 55-74.

⁽¹⁵⁾ The Recommendation of the European Parliament and of the Council of 18 December 2006 defines a framework consisting of a combination of knowledge, skills and attitudes which are needed by all individuals for personal fulfilment, active citizenship, social inclusion and employment within a lifelong learning perspective. The Recommendation sets out eight key competences which are: communication in the mother tongue; communication in foreign languages; mathematical competence and basic competences in science and technology; digital competence; learning to learn; social and civic competences; sense of initiative and entrepreneurship; cultural awareness and expression (European Parliament and Council of the EU, 2006).

mismatches may emerge (Cedefop, 2009) in ageing societies. These considerations have led to a renewed focus on the need to exploit the potential of the more mature population, stressing that growth and employment objectives will not be achieved without the participation of older citizens.

The European Commission Communication *Europe 2020: a strategy for smart, sustainable and inclusive growth* (European Commission, 2010b) emphasises the importance of promoting a healthy and actively ageing population. The flagship initiative *An agenda for new skills and new jobs: a European contribution towards full employment* (European Commission, 2010; 2010; Cedefop, 2009; Bulgarelli, 2011) underlines the need to support the mature workforce, by promoting active ageing policies. The group of experts responsible for the report *New skills for new jobs: action now*, highlighted the need to promote incentives to increase participation in training. This concept is present in the framework of the EU-2020 strategy, which stresses the importance of improving the attractiveness of training. Incentives and attractiveness are closely related to the theme of training benefits.

Statistics based on European surveys such as the labour force survey (LFS), the adult education survey (AES) and the continuing vocational training survey (CVTS), consistently show that older people participate less in lifelong learning than younger people. Age is a factor influencing training participation. Although there is some evidence as to the factors that cause this learning-age gap, it is far from complete. To obtain a comprehensive understanding of this gap, more analysis is needed. Work to that end should encompass not only the factors that hinder participation in training but also the factors that encourage it, focusing on the benefits resulting from participation.

This chapter describes the learning-age gap (the difference in learning participation between older and younger age groups, i.e., OECD, 2011a) in Europe and, more specifically, in Italy. Focusing on Italy is interesting as it provides better understanding of the situation in countries in southern Europe which traditionally have a lower participation in learning compared to northern Europe. By analysing the probability of non-participation in training among older people, we also aim to understand:

- (a) what obstacles and barriers reduce training participation and increase the learning-age gap;
- (b) conversely, what factors encourage training participation and promote access to training, thus reducing the learning-age gap.

Using the ISFOL-Indaco survey to analyse training benefits provides a new perspective on the learning-age gap. The survey can shed light on whether older people can be encouraged to participate in training and in social life

more generally when learning is attractive and brings valuable benefits. The results can provide much-needed evidence on the individual benefits of learning later in life and therefore contribute to policies that aim to improve the attractiveness of training for older people.

3.2. Access to and participation in lifelong learning among older people in Europe

According to economic theory, the importance of investing in human capital lies in its ability to produce deferred returns later in life (Hashimoto, 1981), as a result of an investment in education and training at an early stage (Becker, 1994), alternating work with lifelong learning (Ben-Porath, 1970). The same theories confirm that wages increase for a certain period and then tend to decrease. This is because the initial investment in training is not sufficient to prevent the depreciation of human capital over time and it is therefore necessary to offset this effect by investing more in learning. This is even more relevant in the knowledge society, where rapid obsolescence of skills is becoming a common feature of work life.

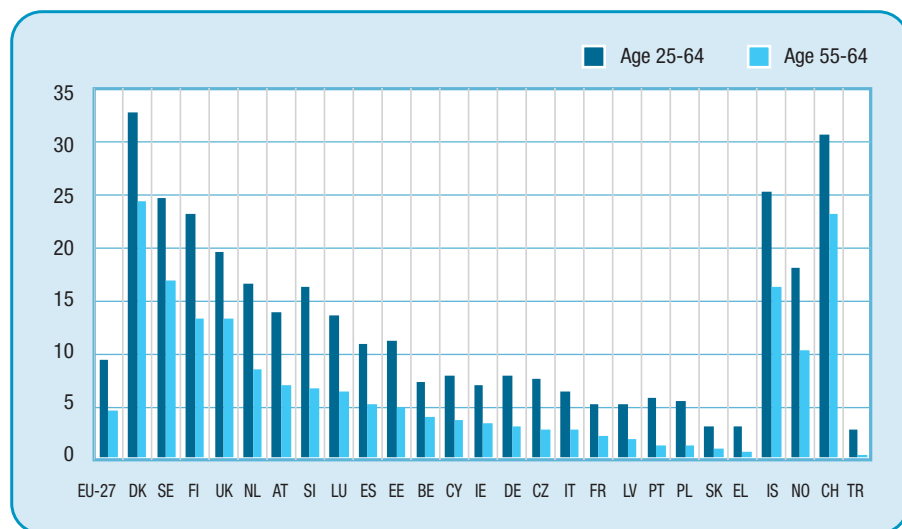
Demographic change means working lives will have to be longer, and this in turn means maintaining the ability to learn throughout working life, both through support for measures aimed at improving training provision and by facilitating access to training opportunities. Where the purpose of learning is to prevent or counteract the obsolescence of knowledge and skills, that learning is most effective if it is continuous.

Regular participation by people of all ages in learning activities is therefore essential. This does not only include taking part in formal training, but also learning in non-formal and informal learning settings. Informal learning ⁽¹⁶⁾ plays a greater role for older employees than formal learning (Weiss, 2009). Informal learning facilitates the transfer of knowledge and know-how between generations, allows practical skills to be gained quickly (Stamov-Roßnagel and Hertel, 2010) and ensures the inclusion, particularly of older workers, within the circles of relationships and learning that are inherent in the life of society.

⁽¹⁶⁾ Informal learning is defined as '[...] intentional, but it is less organised and less structured (compared to formal or non-formal education and training) [...] and may include for example learning events (activities) that occur in the family, in the work place, and in the daily life of every person, on a self-directed, family-directed or socially directed basis' (Eurostat, 2006).

In contrast with the need for learning, European statistics on education and training generally show that participation in lifelong learning is particularly low among adults, especially for those aged 54 and over. The Lisbon strategy, which aimed to increase lifelong learning participation, has not changed this. In 2010, 9.1% of the European population aged 25 to 64 participated in education and training in the four weeks preceding the labour force survey. The share for persons aged 55 to 64 was only half the average level, at 4.5%. As Figure 3.1 shows, across the EU-27, the learning-age gap is a widespread phenomenon and is more prevalent in the southern and eastern Member States, where participation rates are lower. There are significant differences between EU Member States. In Denmark as much as 24.4% of people between 55 and 64 participated in education and training. Sweden, Finland and the UK were the only other countries to record double-digit lifelong learning participation rates. In Italy participation in lifelong learning for persons aged 25 to 64 was only 6.2% (2010). Trend analysis shows that between 2005 and 2010, the EU-27 lifelong learning average decreased by half a percentage point, but has remained stable since 2007. Between 2005 and 2010, lifelong learning among those aged 55 to 64 remained stable in the EU as a whole, but increased by 0.9% in Italy.

Figure 3.1. **Participation in education and training in Europe, 2010** ^(a)



^(a) During the four weeks preceding the survey.

Source: Eurostat LFS, last update 18.1.2012.

Table 3.1. **Participation in education and training in Europe, 2010 ^(a)**
by age group and educational attainment
(ranking based on all levels, aged 55-74)

Rank	Countries	All ISCED97 levels		ISCED97 0-2
		Aged 25-54	Aged 55-74	Aged 25-54
	EU-27	10.4	3.6	4.6
1	Denmark	35.4	23.5	25.2
2	Switzerland	32.7	18.3	11.4
3	Sweden	27.0	14.8	19.2
4	Iceland	27.6	13.4	18.2
5	Finland	26.7	11.2	13.0
6	United Kingdom	21.3	9.9	10.8
7	Norway	20.0	8.3	12.2
8	Netherlands	19.1	6.8	11.9
9	Austria	15.5	5.5	5.5
10	Slovenia	19.0	5.5	4.4
11	Spain	12.1	4.7	5.5
12	Belgium	8.1	3.0	4.0
13	Ireland	7.5	2.7	3.2
14	Cyprus	8.7	2.7	1.4
15	Czech Republic	9.1	2.2	2.0
16	Germany	9.0	2.0	3.7
17	Italy	7.2	1.9	1.5
18	France	5.9	1.5	3.1
19	Portugal	6.6	0.8	4.4

^(a) During the four weeks preceding the survey.

NB: ':' means not available.

All ISCED 1997 levels; pre-primary, primary and lower secondary education (levels 0-2); upper secondary and post-secondary non-tertiary education (levels 3 and 4); first and second stage of tertiary education (levels 5 and 6).

Source: Eurostat LFS, last update 18.1.2012.

%

ISCED97 0-2	ISCED97 3-4		ISCED97 5-6	
Aged 55-74	Aged 25-54	Aged 55-74	Aged 25-54	Aged 55-74
1.9	9.0	3.3	17.9	9.4
19.2	33.3	22.4	42.7	33.2
5.8	28.1	16.3	46.4	34.0
9.7	22.8	13.8	35.9	23.6
8.8	27.9	11.8	35.4	27.8
5.8	24.3	10.2	33.5	19.7
6.2	18.8	10.4	30.4	21.7
:	17.1	6.7	26.5	15.6
3.4	19.0	8.0	24.5	11.9
1.9	14.0	5.1	27.8	14.5
1.7	17.3	4.8	30.6	15.4
3.3	12.5	6.2	20.2	10.3
1.1	6.4	3.1	12.6	7.4
1.1	6.4	3.0	10.9	6.7
0.6	6.5	3.1	14.9	8.3
0.5	7.3	1.8	18.9	6.4
0.5	8.3	1.4	13.2	5.1
0.7	8.8	3.3	17.3	7.8
0.7	5.1	1.6	9.1	3.8
0.5	9.6	:	11.6	3.5

Table 3.2. **Participation in education and training in Europe
by age group, 2007 ^(a) (ranking based on age group 55-64)**

%

Rank	Country	Total	Aged 25-34	Aged 35-54	Aged 55-64
	EU-27	34.9	44.2	36.3	20.9
1	Sweden	73.4	81.0	76.4	60.6
2	Norway	54.6	65.0	55.5	41.2
3	Finland	55.0	66.0	58.6	37.8
4	United Kingdom	49.3	58.8	50.3	37.0
5	Switzerland	49.0	55.4	51.1	36.9
6	Netherlands	44.6	59.7	44.9	28.7
7	Denmark	44.5	57.2	47.4	28.6
8	Germany	45.4	53.3	48.7	28.2
9	Estonia	42.1	52.5	42.6	27.5
10	Austria	41.9	47.1	45.7	25.4
11	Slovakia	44.0	51.0	48.3	23.8
12	Belgium	40.5	56.3	42.3	23.5
13	Slovenia	40.6	52.1	42.6	22.2
14	Latvia	32.7	39.0	34.3	21.8
15	Czech Republic	37.6	44.1	43.0	21.7
16	Bulgaria	36.4	44.7	39.7	20.3
17	Cyprus	40.6	53.2	41.1	20.1
18	Lithuania	33.9	42.7	35.1	19.0
19	Spain	30.9	39.7	30.8	17.0
20	France	35.1	48.2	35.9	16.2
21	Malta	33.7	50.4	34.6	16.2
22	Italy	22.2	30.5	23.0	11.8
23	Portugal	26.4	40.3	25.5	10.9
24	Croatia	21.2	33.5	20.2	9.0
25	Poland	21.8	34.1	20.7	6.8
26	Greece	14.5	22.7	14.0	5.1
27	Turkey	14.1	21.1	12.0	4.4
28	Hungary	9.0	15.8	9.0	2.5
29	Romania	7.4	14.0	6.8	2.5

^(a) During the 12 months preceding the survey.

Source: Eurostat AES, last update 28.10.2011.

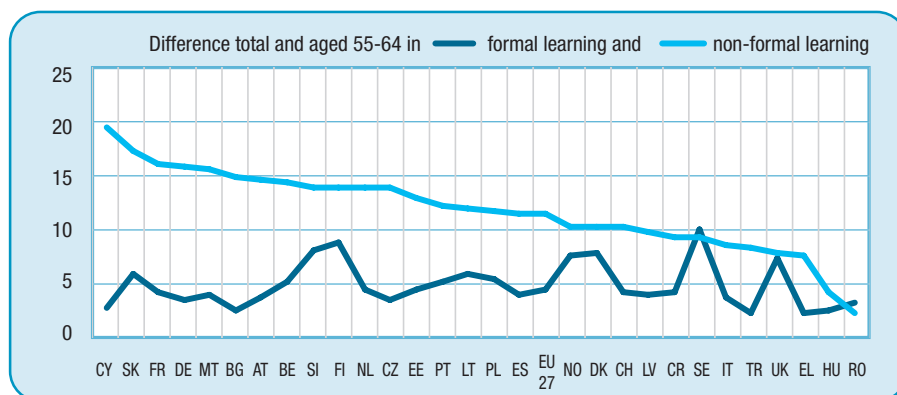
Across countries, there is a strong correlation between educational attainment and the learning-age gap. On average, only 4.6% of adults aged 25-54 years in the EU-27 with an educational attainment of at least ISCED 0-2 is involved in education and training; the figure for adults with an educational attainment at ISCED 5-6 is 17.9%. Table 3.1 shows that in many countries, participation in education and training at ISCED 5-6 is double that at ISCED 0-2. In northern Europe (e.g. Denmark, the Netherlands, Norway, Sweden), this phenomenon is less evident, while in some countries of southern and eastern Europe (e.g. Czech Republic, Italy, Cyprus and Slovenia) it is more pronounced. There are also several countries (including Belgium, Germany, France, Austria) where the participation rate for people with an educational attainment of at least ISCED 0-2 is very low. The correlation between educational attainment and the learning-age gap is very strong among people aged between 55 and 74. Only Scandinavian countries (e.g. Denmark and Sweden) have high levels of participation among older people while all other countries' participation is very low, in particular for older people with low educational attainment.

According to the adult education survey (AES), which uses a different definition of lifelong learning (Eurostat, 2009), in 2007 about one third (34.9%) of people in Europe participated in education and training. However, in the 55-64 age group, only one fifth (20.9%) participated in such activities. Learning participation is highest among those under 35 years of age (Table 3.2).

This survey also shows that the learning-age gap is widespread in Europe, and more pronounced in southern and eastern European countries. The gap is narrower in countries with the highest participation rates. For example, in Sweden the participation rate for elderly people is 60.7%, followed by Norway (41.2%), Finland (37.8%), the UK and Switzerland (37%), the Netherlands, Denmark and Germany (about 28%).

Regarding the type of learning, only 2% of the European population aged 55-64 participated in formal education and training activities, compared to an overall rate of 6.6%. Overall, the rates of participation in non-formal learning and in education and training are similar, but the difference between the participation rates among the 55-64 age group and the average level for those who participated in formal or non-formal education and training is very marked (Figure 3.2). The learning-age gap for non-formal learning was wider in France and Germany, while in Sweden and the UK it was narrower, showing that it is not always true that the gap is narrower in countries with the highest participation rates.

Figure 3.2. **Participation rate in education and training in Europe by type of training and age group, 2007 ^(a)**



^(a) During the 12 months preceding the survey.

Source: Eurostat AES, last update 30.3.2011; ISFOL calculations.

Participation in learning can also be looked at from the supply side. Based on the CVTS3 data (reference year 2005), Table 3.3 shows a wide age gap, equal to nine percentage points, between total participation and older workers' participation in continuing vocational training (CVT) courses offered by European enterprises.

The learning-age gap is present in all countries except Denmark, and ranges from five percentage points in the Czech Republic, Finland, Norway and Romania to 18 percentage points in Luxembourg and Slovenia. Germany, Estonia, Spain, Malta, Poland, Portugal and Sweden have values close to the average learning-age gap in Europe. Other countries such as Belgium, the Netherlands and Austria have higher values than the average, while Bulgaria, Greece, Italy, Latvia, Hungary and the UK have lower values ⁽¹⁷⁾. Scandinavian countries such as Denmark and Finland, and the Czech Republic, have a low learning-age gap and a relatively high CVT participation rate.

The CVTS data offer another relevant indicator, the access indicator ⁽¹⁸⁾, which shows the percentage of employees participating in training courses

⁽¹⁷⁾ A breakdown by size of enterprise (not shown here) shows that participation rates for people over 54 are higher in large enterprises and decrease with the enterprise size, with the sole exception of Sweden (for medium-sized enterprises) and Norway (for small enterprises).

⁽¹⁸⁾ For the access indicator we use the access rate for employees in training enterprises (participation rate of employees as a proportion of all employees in training enterprises). See Cedefop (2010, p. 55) and Eurostat (2002b), in which the difference with other indicators as 'participants in CVT courses as a percentage of employees in all enterprises' or 'participants in CVT courses as a percentage of employees in enterprises providing CVT courses' can be seen. In addition, see other reports and papers (Eurostat, 2002a, Angotti and Occhipinti, 2008).

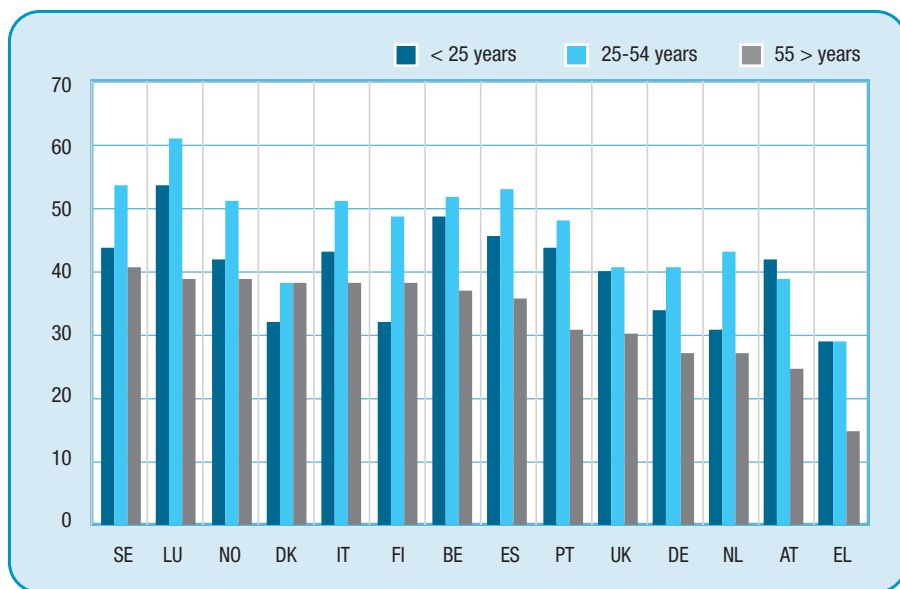
Table 3.3. Percentage of employees (in all enterprises) participating in CVT courses offered by the enterprises in Europe (participation), by age group, 2005 (ranking based on aged 55 >)

Countries	Total	Aged < 25	Aged 25-54	Aged 55 >
EU-27	33	29	33	24
Czech Republic	59	54	60	54
Sweden	46	39	50	37
Denmark	35	29	35	36
Finland	39	25	43	34
Slovenia	50	47	51	32
Slovakia	38	32	40	32
Luxembourg	49	42	51	31
Belgium	40	35	41	28
United Kingdom	33	34	34	26
Spain	33	30	35	25
Malta	32	29	34	24
Norway	29	23	31	24
Netherlands	34	26	38	23
Italy	29	22	30	22
Germany	30	25	32	21
Austria	33	36	34	21
Portugal	28	26	29	18
Estonia	24	25	26	15
Cyprus	30	22	31	15
Poland	21	16	22	13
Romania	17	17	18	12
Lithuania	15	17	15	9
Hungary	16	12	17	9
Bulgaria	15	15	16	8
Latvia	15	16	15	8
Greece	14	13	14	7

Source: Eurostat CVTS3, last update 22.10.2010; ISFOL calculations.

offered within companies, but only in those enterprises that offer CVT courses. This indicator shows equity of access to training within companies. Figure 3.3 shows that (in 2005) equity in access to training for older workers was greater in the Scandinavian countries (Denmark, Finland, Norway, Sweden) and in Italy. Conversely, in Germany, Greece, the Netherlands, Austria and the UK the level of equity was lower (Figure 3.3).

Figure 3.3. Percentage of employees (only in enterprises offering CVT courses) participating in CVT courses offered by the enterprises in several European countries (access), by age group, 2005

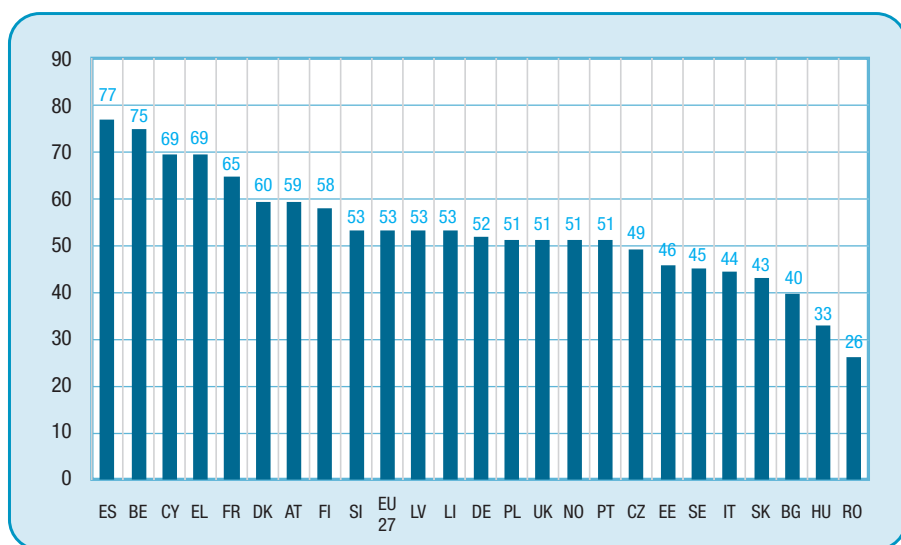


Source: Eurostat CVTS3, last update 22.10.2010.

The age-gap distribution in training participation can also be expressed in terms of the intensity of training, in other words a ratio based on data measuring the volume of education and training, calculated as the number of hours spent on education and training by participants aged over 54, divided by the number of hours spent by those aged 18 to 64. This ratio is displayed in Figure 3.4.

On average, in Europe people aged over 54 spent about half as many hours (53%) in education and training as those individuals aged 18 to 64. The gap is lower than the average in central and northern European countries (Belgium, Denmark, France, Austria, Finland) and in some southern European countries (e.g. Spain, Greece and Cyprus). The gap is higher than average in eastern European countries and in several northern European countries (Germany, Norway, Sweden, the UK); however, the latter group have a more equitable distribution of learning opportunities in favour of older people.

Figure 3.4. Intensity of participation in education and training of adults aged 55-64 in Europe, 2007 ^(a) (ratio between the average of hours spent on education and training by participants aged 55-64 and the average number of hours spent by those aged 18-64)



^(a) During the 12 months preceding the survey.

Source: Eurostat AES, last update 30.3.2011; ISFOL calculations.

There appears to be a relationship between the learning-age gap, difficulties in accessing information on available training opportunities, and obstacles to participation in education and training. Access by older people to information on learning opportunities is crucial; insufficient or incomplete access to information can be considered a factor in the creation of a learning-age gap.

3.3. The learning-age gap in Italy: results from the ISFOL-Indaco survey

The survey of adults' learning behaviours (Indaco-adults ⁽¹⁹⁾) analyses the learning activities of adults and distinguishes between formal, non-formal and informal learning ⁽²⁰⁾, which takes place inside or outside the workplace. Since 2011, the survey has been consistent with the AES ⁽²¹⁾ survey. It investigates adult participation in training in depth and includes a sample of 16 500 individuals ⁽²²⁾.

The survey is conducted among the employed (employees of private sector companies, civil servants and self-employed), the unemployed and inactive populations ⁽²³⁾. The aim is to collect information about the learning needs of individuals, their training investments, their participation in training activities and the gap in access to training activities. Another objective is to analyse the personal and work-related benefits of training activities.

We shall examine the participation of the mature population in learning by analysing the participation for different age groups and by looking at the extent and nature of learning participation for those aged over 54. Table 3.4 shows participation in learning by individuals aged 18 to 64 years in the 12 months preceding the interview: 12.1% participated in formal learning, 26.9% in non-formal learning and 75.2% in informal learning. This implies that the figures will rise significantly if we consider not only formal education and training

⁽¹⁹⁾ The survey maps features and dynamics of the learning demand of individuals aged 18-64, and gives a sectoral, national and territorial breakdown. It has been included in the national statistical plan of SISTAN (National Statistical System) since 2003 (code ISF-00020).

⁽²⁰⁾ The definitions of learning categories and the classification of learning activities take into account the classification of learning activities (CLA) provided by Eurostat (2006). The Indaco survey tested the CLA at national level in Italy in 2011. The classification is currently used in the national AES, in progress.

⁽²¹⁾ The previous Indaco surveys were not consistent with AES since they covered only employed persons.

⁽²²⁾ To facilitate comparability of data, particular attention is paid to the use of the main national and international classifications. In addition to the definitions of the CLA classification (Eurostat, 2006), we use ISCED97 and its recent developments, NACE rev 2, CP2011/ISCO for the professions, fields of education and training, and the classification of foreign languages (ISTAT). The definitions and wording of the questions are harmonised with those drawn up for the AES.

⁽²³⁾ 'Unemployed persons' are those who, by the time of the reference week, had no employment, were available to start work within the next two weeks, and had actively sought employment during the previous four weeks. In addition, unemployed persons include those who had already found a job that was to start later. The unemployed account for 7.6% of the sampled respondents, and for 5.1% of the theoretical sample, the latter being representative of the Italian reference population. 'Inactive persons' are all persons who are not classified as employed or unemployed. The inactive represent 32.5% of the sample of respondents, and 34.8% of the theoretical sample.

activities, but also informal learning; overall, in fact, almost 8 in 10 people have participated in at least one kind of learning activity.

**Table 3.4. Participation in education and training in Italy
by type of training, age groups and gender, 2011 ^(a)**

	Formal	Non-formal	Informal
Male			
18-24 years	60.1	33.2	87.6
25-34 years	17.2	37.4	86.7
35-44 years	2.6	30.6	82.1
45-54 years	1.3	27.0	77.6
55-64 years	0.2	17.4	67.8
Total	11.9	29.1	80.1
Female			
18-24 years	69.2	29.1	87.0
25-34 years	20.3	31.1	78.8
35-44 years	2.8	26.0	70.6
45-54 years	1.0	24.2	65.4
55-64 years	0.1	15.1	59.0
Total	12.4	24.7	70.4
Total			
18-24 years	64.4	31.3	87.3
25-34 years	18.7	34.3	82.8
35-44 years	2.7	28.3	76.4
45-54 years	1.1	25.5	71.4
55-64 years	0.2	16.2	63.1
Total	12.1	26.9	75.2

^(a) During the 12 months preceding the survey.

Source: ISFOL-Indaco), survey of adults' learning behaviours; reference year 2011.

Participation in learning activities is significantly lower for those aged 55 to 64 years. Previous rounds of Indaco surveys (Angotti and Bernardini, 2006) showed the same result, which implies that in Italy the learning-age gap is persistent. Older Italians participate less in all types of learning:

- (a) for non-formal activities, the range goes from 31.3% among young people, to 16.2% among older people, with a difference of about nine percentage points compared to the average and a broad generation gap of around 15 percentage points;
- (b) an even larger generation gap (24 percentage points) is found for informal learning activities: participation decreases from 87.3%, among persons aged 18-24, to 63.1%, among those aged 55-64, with a difference from the average of 12 percentage points;
- (c) formal learning in Italy is a prerogative of youth and involves 64.4% of the youngest age group, compared to 18.7% for the next youngest age cohort; for those older than 35 years of age, formal learning is very unlikely.

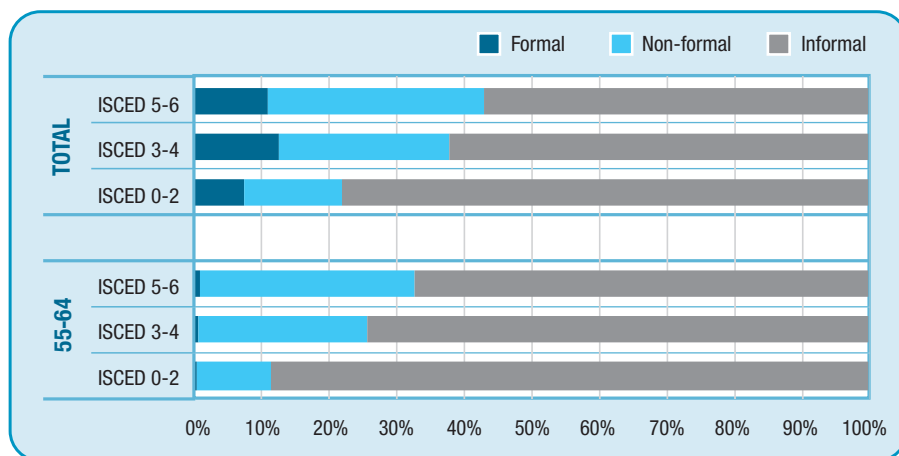
Educational attainment influences participation in training. Figure 3.5 shows the average values for the relationship between ISCED levels and the types of learning, and the average figures for the group aged 55-64. Formal learning increases with the level of educational attainment, while informal learning is higher for those with lower attainment levels. Among those aged 55-64, participation in formal learning is almost non-existent.

Another decisive factor that influences learning participation is employment status. The segment of the population aged 55-64 in Italy represents 19.5% of the total population; 34.6% of inactive persons; 31.3% of inactive women; and 12% of employed persons (ISTAT, 2011).

The high presence of inactive people among those aged 54 and over suggests that inactivity is in fact a leading cause of non-participation in training. A break-down of the participation figures by employment status shows that:

- (a) among the employed, levels of participation in training are above average and the learning-age gap is significantly smaller. Being employed seems to drive learning participation. It is probable that labour-market participation allows individuals to access many learning opportunities. They have relationships and knowledge that are not available to those without a job and these factors favour the development of learning;
- (b) participation levels among the unemployed are not much lower than the average. This indicates that people searching for a new job are active and willing to engage in learning. This result only partially confirms other studies, according to which the participation in training of the older unemployed is lower than that of the employed (Alferoff, 1999);

Figure 3.5. **Participation in education and training in Italy by type of training, age group (total, 55-64) and educational attainment, 2011 ^(a)**



^(a) During the 12 months preceding the survey.

Source: ISFOL-Indaco, survey of adults' learning behaviours, reference year 2011.

(c) in the case of inactive people, there are different trends among those under and those over 35 years of age. In the former group, participation levels are satisfactory while in the latter participation is very low.

Going more deeply into the relationship between employment status and participation in training, there is much to be learned from analysing the data on participation in non-formal training, in other words, all learning that occurs mainly in the workplace. In the survey, non-formal training refers to various learning activities: courses conducted via classroom instruction (job-related courses, personal/non-job-related courses, workshops and seminars), courses combining theory and practice (compulsory training courses, sports or dance courses with the presence of an instructor) and guided on-the-job training (Eurostat, 2006).

Participation in non-formal training among employees aged 55-64 is 6.4 percentage points lower than the average. But there are significant differences between different sectors and occupations. Table 3.5 suggests that among the self-employed, the learning-age gap exceeds 11 percentage points, while it stands at almost seven percentage points for private sector employees. There is no learning-age gap for public servants, as older public servants participate more often in non-formal training than younger workers.

Table 3.5. **Participation in non-formal training activities by employed persons, by type of employment in specified age groups, 2011 ^(a), Italy**

				%
Age group	Private sector employees	Civil servants	Self-employed	Total
18-24	32.0	28.1	36.2	32.3
55-64	25.3	43.8	16.5	27.5
Total	32.4	48.9	28.1	33.9

^(a) During the 12 months preceding the survey.

Source: ISFOL-Indaco, survey of adults' learning behaviours, reference year 2011.

The picture for the group of private sector employees is shown to be more diverse in Table 3.6, which gives a breakdown by profession. Participation in non-formal training for managers and executives is almost double the average. By contrast, blue-collar workers only participate in non-formal training at a rate close to half of the average. For blue-collar workers, the learning-age gap takes the shape of a generation gap. About 17 percentage points separate

Table 3.7. **Participation in informal learning, by employment status and gender (ratio over 54s/adult population), 2011 ^(a), Italy**

Ratio over 54s/adult population	Employed persons	
	Male	Female
Coaching/informal tuition (learning from a family member or friend)	0.75	0.90
Exchanges of experience in the workplace (learning from a colleague)	0.76	0.82
Guided visits	0.83	1.18
Self-learning using printed material (books, professional magazines)	0.92	0.88
Self-learning using PC/Web	0.81	0.72
Self-learning using media (television/radio/video)	1.01	1.02
Learning-group (including quality circles, self-education groups, informal non-structured groups)	0.84	1.01
Practice	0.64	0.89
Non-guided visits	0.84	1.01

^(a) During the 12 months preceding the survey.

Source: ISFOL-Indaco, survey of adults' learning behaviours, reference year 2011.

Table 3.6. **Participation in non-formal training activities by private sector employees, by qualification in specified age groups, 2011 ^(a), Italy**

%

Age group	Managers, executives	Clerks	Manual workers	Total
18-24	53.2	39.6	29.2	32.0
55-64	57.2	34.4	12.1	25.3
Total	62.3	45.9	19.4	32.4

^(a) During the 12 months preceding the survey.

Source: ISFOL-Indaco, survey of adults' learning behaviours, reference year 2011.

the participation rate of older and younger workers. Among clerks, there is a substantial learning-age gap of 11.5 percentage points.

As far as training content is concerned, employees aged 54 years and over have a higher attendance than average at courses in health and welfare, computing, humanities, occupational health and safety, and arts. Only a few attended courses related to services, engineering, manufacturing and

	Inactive people			Total		
	Male	Female	Total	Male	Female	Total
Total	0.80	0.71	0.80	0.77	0.71	0.77
	0.78	–	–	–	0.49	0.44
	0.97	0.95	1.08	1.03	0.95	1.11
	0.91	0.78	0.85	0.84	0.85	0.81
	0.78	0.69	0.54	0.63	0.73	0.54
	1.01	0.87	0.95	0.92	0.98	0.98
	0.90	0.85	0.74	0.79	0.83	0.79
	0.72	0.62	0.64	0.65	0.62	0.67
	0.91	0.85	0.92	0.90	0.94	0.93

construction, foreign languages and personal development. Compulsory courses on occupational safety took up a lot of learning time for adults aged over 54.

In terms of participation in informal learning, the gaps between people aged over 54 and the general population, and between people aged over 54 and the employed, tend to narrow where more innovative training methodologies are in place (self-learning using PC/Web, guided/non-guided visits and, particularly for the inactive population, learning-groups and coaching) (Table 3.7).

These results are important in a context where a culture of continuous learning needs to be promoted. By combining different training methods (coaching, workshops with managers and older workers, intergenerational learning, action learning, e-learning), targeted learning opportunities can stimulate learning and overcome time constraints. It is also important to involve employers in the development of forms of organisational learning (mentoring, training, validation and other supportive measures), as the objectives and benefits of training must be recognised by both employers and older employees.

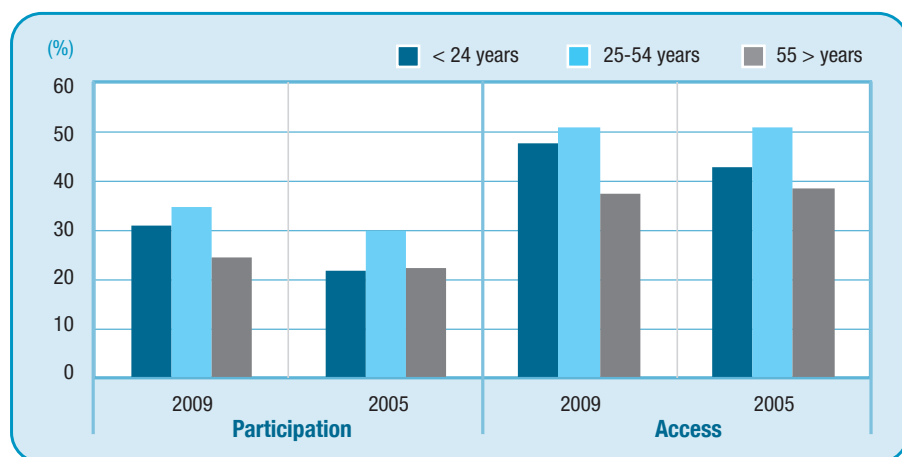
We shall now examine training supply in Italy using the 2009 ISFOL-Indaco/CVTS survey data. Figure 3.6 shows that participation rates in training courses offered by companies between 2005 and 2009 increased among those aged over 54. But this rate is lower than the participation rate of other age cohorts. In some cases, the learning-age gap in training participation can be explained by corporate human resource management strategies. In a previous Indaco survey, a representative of a major Italian company declared that there was no point in the firm offering training to two particular groups of workers: employees over 40 and low-skilled workers (Angotti, 2008).

Using multivariate analysis (logistic regression models) it is possible to estimate the learning-age gap between those aged over 54 years and the general population more accurately. One principal finding of such an analysis is that people over 54 have a probability of 1.7 and higher of not participating in training when compared to those aged 18-54 years.

Where employment status is concerned, it can be seen that the probability of not being trained increases with age, especially for unemployed and inactive people. Figure 3.7 shows that the difference between employed (lower line) and not employed (upper line) expands significantly with age.

The effect of employment status on the likelihood that people do not participate in training grows exponentially with age. Compared with employed people over 54, those over 54 not in employment are about seven times less likely to participate in training. The local context is significant as well. In more

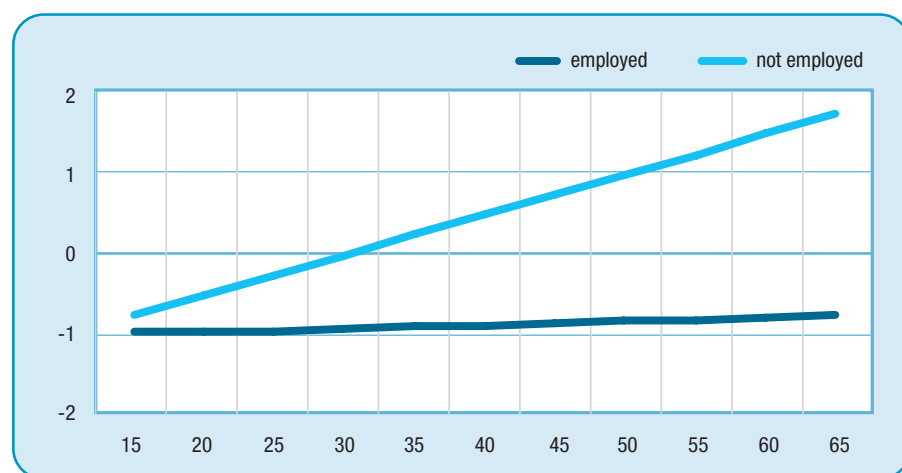
Figure 3.6. **Percentage of employees participating in CVT courses offered by the enterprises in Italy (participation and access), by age group, 2005 and 2009**



(^a) During the 12 months preceding the survey.

Source: Eurostat CVTS3, ISFOL-Indaco-CVTS.

Figure 3.7. **Probability of non-participation in training by employment status and age, 2011 (^a), Italy (logistic regression)**



(^a) During the 12 months preceding the survey.

Source: ISFOL-Indaco, survey of adults' learning behaviours, reference year 2011.

densely populated areas, people are more likely to take part in training. In larger cities, the probability of non-participation is 74% lower than that of people living in smaller centres.

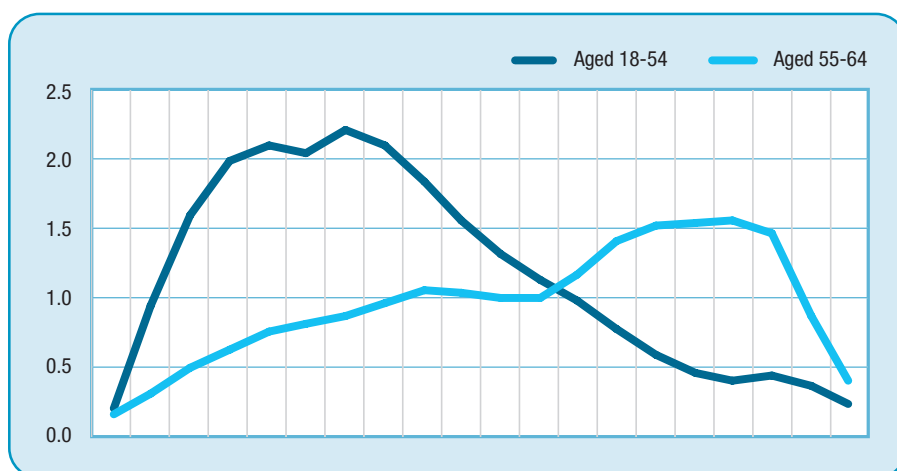
Women are 50% less likely to take part in training than men. Furthermore, having a child increases the likelihood of a woman not participating in training by 50%. Among those with three children or more, the likelihood of non-participation is up to three times higher.

Overall, the probability of participation in training is lower for:

- (a) women, especially if they have children;
- (b) individuals who are not employed;
- (c) individuals aged over 54;
- (d) individuals with a low educational attainment level (ISCED 0-2);
- (e) individuals over 54 who have not sought information on training courses;
- (f) individuals who do not know a foreign language.

The probability of participation is higher for those over 54 and employed and for those who have a higher educational attainment level (ISCED 4-6). The comparison of the overall probability distributions (18-54 and over 54), however, shows a statistically significant difference. The mass for the over 54 shifts to the right, toward higher probability of non-participation (Figure 3.8).

Figure 3.8. **Probability of non-participation in training: differential by age (18-54, 54-65), 2011 ^(a), Italy (logistic regression)**



^(a) During the 12 months preceding the survey.

Source: ISFOL-Indaco, survey of adults' learning behaviours, reference year 2011.

The probability values (of non-participation in training) are always lower among the 18-54 age-group than among the over-55s. Therefore the regression analysis also shows the existence of a broad learning-age gap for people aged over 54 years (Figure 3.8). Another regression analysis (which is not presented here) has confirmed that if we compare working and non-working people, the probability of non-participation is higher for those out of work.

3.4. How to improve older people's participation in training: an analysis of training benefits

The need for lifelong learning in knowledge societies has led to a greater focus on the benefits of learning. Cedefop recently published the results of some important studies on the benefits of VET (Cedefop, 2011a; 2011b; 2011c; 2011d).

Various models have been used as a theoretical base for studies on learning benefits. Work in this field often applies insights from studies on the benefits of education and training and distinguishes between material and non-material aspects (e.g. Heise and Meyer, 2004; Cedefop, 2011b). Other studies consider corporate benefits in terms of productivity increases, innovative capacity or profitability (Angotti, 2011; Göbel and Zwick, 2009; Bassanini et al., 2007; Colombo and Stanca, 2008; Conti, 2005); or individual benefits such as employment outcomes, wage increases or professional mobility (Belmonte, 2009); or benefits to communities or groups.

The Indaco-adults survey analyses the benefits of training from an individual's perspective. It examines both material and non-material benefits. Material benefits include: increasing the possibility of retaining a job; obtaining a qualification; starting self-employment; improved career prospects (vertical mobility); changing roles or tasks in a job (internal mobility); changing job or occupation (external mobility) and wage increases. The survey distinguishes between employees and the self-employed by considering specific training for the self-employed. For the self-employed, the benefits are reduced risk of losing customers, expansion of activities and customer base, increased revenue and improved market position.

The first group of non-material benefits included in the survey relates to learning, and covers increasing knowledge/skill on a topic of interest and acquiring knowledge/skills useful in daily life. A second group relates to social relationships and the quality of work. Examples are the opportunity to improve social relationships, the ability to perform better and greater motivation to work.

The survey considers two aspects:

- (a) reasons and motivations behind people's participation in education and training activities;
- (b) opinions on the benefits of participation.

In our analysis, we take the view that reasons for participating in training are closely linked to the possible outcomes of the training activity (expected benefits). This interpretation makes it possible to compare the opinion on expected benefits before training with what is perceived as a benefit after participation in training. This analysis is not based on quantitative, objective measurement of the effects of training participation but it is useful to understand how people perceive the benefits of training and how this impacts on participation. This section presents the results only in respect of the employed and refers to the specific situation for the self-employed where relevant.

First we consider how people judge the value of training in terms of its usefulness. This opinion can be viewed as an indicator for the potential demand for learning, expressed by employees themselves. People generally consider training useful for several reasons: to facilitate learning processes (increase of knowledge/skills on a topic of interest or to acquire knowledge/skills useful to daily life), to obtain specific, material benefits (preparing for a qualification or starting one's own business), and to benefit from the opportunity to enhance personal relationships by meeting new people. Age does not seem to affect opinions on training usefulness.

A second issue relates to the reasons why people participate in training. Overall, 81.5% of employees claim they have attended training courses in non-formal education and training for job-related reasons. This compares to 18.5% who claim to have done so out of personal interest. This pattern is valid across all age groups, including those aged 54 and over. It is also a pattern that is apparent at European level (Eurostat, 2009).

People aged 55-64 who participated in a course out of personal interest claim that they were doing so out of interest to improve their knowledge and skills or their social relationships. These expectations may be connected to non-material benefits.

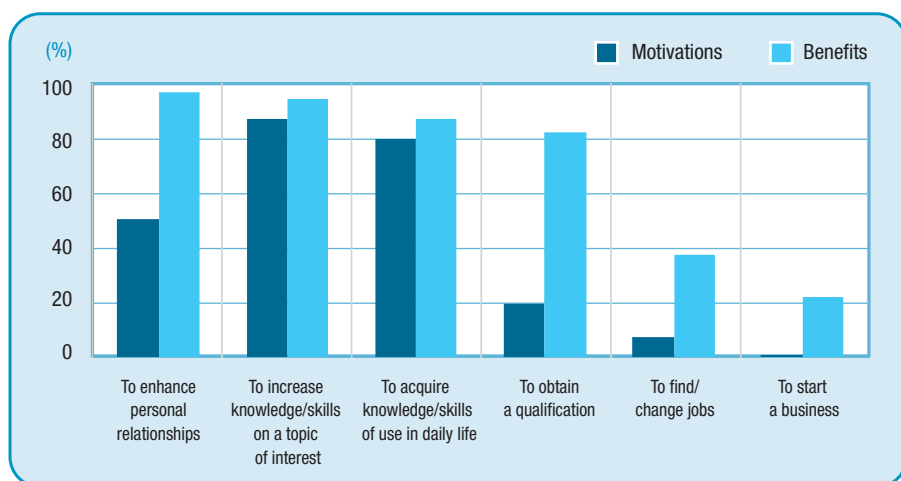
Non-formal education and training activities other than courses (seminars, conferences, exhibitions and trade fairs, training on the job, private lessons, sports lessons with a trainer) were mainly pursued for non-material benefits. People expected to expand their knowledge and skills (acquire knowledge and skills useful to everyday-life, or develop new relationships). Employed people appear to attach little value to material benefits such as obtaining a qualification, improving opportunities to find/change jobs or to become self-employed.

Most job-related courses were followed because they were mandatory ⁽²⁴⁾; other reasons include the possibility of vertical mobility, chances for internal mobility or a wage rise. Just one tenth of respondents claimed to have participated in training to remain in their current job (for the self-employed: reduce the risk of losing customers).

We found that people were more motivated to participate in non-formal training activities that were not organised as a course. In such cases non-material benefits were more relevant than material benefits.

To what extent have older workers' prior expectations been met? We begin by considering benefits resulting from training motivated by personal interest. Figure 3.9 shows that overall, participation in non-formal learning activities has led to the expected benefits. The most important benefits of training participation are in non-material factors such as improvements in relationship skills and the expansion of knowledge and skills. Where material benefits are concerned, a lot of respondents state that training was useful in obtaining a qualification. It was viewed as less helpful in finding/changing jobs or starting

Figure 3.9. **Motivations and benefits of participation in training for personal reasons, among the Italian employees (aged 55-64), 2011 ^(a)**



^(a) During the 12 months preceding the survey.

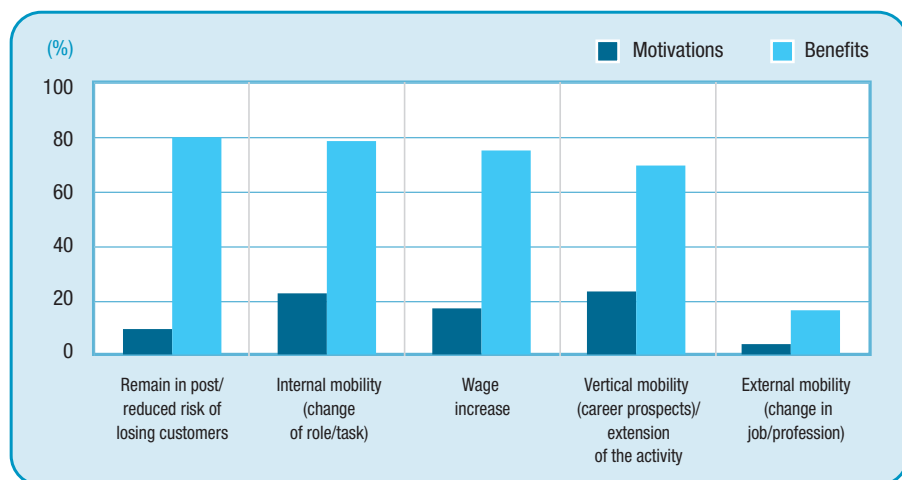
Source: ISFOL-Indaco, survey of adults' learning behaviours, reference year 2011.

⁽²⁴⁾ We refer to the CVT activities required by law. In Italy these relate for example to occupational safety and health training within companies, and [incident] prevention in the health and food sectors.

one's own business. The most striking feature of the analysis is that perceived benefits were higher than expected (motivations), implying that training has unexpected positive effects.

Job-related training courses also satisfied expectations. In this connection we considered different types of benefits, mainly related to work. Respondents claim that courses were useful in achieving the following material benefits (outcomes for the self-employed in parentheses): maintaining employability, post retention (reduced risk of losing customers); horizontal mobility (change of job); increase in earnings or turnover; career advancement, broadening of activity for the self-employed. Non-material benefits, though perceived as relatively less important, relate to the ability to perform a job better, to improve relationship skills and to feel more motivated to work.

Figure 3.10. **Motivations and material benefits of participation in work-related training activities among Italian employees (aged 55-64) 2011 ^(a)**



^(a) During the 12 months preceding the survey.

Source: ISFOL-Indaco, survey of adults' learning behaviours, reference year 2011.

Figure 3.10 considers motivation to take part in work-related training and the material benefits achieved. The analysis shows that many people consider that they have achieved significant work-related benefits by participating in a training course. Moreover, the benefits are much higher than had been expected before training commenced. This is an important result because it

shows that the people who have undergone training consider that the training has real benefits that exceed individual expectations.

The conclusions of the training benefits analysis are confirmed by the general opinion on the usefulness of the training. Most respondents (82.5%, and 76.6% of those over 54) claim to have actually used skills and knowledge acquired through training, while only 4.1% (7% of those over 54) indicated that they had not used them at all.

More than 60% of Italian adults, regardless of age, said training made them feel more motivated to work and improved their relationship skills. Although people aged over 54 are sometimes less optimistic about whether they will actually use skills acquired through training, they appear in practice to have benefited from their participation in the courses.

3.5. Conclusions

The analysis of European data shows that the learning-age gap is a widespread phenomenon in many countries, both in lifelong learning participation and in CVT provision by enterprises. To promote active ageing of the population and greater intergenerational solidarity, it is important to encourage more equitable participation by different age cohorts in training. Core factors affecting the lower participation rates in training are low educational attainment and enterprise size.

Trends in participation in education and training at European level show that countries with higher participation rates also have a smaller learning-age gap. However, in the case of participation in non-formal learning alone, this is not always so. When various aspects of the learning-age gap are taken into account, the analysis becomes much more complex. In some European countries, there is a lower level of equity in training opportunities, despite high levels of participation. Therefore it is important not only to ensure high levels of participation but also equity in access. The distribution of the volume of hours for training, across European countries, plays a less important role because the age gap does not seem to be connected with it: older trained workers do not spend significantly fewer hours in training compared to their younger trained colleagues. This implies that it would be better to reduce the age gap by increasing participation and access rates, rather than increasing the volume of training offered. This might also encourage more fluid, recurrent training participation and overcome the problem of long intervals in which no learning takes place (interrupted learning).

Data on education and training in Italy show low participation by older people in formal and non-formal activities but high participation in informal learning. A more detailed analysis at national level identifies some interesting correlations.

There is a strong correlation between learning participation and the employment status of individuals: the age-gap increases as the link with the world of work becomes weaker. This trend is confirmed by multivariate analysis using logistic regression models: it shows how the probability of not being trained rises with age but does so much more quickly for unemployed and inactive people. Additional factors related to gender (household composition, educational attainment, etc.) affect the probability of older people participating in learning.

The working environment seems to play a key role in encouraging people to take part in learning activities. This is particularly important in view of the activity rate of ageing people, which in Italy is very low. The low activity rate of the over- 54s could therefore become a barrier to participation in the active ageing process, especially for women. Indeed, women and the unemployed are excluded from broader learning benefits by the more substantial learning-age gap and lower levels of support and access to knowledge, skills and abilities that are useful in daily life and employment.

The high level of participation in informal learning, including among people over 54, illustrates that potential demand for learning is , high, as well as a broad willingness to learn in various ways that are not confined to formal channels. This potential can be supported through strategies that retain individuals within circuits of learning and training through the provision of quality tools, including validation of competences.

The analysis of the benefits of training courses in Italy highlights the fact that many adults in the age cohort above 54 years emphasise non-material benefits, such as better knowledge and skills, the improvement of networking and relationship skills, and increased job satisfaction.

By contrast, it is not always evident that the material benefits are perceived. People would appear not to link training courses with benefits such as wage increases, career advancement and promotion; non-formal activities other than courses appear to be more attractive. In this context it is important to study why people expressed these opinions so as to be able to increase the attractiveness and effectiveness of learning later in life.

None the less, the analysis of the effective benefits of training provides an interesting result in terms of the 'unexpected effects' of training. We observe that participation in training courses leads to material benefits which are above

expectations. This is particularly the case for adults over 54: despite the fact that they participate less, and that they claim to be less motivated to participate in training, training seems to have produced unexpected benefits, particularly material benefits. Such benefits can act as an incentive to improve the potential of the mature population, especially in terms of employability for the world of work.

Increased visibility and awareness that training can improve work conditions and promote new career opportunities can help increase the participation of seniors in training and lead employers and policy-makers to invest more in people in the later stages of their working lives.

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List of abbreviations

CVT	continuing vocational training
CVTS	continuing vocational training survey

CHAPTER 4

Successful ageing, wellbeing and learning in later life

Andrew Jenkins

The objective of the research was to identify the effects of participation in learning on the subjective wellbeing of older adults. Data were from the English Longitudinal Study of Ageing (ELSA), a large-scale, nationally representative survey of people aged 50 and over. The survey contains data on subjective wellbeing and information on three types of learning: formal education and training courses, education/music/arts groups or evening classes and gym/exercise classes. Multiple regression analyses were used to investigate the change in wellbeing outcomes between two survey waves. The key finding was that participation in education/music/arts groups and evening classes was significantly associated with changes in subjective wellbeing. Formal education/training courses and gym/exercise classes were not significantly associated with wellbeing, after controlling for other factors.

4.1. Introduction

There is a long tradition among health researchers and social scientists of seeking to define and understand 'successful ageing', and the topic has become more prominent as demographic ageing has increasingly been identified as a major issue in developed societies. Successful ageing is usually defined in terms of the maintenance of physical health and in terms of social and psychological wellbeing (Levkoff et al., 2001). Some researchers argue that leisure activities should be included in the definition of successful ageing, as it is also important that older adults continue to derive enjoyment from their lives (Bowling, 2008; Chaves et al., 2009; Lee et al., 2011). It can be hypothesised that learning has a role to play in the process of successful ageing. Learning may contribute to updating skills which help to keep people in employment. For older adults who are post-work, i.e. in retirement, learning can be part of the active use of their free time, and it may encourage participation in the social life of the community (Jarvis, 2001; Luppi, 2009).

Research on the contribution which participation in learning can make to the wellbeing of older adults has been almost wholly qualitative. Even some qualitative researchers have acknowledged this as a limitation of the current evidence base and called for more quantitative, especially longitudinal, studies (Anderson, 2008; Narushima, 2008). In response, a quantitative analysis of longitudinal data on older adults was undertaken. This chapter first considers the advantages and disadvantages of qualitative and quantitative approaches, emphasising that both can provide useful results which may well complement each other, for example in mixed method approaches. The chapter then contributes some new findings using data from the English Longitudinal Study of Ageing (ELSA), a large-scale, nationally representative survey of people aged 50 and over.

4.1.1. Qualitative literature on older adults

Some literature will be briefly reviewed to illustrate the kind of findings which can be obtained from qualitative studies. Fuller reviews of this type of literature are available in, for instance, Anderson (2008). Withnall (2010) reports on a research project into the role of learning in the lives of older adults in Great Britain, conducted between 2000 and 2004. The project gathered qualitative data initially via 10 focus groups involving 98 older adults and subsequently via questionnaires returned by 77 adults and follow-up interviews with 35 of them. All the older adults were retired. They were divided fairly evenly between participants and non-participants in learning. Some of the learning occurred in formal courses, but there was also a significant amount of informal learning activity. The perceived benefits for these older adults included keeping the mind active and acquiring new knowledge. Social contact – meeting new people and making friends – was valued by many. Smaller numbers mentioned health benefits such as relaxation.

Narushima (2008) undertook research concerning a seniors' education programme in Canada. These were daytime courses specifically for people aged over 60 in subject areas such as calligraphy, sewing, Chinese poetry, folkdance, as well as fitness and exercise. Most of the 15 students who were interviewed had chronic health problems, and the research focused on the health benefits of engaging in learning. The interviewees stated that the courses helped to 'keep them going'. They looked forward to the weekly classes, and the topics were of great interest to them. The importance of keeping the mind active was mentioned often. In addition, the classroom was a lively and welcoming space for many, and they had built up friendships through attending the classes.

Jamieson (2007, 2012) reports findings from questionnaire data and interviews with retired people enrolled in courses at a British university. Interviewees discussed several ways in which participation in formal learning could contribute to their wellbeing. Prominent was that it was a component of their social life, and that it could bolster their self-esteem. Once more, the mental stimulation of learning new things was an important benefit for many of the interviewees. They considered that learning was ‘time well spent’. Similarly, Russell (2008), in her study of 19 older adults in Australia who were learning computer skills, emphasises that these retirees had more time and freedom than in the past when lives were often filled with family or work commitments, and that they wanted to use this free, or unobligated, time in a meaningful way including by undertaking challenging learning activities. These various projects – albeit summarised only briefly here – are good examples of the kind of rich and detailed information about the impact of participation in learning which can be garnered from qualitative research on older adults. So what can large-scale quantitative analyses add?

4.1.2. Quantitative data and longitudinal methods

One of the principal advantages of the analysis of large-scale data sets is representativeness. Even the best qualitative studies may struggle to convince here. By drawing on a large sample in quantitative studies, we can be more confident that the findings are representative of the population of older adults. Furthermore, quantitative analysis can yield precise estimates of the size of an effect. As Jamieson (2007) notes, reflecting on her qualitative interviews with older learners, ‘the benefits highlighted by our respondents suggest that studying improved their quality of life, but they do not in themselves indicate much about the magnitude of the impact’. The models also control for other factors which affect wellbeing. The effect of learning after allowing for many other influences on wellbeing can be measured. It can be very difficult to disentangle the respective roles of many factors in a qualitative study.

Beyond these general points about quantitative analysis, longitudinal data offer some additional advantages. A longitudinal research design involves collecting data from the same observational units on two or more occasions. Development over time can then be measured. For example, how does the wellbeing of retirees change over the course of several years? Questions such as why some age more successfully (in terms of maintaining their levels of wellbeing) than others may then be addressed. Crucially, longitudinal data assist with inferring process, the order in which events occur. For example, with cross-sectional data, it may be observed that unemployment and ill-health

are related, but it is also important to infer whether it is the case that unemployed people are more likely to become ill against the alternative that ill people are less likely to be in employment. Once we have data in which individuals are surveyed at various points in their lives, we can begin to investigate how subsequent outcomes are linked to earlier circumstances of the same individuals. Another key advantage of longitudinal data is that they enable researchers to control better for omitted variables. In any analysis, some variables that would ideally have been included may have been left out, either because they are inherently hard to measure or because they were simply not collected due to interview time or resource constraints. With longitudinal data, there is not just variation between cases but also variation within cases, and so it becomes possible to control for unobserved characteristics of these individuals. Some disadvantages of longitudinal designs include the effort and expense of collecting such data and the problem of attrition – people dropping out of the sample over time, thereby weakening its claims of representativeness – although (as discussed later) statisticians have developed methods for addressing this issue.

4.1.3. Previous research on learning benefits using longitudinal data

In the past decade or so, large-scale quantitative studies drawing on longitudinal data have made a substantial contribution to the evidence base on learning benefits. For example, Feinstein and Hammond (2004) used data from the National Child Development Study (NCDS), a continuing longitudinal study of a cohort of people who were all born in Great Britain in a single week in 1958 to examine the links between adult learning and life satisfaction. They considered how the learning of adults in their 30s and 40s affected changes in life satisfaction over the same period, controlling for level of prior education and a range of other relevant factors. Their key finding was that adult learning did have an influence on life satisfaction. The effects did not look particularly large, but, as there were few changes in life satisfaction for people in their 30s and early 40s, the effect of adult learning was nonetheless important. There is also evidence that participation in adult education is associated with improvements in aspects of psychological wellbeing, especially self-esteem and self-confidence. The analyses of NCDS data by Feinstein and Hammond (2004) and Hammond and Feinstein (2006) found robust associations between participation in adult learning and increases in self-efficacy, even after controlling for a range of variables reflecting family and social background, prior education level and current circumstances. Sabates and Hammond (2008) summarise a range of course evaluation studies, mainly

occurring in England. These included courses in higher education taken by mature women, adult returners to education, and courses offered to adults with chronic health problems. These were shown to have led to various improvements in measures of psychological wellbeing, notably self-esteem, self-efficacy and self-understanding. In a recent overview of research, Field (2011) acknowledges the important contribution that such longitudinal studies have made, but also notes that they have been based on a rather narrow range of data sources. Moreover, the studies have considered mainly people in their 30s and younger. There is a clear need to extend this type of analysis to data on older adults.

4.2. Data and measurement

All data used in the quantitative analyses are derived from the English Longitudinal Study of Ageing (ELSA). This is a continuing survey of adults who were aged 50 and above in 2002 and includes a broad range of information about their mental and physical health, wellbeing, quality of life and economic and social circumstances. The initial sample was over 12 000 individuals, and the sample is representative of people aged 50 years and above living in private households in England. ELSA respondents have now been surveyed several times, meaning that changes over time in their health, attitudes and other outcomes can be analysed. The analyses here draw on data from the first two waves of ELSA data, with the initial survey conducted in 2002 and a follow-up in 2004/05 (wave 2).

There are various approaches to measuring subjective wellbeing (Ryff, 1989; Keyes et al., 2002). In the ELSA survey, there is a quality of life measure designed specifically for older adults known as CASP-19 (Wiggins et al., 2008), and this is the wellbeing measure that is being focused on in the analysis here. In developing this measure, old age was conceived as a distinct phase of the life course, and one in which there was scope for reflection and pleasure. Quality of life was theorised as the satisfaction of needs in four areas: control (C), the need to be able to act freely in one's environment; autonomy (A), the need to be free from undue interference by others; the need for self-realisation (S); and pleasure (P), the need for enjoyment in life. There are 19 items in total across these four sub-domains of quality of life (see Annex 4.1 for further details of the items). Responses from the 19 questions were summed to yield a quality of life variable with a maximum value of 57. The mean score for quality of life at wave 1 of ELSA was 42.5 (with a standard

deviation of 8.7). For respondents who were still in the survey at wave 2, roughly two years later, there was, on average, a decline of approximately half a point in measured quality of life by the time of the wave 2 survey.

ELSA respondents were asked about several types of learning activity. In the self-completion module of the survey, which addressed leisure activities and social participation, they were asked whether they were members of any education/music/arts groups or evening classes, and they were asked about membership in sports clubs, gym and exercise classes. In the work and pensions module of the survey, they were asked whether they had taken a formal education or training course in the previous 12 months. Overall, nearly a third (32%) were participating in at least one of these forms of learning activity. Participation was found to be highest for gym, sports club or exercise classes, followed by formal education and training courses and, last, the education/music/arts groups and evening classes.

4.3. Method

Multiple regression models were used to analyse the change in the wellbeing outcome – CASP-19 quality of life – between two waves of the ELSA survey, i.e. the difference between the CASP-19 score at wave 1 and the CASP-19 score at wave 2. The rationale for focusing on the change, rather than the level, of the CASP-19 variable is that it better enables the researcher to overcome the bias which may arise from unobservable variables. There may be unobserved characteristics which could influence both the likelihood of participation in learning and wellbeing. For example, suppose that some well-motivated people are more likely to undertake courses and also happen to have high scores on wellbeing. Motivation as such was not measured in the data set, and so could not be included in the analyses and might potentially bias the estimates of the effects of adult learning. The observed correlation between wellbeing and learning would be spurious – it has arisen solely because of the unobserved factor, motivation. However, so long as motivation is a fixed attribute, then examining the change in wellbeing will eliminate the fixed effect, and an unbiased estimate of the effects of adult learning can then be obtained. Focusing on change was feasible in this research, as a longitudinal data source was used. A range of control variables were included in the multiple regression model to allow for other variables which may influence wellbeing. The set of explanatory variables used in this study included gender, age, highest qualification, marital status, work status,

household income, various aspects of health status, mobility difficulties and disabilities and the extent of support from family and friends. It was important that the model included changes in other observable factors which may influence the change in wellbeing. For example, a transition from employed to retired status might have an impact on wellbeing and would need to be incorporated into the model when analysing change. There was also evidence of regression to the mean, and so the initial level of the outcome was included among the explanatory variables, i.e. including the level of CASP-19 at wave 1 as an explanatory variable when modelling the change in CASP-19 between wave 1 and wave 2.

People dropping out of the survey (attrition) and people not answering some of the questions in the survey are common problems in quantitative data analysis. This paragraph describes briefly how these problems were addressed. The paragraph is inevitably somewhat technical. To address the problems of attrition and non-response to survey questions, non-response weights and multiple imputation were used. The weights used in the analysis were the standard non-response weights for each wave which are available as part of the ELSA data sets. Imputation means, essentially, filling in missing values in the data set by estimating values for them. There are many ways of carrying out this imputation. Multiple imputation has been shown to have good statistical properties and has become a widely recommended approach to dealing with missing data (Allison, 2002). In the analyses here, multiple imputation by chained equations was used, implemented as an add-on (called ICE) to the Stata statistical package (Royston, 2005). Several variables which appeared to be skewed were transformed prior to imputation and then transformed back into their original metric after imputation, as is standard practice (Allison, 2002). To improve the precision of the imputation, several variables, over and above those included in the regression analysis, were used. For each model, five imputations were conducted and results combined using the multiple imputation command in Stata. While it was essential to include the dependent variable in the imputation step to obtain good estimates, it has been shown that including imputed values of the dependent variable in the subsequent analysis reduces the accuracy of the regression model estimates (Von Hippel, 2007), and so cases where the dependent variable was imputed were not included in the regression analyses.

4.4. Results

A set of multiple regression analyses were run, each with change in the CASP-19 quality of life measure between wave 1 and wave 2 of the ELSA survey as the response. The response variable was the change as measured in original units, i.e. no attempt was made to standardise variables. Explanatory variables were included to allow for other factors that may influence the wellbeing outcomes. The regression models were weighted to take account of attrition from the survey, and techniques of multiple imputation were employed to overcome item non-response. The results are summarised in Table 4.1. The table reports the main findings on the relationships between adult learning and the change in quality of life, when all controls were included in the model. It summarises the strength of the relationships between the change in the outcome and each type of learning after taking account of other factors. The available information on adult learning includes participation in formal courses, education/music/arts groups and evening classes and gym/exercise classes.

Table 4.1. **Regression results for change in CASP-19 quality of life**

Formal education/training course	0.120
	(0.58)
Education/music/arts group or evening class	0.716
	(3.49)***
Gym/exercise class	0.271
	(1.56)

NB: Absolute value of statistics in parentheses.

* significant at 10%; ** significant at 5%; *** significant at 1%.

The table reports the coefficients on the learning variables in multiple regression models. All models were run on multiply imputed data sets, with five imputations, and missing cases on the response included at the imputation stage but omitted for the analysis stage. Weights (inverse probability weights) were used in the analyses.

The response variable was the change in score for quality of life (CASP-19) between wave 1 and wave 2. All models included the level of the response variable among the explanatory variables.

Control variables in each regression were gender, age group, highest qualification ever attained, marital status, work status, income decile, whether financial problems, whether a smoker; health variables (poor eyesight, suffers from pain, has heart problems, bone problems, lung problems, cancer, diabetes, stroke, mobility, ADL or IADL difficulties). Insignificant variables were omitted from final models. All models also include change in situation between the two waves: partnership status, work status, financial problems, pain, mobility, ADL and IADL became worse/better.

An important finding was that education/music/arts group and evening class participation was strongly related to the change in quality of life. This persisted even after allowing for many other variables that could affect quality of life. The magnitude of the estimated effect was between two thirds and three quarters of a point. No significant associations were found between other forms of learning and quality of life of older adults once other factors were controlled for in the statistical model.

The size of the effects of adult learning on wellbeing appears quite modest in absolute terms. It can be calculated that adult learning raised the average level of quality of life by about 8% of a standard deviation. However, most variables in the model had only quite small effects on wellbeing when expressed in this way. To put the effect of adult learning into context, the size of the effect was compared with other things that also affect wellbeing. The coefficient of around 0.7 for education/music/arts groups or evening classes in the change in quality of life regression was of similar magnitude to the effect for someone who was troubled by pain at the first wave and who then became free of pain by the second wave of the survey in terms of impact on quality of life. Even a major event such as beginning a new relationship was estimated to raise quality of life by only about two points, or roughly three times the size of the improvement from attending a class. Another way to think about the impact of adult learning is to consider it in relation to the gradual decline in wellbeing observed as the adults grew older. During the time between two waves of the survey, a period of about two years, respondents' quality of life declined by about half a point on average, so participation in education/music/arts groups and evening classes would be sufficient to convert the small decrease in quality of life which occurred on average between waves of the survey into a modest increase.

4.4.1. Results for subgroups

Older adults are a heterogeneous group. For example, some researchers have suggested that successful ageing may differ between men and women (Strawbridge et al., 2002). It is plausible, too, that those in the third age and those in the fourth age of the life course could have somewhat different needs and motivations for learning (Luppi, 2009; Schuller and Watson, 2009). Therefore, whether there were differences within the sample in terms of the impact of learning was investigated. Several regression analyses of subgroups were conducted, including by gender and by age group (under 70 compared with those 70+). Differences by work status, distinguishing between the retired, those in work and others (mainly people looking after home/family or

sick/disabled), by marital status (single, married, widowed) and for different levels of prior education (distinguishing three groups: those with some higher education qualifications, those with qualifications below this level and those with no qualifications) were also considered. The estimates obtained from these regression models are reported in Annex 4.2.

Only limited evidence of differences among subgroups emerged. For both gender and marital status, no statistically significant differences were found. The most notable differences were by educational level. The results here showed that those with higher education qualifications tended to have larger increases in wellbeing if they participated in education/music/arts groups and evening classes relative to those with no qualifications for whom wellbeing gains from such participation were not significantly different from zero. The difference between those with higher qualifications and those with no qualifications was statistically significant at the 5% level on a one-tailed test.

These regression models for subgroups also revealed statistically significant associations between the taking of gym/exercise classes and increases in wellbeing for those in retirement, for those aged 70 plus and for those who were widowed. So, while there was no evidence that gym/exercise classes were associated with increases in wellbeing among the sample as a whole, there were nonetheless significant associations for some specific groups, namely those aged 70 and upwards, the retired and the widowed.

4.5. Discussion

This study has demonstrated the advantages of using longitudinal data on older adults to investigate the relationships between various forms of learning and subjective wellbeing. The most striking finding was that, consistently, education/music/arts groups and evening classes were significantly and positively associated with changes in subjective wellbeing, rather than other types of learning such as formal education/training courses. The availability of longitudinal data has enabled a methodologically robust analysis of the impact of learning to be conducted, controlling for a range of other influences on wellbeing. The results yield precise measures of the magnitude of the effect of learning, which could, potentially, be compared with the impact of other interventions.

These quantitative results do not provide reasons why participation in education/music/arts and evening classes would tend to boost quality of life, wellbeing and life satisfaction. It seems plausible that formal courses would

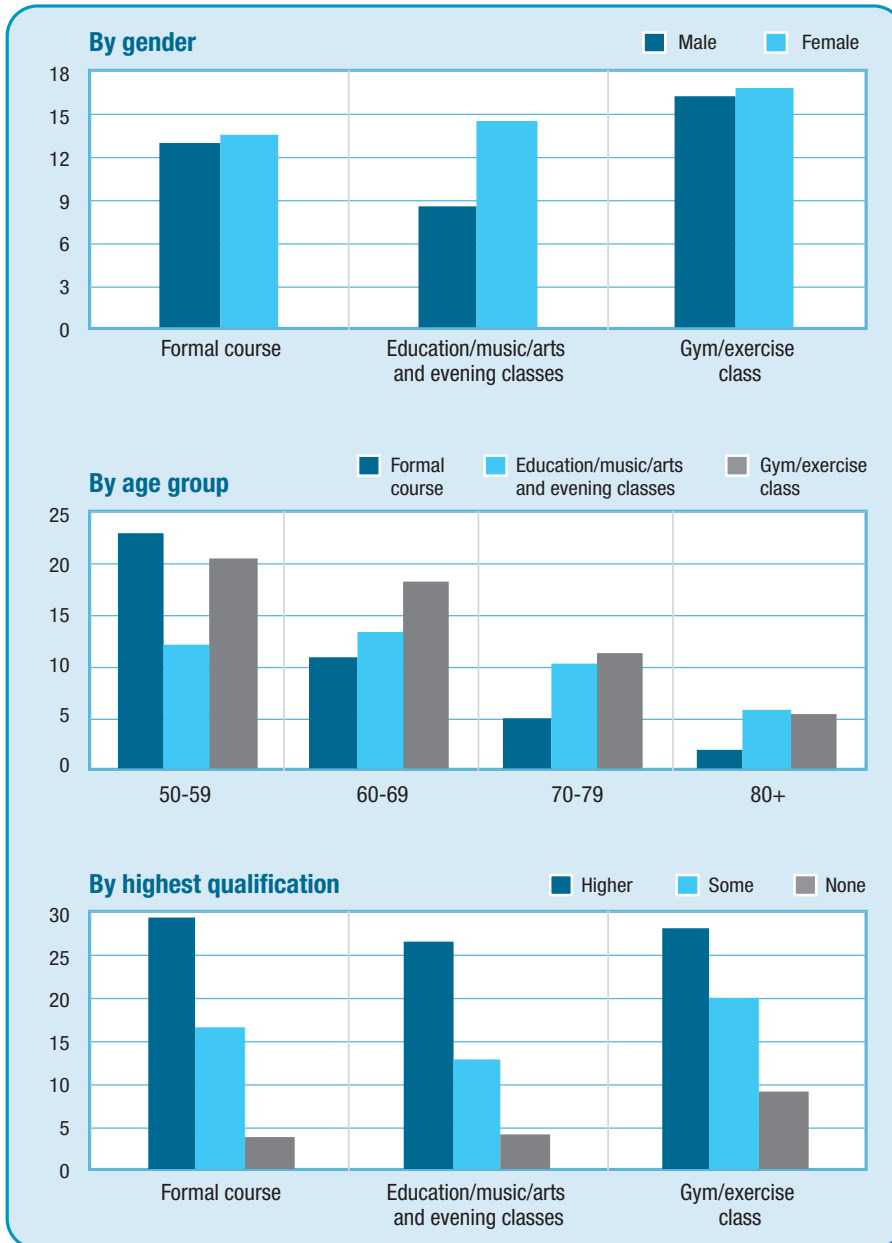
often have been undertaken principally for work-related reasons and would boost wellbeing only in the longer term if and when they led on to more satisfying work or promotion. Participation in education/music/arts groups or evening classes, on the other hand, might occur because of the intrinsic enjoyment of the subject or possibly because the class also provided opportunities for getting out and socialising. Indeed, the qualitative literature described earlier is valuable here. It confirms that intrinsic interest in learning and/or in a specific subject, and meeting people are important reasons for learning at older ages. Older adults often appreciated learning because it helped them to be receptive to new ideas, to improve understanding and maintain a positive outlook. Later life learning helped older adults to keep their minds active and to gain a sense of enjoyment and self-satisfaction.

Although this chapter has uncovered evidence of the wellbeing benefits of learning in later life, levels of participation in all types of learning, including education/music/arts groups and evening classes, were quite low in the survey. Only about 12% of respondents stated that they were participants in education/music/arts groups and evening classes. Women were much more likely than men to attend such classes (15% compared to 9% at wave 1, as shown in Figure 4.1). The proportions attending also tended to decline by age, although this was less true for the education/music/arts groups and evening classes category than for formal education and training courses. For example, at wave 1, the percentage of people in their 70s attending education/music/arts groups and evening classes (11.1%) was only a little lower than those in their 50s (13%). There were stark differences in the proportions undertaking learning by highest qualification level. Some 27% of those who had obtained a higher education qualification were participants in education/music/arts groups and evening classes, compared to just 4% among people with no qualifications.

So the quantitative results revealed that the likelihood of participation in learning in later life was strongly related to prior education. Those with no formal qualifications, a substantial proportion of the sample, were much less likely to attend each of the types of learning on which data were available. There was also some evidence that this group appeared to benefit less from participation in education/music/arts groups and evening classes than those with higher qualifications.

The messages – of clear wellbeing benefits yet low rates of participation in learning – seem clear enough. The challenge for policy-makers that emerges is how to encourage participation in learning among older adults. In particular, careful thought needs to be given to the design of courses and other types of

Figure 4.1. Participation in learning



Source: ELSA survey, Wave 1.

learning experience which are relevant and enjoyable for those who have relatively low levels of qualification, often a sizeable group among older adults in many countries. Some progress has been made at European level in encouraging the participation of older adults in recent years. For instance, the Grundtvig programme has funded networks, partnerships and projects to stimulate learning in later life. The programme has had multiple objectives, including enhancing employment prospects, knowledge and skills, but has also placed emphasis on personal development. Intergenerational learning has occupied an increasingly prominent place within this initiative. In total, the Grundtvig programme has funded more than 350 projects aimed at senior citizens and/or intergenerational learning (Remisova, 2011).

On the other hand, in many European countries, government policy towards adult learning has tended to concentrate on vocational training and the development of human capital for the workplace. The channelling of public funds towards accredited and vocational learning carries the risk that other forms of learning, and the potential benefits which may derive from them, will be neglected. For instance, in England, where the vocational emphasis has been particularly strong, many learners have been lost to publicly funded adult learning in the recent past. The most recent survey data suggest a substantial loss of learning opportunities among those aged 65 plus (Aldridge and Tuckett, 2011). Yet, in an ageing society, if adult learning can play a role in maintaining the health and wellbeing of citizens, then a plausible case can be constructed for public investment in such programmes. The very thoroughly researched and cogent analysis of Schuller and Watson (2009) argued for a modest re-balancing of public education funding with a slightly smaller share of the budget going to young adults and a little more for those in the third and fourth ages. The findings in this chapter add a little more evidential weight to that proposal.

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ANNEX 4.1

List of CASP-19 questionnaire items

Control
My age prevents me from doing the things I would like to do (*)
I feel that what happens to me is out of my control (*)
I feel free to plan for the future
I feel left out of things (*)
Autonomy
I can do the things I want to do
Family responsibilities prevent me from doing the things I want to do (*)
I feel that I can please myself what I do
My health stops me from doing things I want to do (*)
Shortage of money stops me doing things I want to do (*)
Self-realisation
I feel full of energy these days
I choose to do things that I have never done before
I feel satisfied with the way my life has turned out
I feel that life is full of opportunities
I feel that the future looks good for me
Pleasure
I look forward to each day
I feel that my life has meaning
I enjoy the things that I do
I enjoy being in the company of others
On balance, I look back on my life with a sense of happiness

(*) Item reverse coded for scoring

ANNEX 4.2

Summary of regression results for subgroups

		Coef.	Std. Err.	t	P> t
Results by gender					
Males	Formal course	-0.001	0.322	0.00	0.998
	Education/music/arts and evening class	0.649	0.370	1.76	0.080
	Gym/exercise class	0.376	0.269	1.40	0.164
Females	Formal course	0.342	0.264	1.30	0.195
	Education/music/arts and evening class	0.727	0.250	2.90	0.004
	Gym/exercise class	0.182	0.236	0.77	0.441
Results by age group					
Aged in 50s and 60s	Formal course	0.074	0.219	0.34	0.736
	Education/music/arts and evening class	0.614	0.232	2.64	0.008
	Gym/exercise class	0.150	0.199	0.75	0.451
Aged 70 and over	Formal course	0.542	0.592	0.92	0.360
	Education/music/arts and evening class	0.856	0.429	2.00	0.046
	Gym/exercise class	0.982	0.395	2.48	0.014
Results by work status					
Retired	Formal course	0.205	0.363	0.56	0.573
	Education/music/arts and evening class	0.636	0.304	2.09	0.037
	Gym/exercise class	0.651	0.247	2.63	0.009
In work	Formal course	0.005	0.270	0.02	0.986
	Education/music/arts and evening class	0.687	0.326	2.11	0.036
	Gym/exercise class	-0.016	0.269	-0.06	0.954
Other	Formal course	0.763	0.643	1.19	0.236
	Education/music/arts and evening class	0.520	0.648	0.80	0.423
	Gym/exercise class	0.410	0.534	0.77	0.443

		Coef.	Std. Err.	t	P> t
Results by marital status					
Single	Formal course	0.502	0.566	0.89	0.375
	Education/music/arts and evening class	1.090	0.572	1.91	0.057
	Gym/exercise class	0.065	0.504	0.13	0.897
Married	Formal course	-0.036	0.231	-0.16	0.875
	Education/music/arts and evening class	0.646	0.241	2.68	0.007
	Gym/exercise class	0.182	0.201	0.90	0.367
Widowed	Formal course	1.238	0.721	1.72	0.086
	Education/music/arts and evening class	0.208	0.512	0.41	0.684
	Gym/exercise class	1.485	0.510	2.91	0.004
Results by highest qualification					
Higher education	Formal course	-0.114	0.302	-0.38	0.705
	Education/music/arts and evening class	1.088	0.305	3.57	0.000
	Gym/exercise class	0.013	0.278	0.04	0.964
Some qualifications (but below HE)	Formal course	0.017	0.313	0.05	0.957
	Education/music/arts and evening class	0.900	0.306	2.94	0.003
	Gym/exercise class	0.739	0.252	2.93	0.003
No qualifications	Formal course	0.711	0.561	1.27	0.206
	Education/music/arts and evening class	-0.041	0.529	-0.08	0.938
	Gym/exercise class	0.030	0.437	0.07	0.944

CHAPTER 5

Barriers to and benefits of further vocational training for older employees

Kurt Schmid

Decisions to participate in continuing vocational education and training (CVET) as well as outcomes of these training efforts are complex phenomena and are simultaneously influenced by a multitude of factors such as educational level, occupational status, company environments and individual cost-benefit considerations. As data for Austria indicate, chronological age ⁽²⁵⁾ on its own is not a relevant barrier to CVET participation (at least up to the age of 55), nor does it impede training outcomes. What can be observed are large age effects when employees are close to retirement: 5 to 10 years before retirement, the interest as well as participation rates for CVET decrease sharply, despite positive training outcomes for those employees participating in further training.

Employment and training data across the European Union indicate that country-specific regulations (e.g. legal and actual retirement ages, replacement rates, labour market for older employees, etc.) seem to be more important for labour-market participation of older people than further training participation by itself which raises questions about the causal link between training and labour-market participation of older people and, therefore, leverage effects of training on employment.

5.1. Background

(Chronological) age on its own is often seen as an important influencing factor when it comes to training and/or labour-market participation. Simple bivariate descriptive data reveal a reduction in participation rates in almost all countries.

⁽²⁵⁾ Chronological age, i.e. the number of years that have elapsed since birth, is only one dimension when looking at age. Others are – according to Schalk (2008) – functional (e.g. health status), psychosocial (e.g. social or self-perceptions), organisational (e.g. company tenure) or life-span (e.g. situation at home/family) age.

This is often interpreted implicitly as (or gives the impression of) a causal effect, i.e. (chronological) age is the reason for the reduction in training and labour-market participation.

However, as subsequent analyses from Austrian data will reveal (and EU-descriptive data indicate), chronological age on its own has only minor explanatory power for training participation and their outcomes. On the contrary, decisions to participate in CVET and the outcomes of these training efforts are complex phenomena that are simultaneously influenced by a multitude of factors. It is the complex interplay of educational level, occupational status, company environments (provision of time and cost incentives for the employee as well as sector-specific differences in training needs) and individual cost-benefit considerations that forms the decision to participate in further training. Within these factors, chronological age on its own is one possible influencing factor.

What can be observed are large age effects when employees come close to their retirement: 5 to 10 years before retirement, interest in and participation rates for CVET decrease sharply, despite positive training outcomes for those older employees participating in further training. Both results are derived from multivariable econometric analyses of three unique Austrian data sets. These results correspond to statements of employers who express their keen interest in the further training of older employees.

This chapter will present these results in detail (referring to the authors Schmid and Kailer, 2008) and put them into European Union (EU) perspective by comparing employment and training data across the EU that indicate a positive relationship between these two aspects. Nevertheless, data also show tremendous differences between the various countries concerned. If the Scandinavian countries, Switzerland and the UK are excluded from the data set, the positive relationship between employment and the further training of older people no longer applies. This result may indicate that country-specific regulations (e.g. legal and actual retirement ages, replacement rates, labour market for older employees, etc.) are usually more important for the labour-market participation of older people than for further training participation itself. Therefore, it is essential to gain a better understanding of the impacts of policies aimed at keeping people in the labour force (productive ageing).

5.2. Data and method

The empirical results of this study are based on various data sets. Comparisons at EU level and among EU Member States are based on the EU labour force survey (LFS). The reference years used for this study are 2003 or 2008, as overall results can be compared to data sets for Austria, especially to the ad-hoc module for lifelong learning of the Austrian LFS 2003 ⁽²⁶⁾ and own representative questionnaires in 2008, mentioned below.

Information on the benefits of CVET is derived from a representative random survey of WIFI course participants in Austria during the winter semester of 2006/07 (the WIFI – Wirtschaftsförderungsinstitut – is one of Austria's largest CVET providers). The survey was based on telephone interviews conducted in the summer of 2008. Therefore, in most cases, at least one year had passed since the participants had completed the course so that the effect of their attending the course on their professional life could be properly determined. The data include the participants' explicit self-assessment ⁽²⁷⁾ of the extent to which the training course had contributed to the outcome (i.e. effects on their professional life). The evaluation is based on 1 118 completed questionnaires, providing a reliably broad empirical base.

Another database used consists of 660 participants, randomly selected and interviewed in 2008, with explicit information about their training 'careers' as well as occupational outcomes. In particular, the sub-sample of employees who were not actively engaged in training (i.e. employees who had not participated in any formal or non-formal training during the previous five years) was asked to identify possible barriers to training.

In addition, data were used which were taken from a representative random survey of some 500 Austrian companies that was also conducted in 2008. The main issues addressed were the training provided by individual companies as well as their experiences of and attitudes towards the training of older employees.

⁽²⁶⁾ Relevant EU data have been downloaded from the Eurostat website:
http://epp.eurostat.ec.europa.eu/portal/page/portal/employment_unemployment_lfs/data/database
[accessed 16.10.2012].

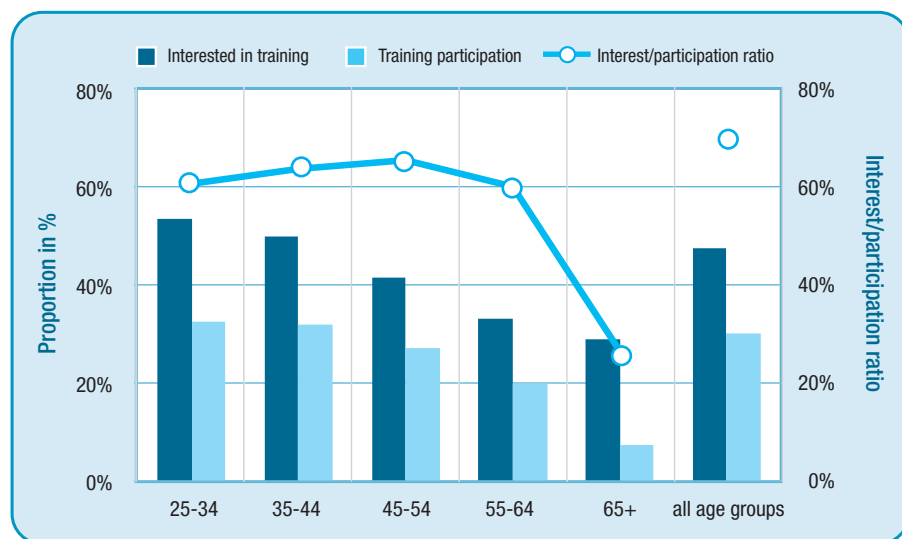
⁽²⁷⁾ International empirical studies on the benefits of further training confirm the consistently high returns on such an investment (compare, for example, the extensive overview of relevant empirical studies in Cedefop et al., 2004). However, due to selection, endogenous and causality problems, there are ongoing uncertainties about the bias of such estimates. One way of addressing the causality problem is to include self-assessment information as provided by the participants, i.e. their view of the extent to which the training course has contributed to the outcome (e.g. higher wages).

5.3. Results

5.3.1. Training participation

When training participation in Austria is viewed from a descriptive meta-perspective, a distinct age-effect pattern can be observed ⁽²⁸⁾: for employees under 55 years of age, interest in training and participation show only minor age and cohort effects. Thereafter, sharp decreases can be seen (Figure 5.1). Overall, approximately two thirds of those employees generally interested in pursuing training opportunities actually went on to do so, i.e. participated in some way in formal or non-formal training. This proportion is also true for the group of older employees (55-64 years).

Figure 5.1. **Age-specific proportions of employees in Austria: interest and participation in further training and interest/participation ratio (*)**



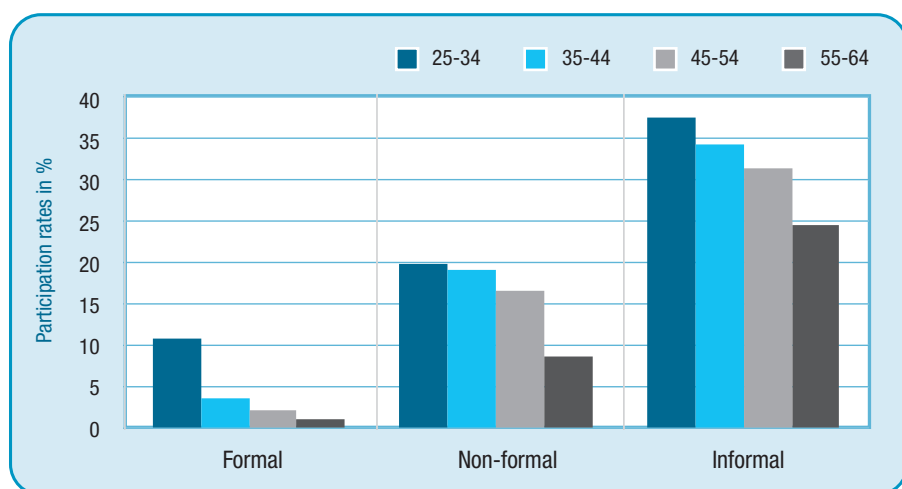
(*) Proportion of employees generally interested in pursuing training opportunities who actually went on to do so.
Source: Austrian LFS 2003 ad-hoc module on lifelong learning; IBW calculations, in Schmid and Kailer (2008).

Similar descriptive trends can be observed in all European countries with respect to participation in formal, non-formal and informal training courses

⁽²⁸⁾ Austrian data based on Austrian LFS 2003 ad-hoc module on lifelong learning.

(Figures A5.1 to A5.3 in the Annex based on the EU-LFS 2003 ad-hoc module on lifelong learning). There are pronounced differences in these participation rates between the various countries, with the Scandinavian countries and Switzerland leading the ranking for both interest and participation in training. Overall, at EU-25 level (Figure 5.2), especially from age 55 onwards, participation rates start to drop significantly. Consequently, age appears to exert a significant influence on training participation. Additionally, non-formal and informal training are far more effective learning routes for older employees than formal training.

Figure 5.2. **Age-specific overall EU-25 participation rates in formal, non-formal and informal training (in % of 25 to 64-year-olds)**



Source: Eurostat, EU-LFS 2003 ad-hoc module on lifelong learning.

However, is it really (chronological) age that causes participation rates in training to fall? As a multivariable analysis of data from Austria illustrates (Table A5.1 in the Annex), decisions to participate in CVET as well as outcomes of these training efforts are complex phenomena that are simultaneously influenced by a multitude of factors, for example educational level, occupational status, company environments (provision of time and cost incentives for the employee as well as sector-specific differences in training needs) and individual cost-benefit considerations.

A closer look at the age variable again reveals that, in Austria, for age cohorts up to 55 years, chronological age on its own is not a relevant or is

only a minor barrier to CVET participation. As the coefficients (β) indicate, for these age groups, occupational level and educational level are far more influential factors than age. Significant age effects can be observed in employees who are approaching retirement: about 5 to 10 years before retirement, the interest level as well as participation rates for CVET decrease sharply: the probability that an employee aged 55 to 64 years participates in CVET is only 0.4, and for an employee aged 65+, this figure is only 0.1 compared to the reference group of 20 to 34-year-olds (all other control variables remaining constant).

In addition to age effects, the multivariate analysis shows that:

- (a) women have a significantly lower probability of CVET participation than men (0.9);
- (b) part-time employment and non-Austrian citizenship reduces training participation probabilities (each about 0.83);
- (c) the higher the occupational position, the higher the CVET participation probability. This effect is especially significant ⁽²⁹⁾;
- (d) the educational level has a particularly pronounced effect: the higher the formal educational attainment, the higher the probability of training participation ⁽³⁰⁾;
- (e) the provision of an in-company training infrastructure raises the participation probability markedly (by 2.7);
- (f) there exist distinct differences between economic sectors (which may be the result of different sector-specific access to training and/or different sector-specific training needs);
- (g) no separate company-size effect can be observed ⁽³¹⁾.

The reasons for the participation of Austrian employees in further training reveal only minor differences between the age groups (Figure 5.3). The renewal of outdated skills and competences becomes more important with increasing age, whereas the improvement of career opportunities and advancement of job position decrease in importance. Employment security also seems to diminish slightly with increasing age as a reason for training; this may be a reflection either of subjectively assumed job security in Austria

⁽²⁹⁾ Civil servants and white-collar workers lead the ranking (e.g. their probability of CVET participation almost doubles compared to blue-collar workers).

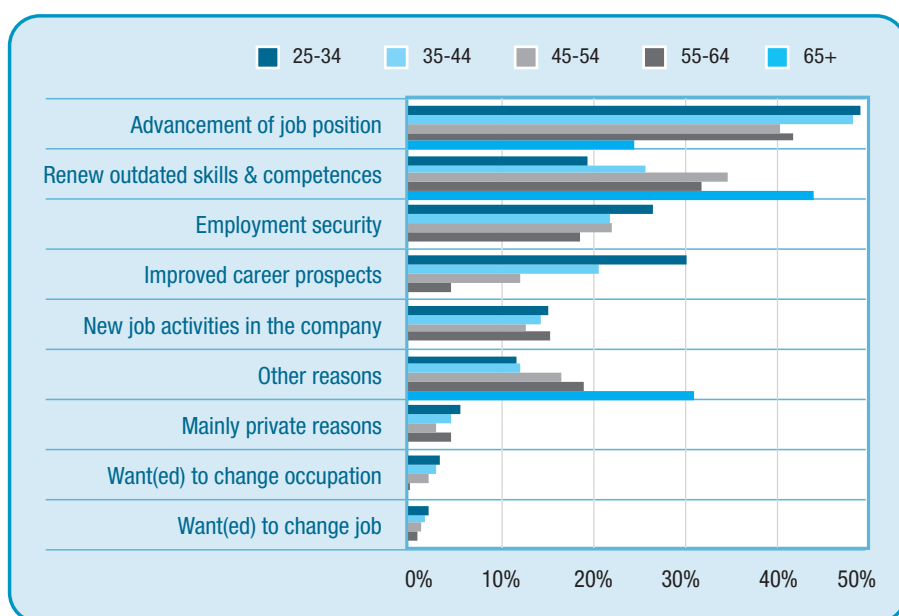
⁽³⁰⁾ This rises from 1.4 to 1.6 for employees with a formal degree in IVET (apprenticeship, VET school or VET college) compared to the reference group (i.e. employees with compulsory education) up to 2.6 for university graduates.

⁽³¹⁾ This result may be because of categorisation, as in the LFS all companies with 50 or more employees constitute one size class.

or of the view that training will have relatively little relevance for employability in older age (i.e. there is significant age-discrimination in the labour market).

The LFS did not ask whether the prospect of a higher wage was an important motive for participating in training. An IBW (Institute for Research on Qualifications and Training of the Austrian Economy) survey of WIFI training-course participants in Austria (Schmid and Kailer, 2008; Schmid, 2008b) reveals that wage prospects seem to be of minor importance in the decision-making process: out of 12 motives for participation in training, the prospect of a wage increase ranked no higher than ninth. Another interesting result of this survey was that there were no differences in the ranking of the motives. However, the older training participants' evaluation of the motives tended to be less positive than that of their younger colleagues. The only exception to that pattern was intrinsic motivation (interest in the content/topics of the training course and a simple desire to learn), which was considered to be extremely important by all training participants, irrespective of their age.

Figure 5.3. **Motives of Austrian employees for participation in CVET according to age group**



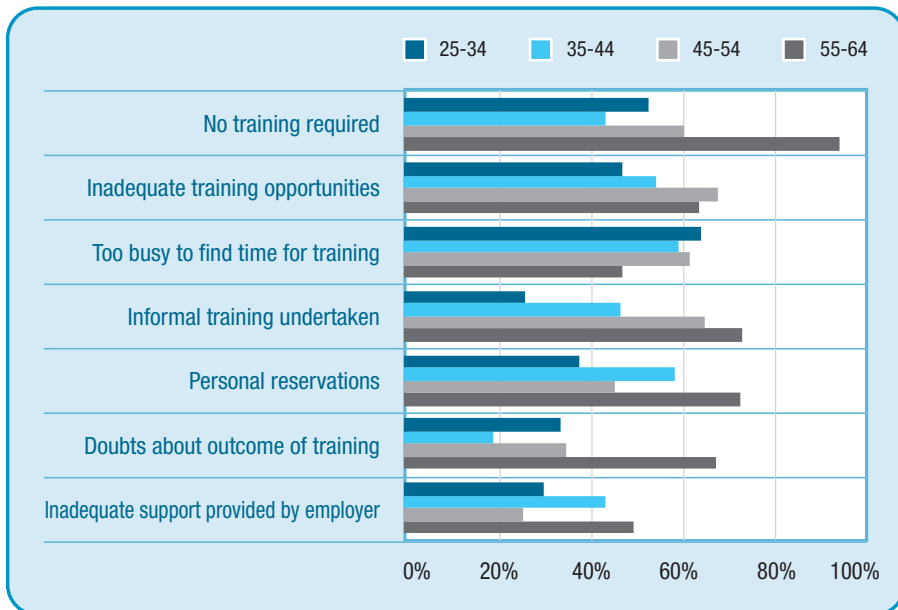
NB: Ranking of motives according to their importance for all employees; multiple answering.

Source: Austria LFS 2003 ad-hoc module on lifelong learning; IBW calculations in Schmid and Kailer (2008).

Doubts about the actual benefits to be gained from training can be a significant obstacle for training participation – older employees (55+) in particular confirm this possibility (Figure 5.4). Age effects can also be observed for training forms (older employees seem to prefer informal learning settings), and older employees have a lower assessment of their own training needs. Other possible obstacles such as inadequate training opportunities or support provided by employers and time constraints show only minor age effects.

In the IBW survey of employees who were not actively engaged in training (i.e. employees who had not participated in CVET during the previous five years), two questions were asked that explicitly aimed at determining whether age was directly linked to an individual's view of whether he/she would benefit from participation in training. Respondents were asked whether they considered themselves to be too old for training and whether they believed training to be unnecessary because they were approaching retirement. As Figure 5.5 shows, there is only a minor age effect for the statement 'I think

Figure 5.4. **Reasons why Austrian employees did not participate in CVET during the previous five years, according to age group**



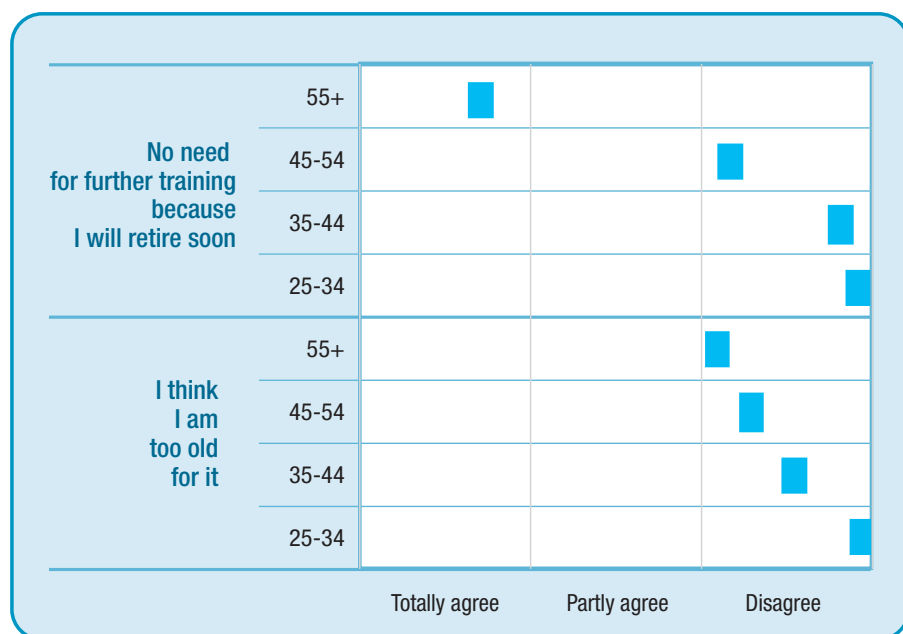
NB: Ranking of reasons according to their importance for all age groups; multiple answering.

Source: IBW calculations in Schmid and Kailer (2008), based on the IBW survey of employees who were not actively engaged in training in 2008.

I'm too old for training', indicating that self-concept and self-confidence in learning are extremely stable across all age groups. A distinct age effect can be observed for the assumed need for training in connection with the retirement age: for age cohorts below 55 years, this option is non-existent, as might be expected. However, for people aged 55+, it is highly relevant, as most of the respondents concur (i.e. they see no need for further training because they will retire soon).

The conclusion is obvious: it is not chronological age alone that influences the decision whether or not to participate in training; a major influential factor is how close employees are to their retirement. Furthermore, these results imply that a necessary (but not sufficient) prerequisite for a higher training participation rate of older employees is to promote more effectively the idea that employees will benefit from successful training efforts even if the training is undertaken close to retirement age.

Figure 5.5. **Age-specific degree of affirmation (averages) to statements about reasons why respondents had not participated in CVET during the previous five years**

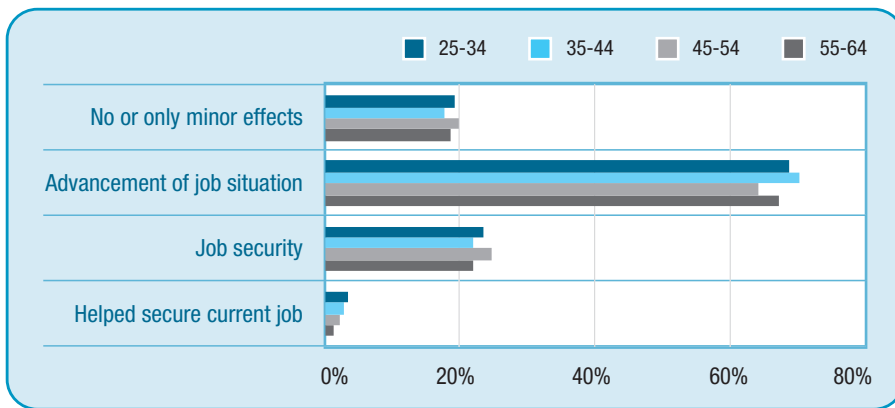


Source: IBW calculations in Schmid and Kailer (2008), based on the IBW survey of employees who were not actively engaged in training in 2008.

5.3.2. Training outcomes

The above survey data for Austria indicate that doubts about the actual benefits to be gained from training can be a significant obstacle for training participation – especially for older employees (55+). However, as LFS data for Austria indicate, the benefits of further training show no age-specific effects (Figure 5.6). Doubts about the potential benefits of further training seem to be – at least at aggregate level – misplaced. All in all, about one in five training participants confirmed no or only minor training effects for his/her professional life.

Figure 5.6. **Outcomes of Austrian participants in CVET according to age group; multiple answering**



NB: 'Helped secure current job' means that skills acquired during training were instrumental in a person securing a new job.

Source: Austria LFS Survey 2003 ad-hoc module on lifelong learning; IBW calculations in Schmid and Kailer (2008).

Similar benefits of further training were found for WIFI training-course participants (Schmid and Kailer, 2008). They range from job security and updated individual knowledge of interesting job activities to a better professional position (career) and an increase in income ⁽³²⁾. Those who complete a training

⁽³²⁾ Another interesting aspect covered the risk of poaching: the likelihood that continuing education can lead to a change in employment and that the company therefore 'loses' any investment that it might have made (in the form of time provided off work and direct (co)financing of course costs) is to be evaluated to ascertain whether there is any possible conflict. Although only 5% of those who completed a course stated that attending a course had directly contributed to a change in employment, approximately one fifth of those who attended a course did, indeed, change employers.

course often see multiple benefits from the course. For almost 20% of those surveyed, the course led to an increase in income. This wage effect – as one benefit of further training – will now be described in more detail.

The same database reveals that, on average, one year after completion of a training course, participants earned approximately 11% more than they did before attending the course. However, this increase in income cannot be attributed to attending a course alone. It must be assumed that the group of people who attended continuing education courses also predominately exhibit above-average motivation, ambition, industriousness, etc., and that these characteristics and behavioural patterns are also present in a professional context and would therefore have led to an increase in income even if they had not attended a course.

The survey also provides an estimate as to whether the training course had a direct causal effect on the increase in income. The financial effect of courses can be estimated based on a comparison of the statements made in the survey.

Course participants who said that:

- (a) the WIFI course had no direct influence (82% of those surveyed) report an average increase in income of 9%;
- (b) the WIFI course had a direct influence (18% of those surveyed) report an average increase in income of 23%.

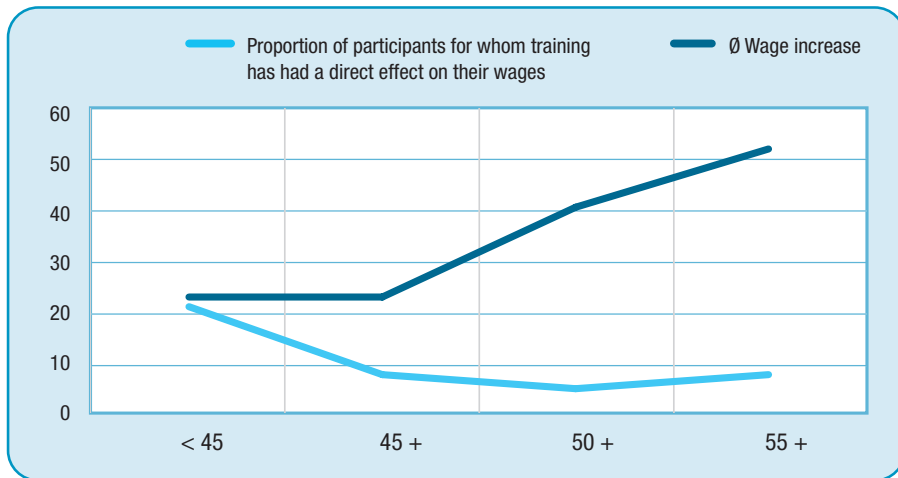
In other words, 18% of those who attended a course reported that the course led directly to an average income increase of 23%. In comparison, the income of the 'control group' ⁽³³⁾ of employees who have not participated in continuing education during the previous five years increased by only approximately 4% during the same time period.

If these estimates are applied to the various age groups, an interesting pattern emerges (Figure 5.7): the trend is for the proportion of respondents who see a direct impact of their training participation on their wages to decrease with increasing age. Meanwhile, for those who confirm a direct impact of training on their wages, the benefit increases with age. Similar patterns can often be observed in training participants with low educational qualifications or women ⁽³⁴⁾.

⁽³³⁾ Data on outcome effects of further training (IBW WIFI survey of participants, 2008) used do not include a control group (of non-participants) in the strict sense of evaluation theory. Therefore, results are compared with average wage increases of an 'external control group', i.e. employees who have not participated in any training activities during the previous five years, to get an idea of the magnitude of training effects on income development.

⁽³⁴⁾ E.g. Blundell et al. (1996); Long (2001).

Figure 5.7. Age-specific effects of participation in a training course, proportion of participants for whom training has had a direct effect on their wages and average hourly wage increases for these participants approximately one year after course completion (relative to wages before participation in a training course)



Source: IBW WIFI survey of participants, 2008; IBW calculations.

What factors can explain these wage increases (i.e. income growth that exceeds the pay increases provided for in the collective bargaining agreement)? Multivariate logistic regression shows (Table A5.2 in the Annex) that such wage effects depend very strongly on whether or not an arrangement/agreement was reached with the employer (with respect to topic/content of training course and/or financial support or time off work) before attending the training course ⁽³⁵⁾. Increases in income were also observed for course participants who changed companies after attending a course. The results imply that this group was more likely to be able to achieve an increase in income than course participants who remained employed by their ‘old’

⁽³⁵⁾ This effect was to be expected. What was surprising, however, was the limited number of such statements: only 45% of the course participants made arrangements/agreements regarding aspects of attending a course with their employers beforehand. This also reflects the high degree of individual initiative: 80% of the course participants said that their participation was primarily through their own initiative and only 17% said that they were encouraged to participate by their company.

company. The income level before attendance at a course also had an effect: the higher the income before attendance at a course, the lower the probability of a wage increase.

Among the variables having no significant impact on a wage increase was age. The gender of training participants, financing arrangements for training (i.e. whether training was financed by the employer or by the employee), job tenure, company size, the usefulness of training in the current working context, training course quality, course topic/content ⁽³⁶⁾ and hourly wage before course attendance likewise had no statistically significant impact on wage increases ⁽³⁷⁾.

5.3.3. The company view

Estimates indicate that, in Austria, about one third of all companies employ people aged 50+ (e.g. Schmid and Kailer, 2008). According to a representative random survey of Austrian companies conducted by IBW in 2008, a person is, on average, deemed to be an 'older employee' if he/she is aged 45 or over ⁽³⁸⁾. Against the background of the generally growing importance of further training, companies also regard training for 'older' employees (i.e. employees 50+) as being equally important. Most enterprises believe that both older and younger employees can benefit from training.

However, many companies (about two out of three) found that older employees (compared to younger ones):

- (a) are usually less willing to undertake further training;
- (b) are harder to motivate to participate in further training activities;
- (c) have different training needs;
- (d) need specific incentives to participate in training.

⁽³⁶⁾ In other words, all training courses, regardless of their content/topic and/or quality (which was a latent variable derived from an index of length and price of course), have the potential to lead to wage increases.

We did not have a direct measure for course quality. Therefore, as a simple indicator, we constructed a latent variable from information provided on length and price of course, implicitly assuming that longer and more costly courses also have a higher quality, which can, of course, be scrutinised.

⁽³⁷⁾ This (that is, the fact that the hourly wage had no effect on income) appears to contradict the previously mentioned result of a negative effect resulting from the income level prior to course attendance. However, both results may be reconciled if it is assumed that the total monthly/annual income (i.e. hourly wage multiplied by working time) and not the hourly wage is the basis for employer considerations about the probability and scope for a possible increase in income as a result of participation in training.

⁽³⁸⁾ These company statements show very few differences when differentiating between companies employing only younger people versus enterprises also employing older people. Differences are more pronounced when differentiating between economic sectors.

There are some links between these various aspects (e.g. companies which report that older employees are less willing to participate in training also often find that older employees are harder to motivate and that special incentives are therefore needed to increase their participation in training). However, there are so many differences between individual companies that it is impossible to make them conform to a simple comparison based on these four dimensions. Diverging qualification structures as well as diverging qualification needs of companies probably play a role. This can be deduced if we keep the pronounced economic sector differences in mind ⁽³⁹⁾.

Companies put forward four reasons as to why – in their view – older employees are often less willing to undertake further training:

- (a) older employees simply see no need for further training and/or believe that training would be of no benefit to them (because they are approaching retirement);
- (b) older employees often argue that they are more experienced and, therefore, that their skills and competences are sufficient;
- (c) older employees tend to have a greater fear of failure (especially with regard to using new technologies);
- (d) older employees often show a general lack of motivation and experience physical/psychical/emotional exhaustion.

Company views about older employees' aptitude for learning are roughly split down the middle: about half of the enterprises believe that older employees' aptitude for learning is lower than that of younger ones. By contrast, the other half of companies see no differences between the two age cohorts. There are large inter- and intra-sector variances in companies' views regarding this aspect ⁽⁴⁰⁾. Moreover, companies' views on this aspect are not influenced by their experience of older employees ⁽⁴¹⁾. There are still widespread beliefs, perceptions and ascriptions about older people's (allegedly) lower learning aptitude.

⁽³⁹⁾ For a closer look at sector differences, please refer to Schmid and Kailer (2008, p. 137 et seq.).

⁽⁴⁰⁾ The proportion of companies which report that older employees' aptitude for learning is lower than that of younger ones ranges from almost 0% for public services to 88% in the banking and insurance sector. In some sectors, e.g. construction, wholesale and retail trade, motor vehicles, hotels and restaurants as well as business activities, company views with respect to older employees' aptitude for learning differ greatly: the relevant proportions range from one third to two thirds of companies (see also Figure A5.4 in the Annex).

⁽⁴¹⁾ Although the correlation between a company's view of older employees' aptitude for learning and the proportion of older employees working for that company is statistically significant, it is close to zero ($r = 0.12$).

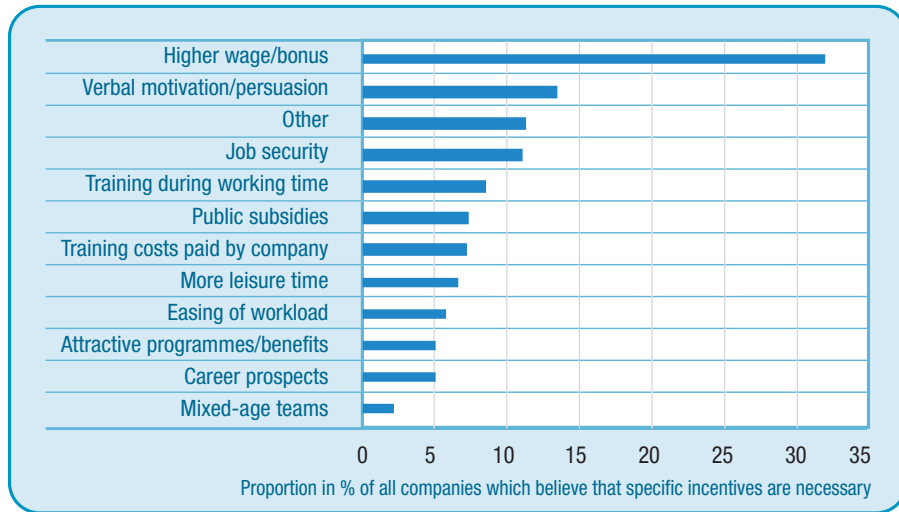
What action should companies take to promote older employees' participation in training? The Austrian survey revealed that most companies feel that it is their responsibility to provide adequate incentives. However, at the same time, most companies believe that, in principle, further training is the employee's responsibility. As Figure 5.8 shows, companies see a higher wage or a bonus upon successful completion of training as the most effective incentive to promote the training of older employees. All other possible activities and incentives (such as verbal offers aimed at motivating and persuading people with promises of increased job security, time off work or training financed by the company, better career prospects, etc.) seem to be used by only a few enterprises. The proportion of companies that support public subsidies is remarkably low (less than 10%).

Approximately 60% of all Austrian companies with older employees reported that they provide one or more age-specific programmes/benefits aimed at older employees (Figure 5.9). These usually involve (age-specific) working-time flexibility and/or mixed-age teams. Austrian enterprises do not usually promote age-specific training programmes – only one in five enterprises offers this kind of training to older employees. Furthermore, individual company training policy is influenced by company size and economic sector. The bigger the company, the higher the probability that training measures for older employees do not differ from those for younger ones. Enterprises in the banking and insurance sector, as well as those specialising in vehicle construction, confirm this view more frequently than firms engaged in business-related services or transport/communications.

About 15% of all companies found that training needs differ substantially between younger and older employees. These enterprises report that the main training topics for older employees are IT/computer skills and, more generally, skills in the field of new media (the Internet). Other relevant topics have occasionally been job-/task-related further training, foreign languages and soft-skills in communications, motivation and personnel management.

A closer examination of the Austrian example reveals that decisions to participate in CVET as well as outcomes of these training efforts are complex phenomena that are simultaneously influenced by a multitude of factors such as educational level, occupational status, company environments and individual cost-benefit considerations. Chronological age on its own is not a relevant barrier to CVET participation (at least up to the age of 55), nor does it impede training outcomes. Large age effects can be observed when employees are close to retirement. The next step will be to take a closer look at EU level: what meta-effects can be observed there, and are there

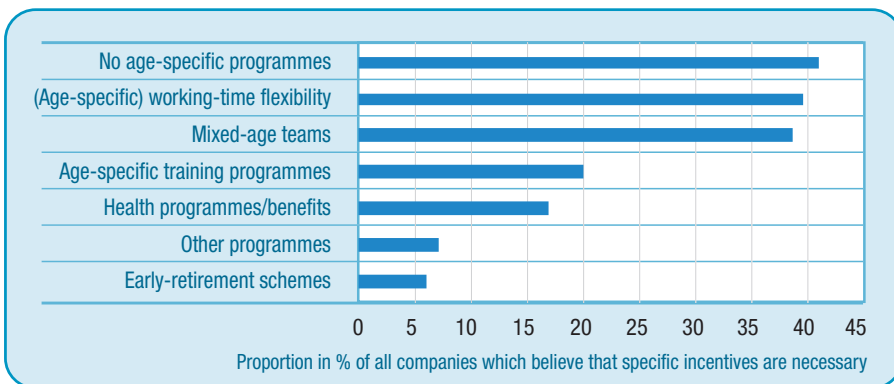
Figure 5.8. **Necessary incentives to promote the participation of older employees in training, respective proportions of Austrian companies which believe that special incentives are necessary for older employees**



NB: Ranking according to proportions; multiple answering.

Source: IBW calculations in Schmid and Kailer (2008), based on IBW company survey, 2008.

Figure 5.9. **Proportion of Austrian companies with various programmes/activities for older employees**



NB: Ranking according to proportions; multiple answering.

Source: IBW calculations in Schmid and Kailer (2008), based on IBW company survey, 2008.

differences between EU Member States with respect to training and employment for the group of people aged 55 and over?

5.3.4. EU-level comparisons

Both public opinion and official EU policy ⁽⁴²⁾ emphasise the connection between qualifications and skills development (and therefore also further training, among other things) and its importance for employability. In view of demographic trends (ageing of the workforce), the CVET of older employees will, therefore, gain in importance in the future (e.g. Perez et al., 2010). Is there a causal link between training and employment for older people? In an international comparison, the employment rate of 55 to 64-year-olds in Austria is about 40%, which is markedly below the EU-25 average of 48% (and well below the Lisbon target of 50%; Stockholm European Council, 2001). However, the training participation rate for this age cohort (12.3%) is slightly above the EU-25 average of 8.5%.

What picture emerges when employment rates for older people are compared with non-formal training ⁽⁴³⁾ participation rates for the same age group (55 to 64-year-olds)? Comparative employment and training data across the EU show that there are tremendous differences between the various countries, as can be seen in Figure 5.10. European countries can be grouped broadly into two clusters: some countries (notably the Scandinavian countries, Switzerland and the UK) have distinct above-average rates of employment and non-formal training participation. However, in most European countries, non-formal training participation rates are close to the EU-25 average (EU average for non-formal training participation is 8.5%), whereas employment rates cover a much wider range (between ~30% and ~60%).

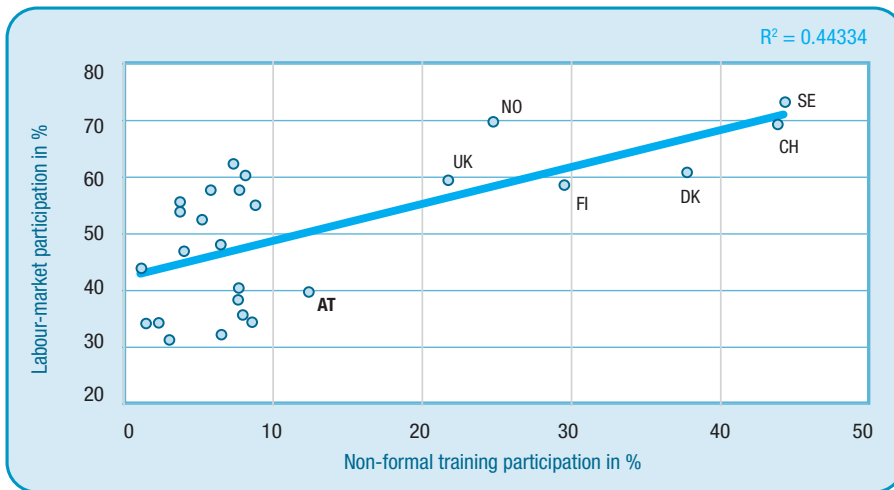
Statistics in all the European countries reveal a positive connection between these two participation rates (coefficient of determination is 0.44) which would indicate a positive relationship between the non-formal training participation of older people and their labour participation.

However, if the Scandinavian countries, Switzerland and the UK are excluded from the data sets, the relationship between employment and the further training of older people no longer applies (the coefficient of determination falls to 0.008).

⁽⁴²⁾ Relevant recent EU documents (such as the new *Education and Training strategy* (ET 2020), the broader *EU 2020 strategy for smart, sustainable and inclusive growth* as well as the 2008 *New Skills for New Jobs strategy*) are quoted in Perez et al. (2010, p. 1).

⁽⁴³⁾ Here, non-formal training participation is used as an indicator for overall learning and training activities because formal training participation is usually quite low for older people, and informal learning is often measured imprecisely.

Figure 5.10. **Relationship between non-formal training participation and labour-market participation of older people (55 to 64 years) in Europe**



NB: For clarity, only some countries are explicitly named. Data are listed in Table A5.3 in the Annex.
Source: IBW calculations in Schmid and Kailer (2008) based on Eurostat data (EU-LFS 2005, 2006 or 2007).

Even if it is assumed that there is a positive relationship between further training and employment, the direction of causality is not clear: is training really the reason for higher employment rates or is it the other way round, i.e. does the higher labour-market participation of older people also give rise to further training participation? Most empirical research based on micro-level data supports the first direction (cf. the literature review on age-biased technical change in Behaghel et al., 2011). However, reverse causality cannot be ruled out, as staying longer in employment will have incentive effects for training participation⁽⁴⁴⁾. Unfortunately, research into these aspects is limited. Fouarge and Schils (2009), for example, show how workers self-select into training: older workers who expect to continue working are more likely to participate in training than workers who expect to retire.

These results may indicate that country-specific regulations (e.g. legal and actual retirement ages, replacement rates, labour-market conditions for older

⁽⁴⁴⁾ Fouarge and Schils (2009) show, for example, that generous early-retirement schemes discourage older workers from taking part in training, whereas flexible early-retirement schemes encourage this.

employees, etc.) usually have more of an impact on labour-market participation than on further training participation. Therefore, it is essential to gain a better understanding of what really drives the employment and the training participation of older people/employees. Country-specific contexts probably imply causal links that differ markedly. Not until we have better understanding of these conditions and causal relationships will we be able to devise adequate policies aimed at keeping people in the labour force longer (productive ageing).

5.4. Conclusion and outlook

Both public opinion and official EU policy emphasise the importance of training for sustained employability. As a result of demographic shifts (ageing of the workforce), the CVET of older employees will gain in importance. At EU level, training and employment data raise the question as to whether there really is a (simple) causal link between the training and employment of older people. The direction of causality is not clear: does training participation promote the employability and labour-market participation of older people or is it (simply) the case that countries with a higher proportion of older people in employment also train them more?

Moreover, the correlation found in EU-level data between the training and employment of older people no longer applies if the few countries with exceptional participation rates in both dimensions (CVET and employment) are excluded. Therefore, most European country-specific regulations (e.g. legal and actual retirement ages, replacement rates, labour-market conditions for older employees, etc.) seem to have a greater impact on labour-market participation than on further training participation.

This does not mean, however, that training will be a waste of time. As training data for Austria show, decisions to participate in CVET and outcomes of these training efforts are complex phenomena that are simultaneously influenced by a multitude of factors such as educational level, occupational status, company environments and individual cost-benefit considerations. Chronological age on its own is not a relevant barrier to CVET participation, nor does it impede training outcomes. Large age effects can be observed when employees are close to retirement: 5 to 10 years before retirement, the interest level and participation rates for CVET decrease sharply, despite positive training outcomes for those older employees participating in further training.

Chronological age on its own is not an influencing factor. It is the combination of widespread perceptions and ascriptions of age (e.g. lower aptitude for and/or lack of willingness to engage in learning) and how close employees are to retirement that leads to a decrease in training participation rates.

These results contrast with the findings of a survey of Austrian companies which point to the existence of rather widespread beliefs, perceptions and ascriptions about older people's (allegedly) lower learning aptitude for and lack of willingness to engage in learning and training. Individual survey data on employees who are not actively engaged in training also indicate that there are few differences between older and younger employees in terms of their level of non-participation. What really makes a difference between these two groups is the closeness of retirement and the (often combined) view that there is no longer a need for training, as well as doubts about the benefits of training. One way to increase the participation of older employees in training therefore seems to be to promote more effectively the idea that employees will benefit from successful training efforts even if training is undertaken close to retirement age.

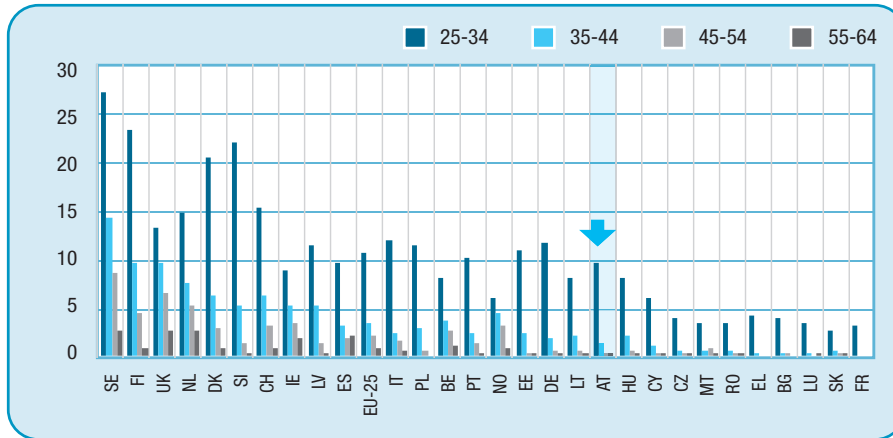
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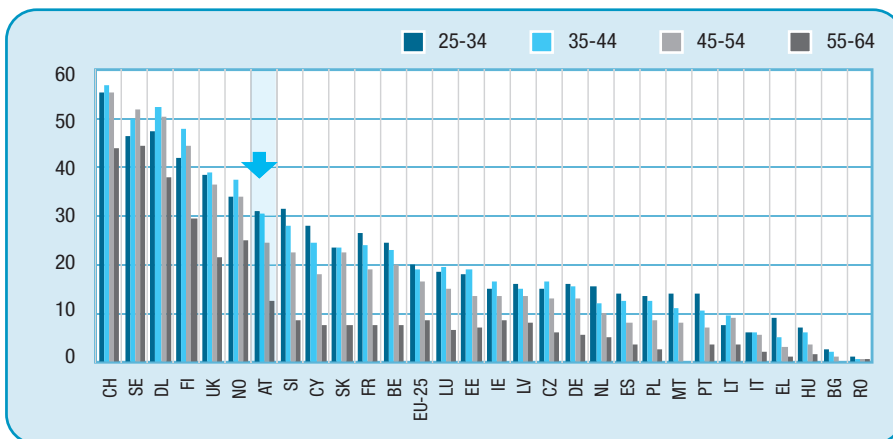
Annex

Figure A5.1. **Age-specific participation rates in formal education and training (2003)**



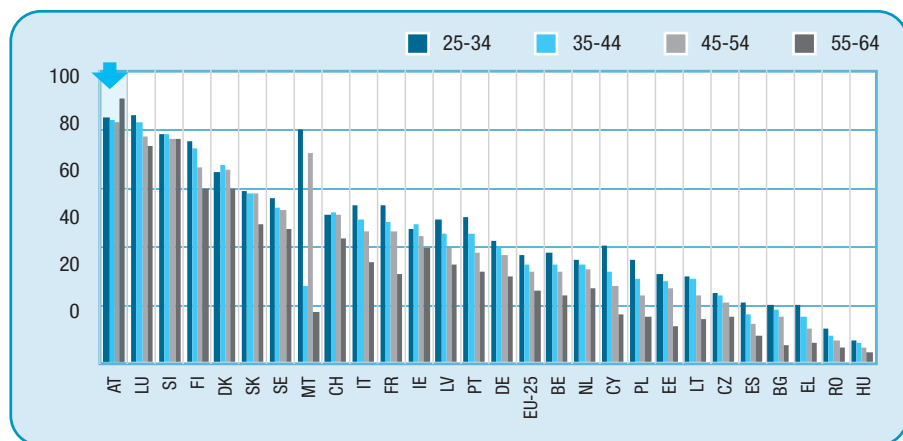
NB: Country ranking according to the proportion of people in formal education and training.
Source: Eurostat, EU-LFS 2005, 2006 or 2007; IBW calculations.

Figure A5.2. **Age-specific participation rates in non-formal training (2003)**



NB: Country ranking according to the proportion of people in non-formal education and training.
Source: Eurostat, EU-LFS 2005, 2006 or 2007; IBW calculations.

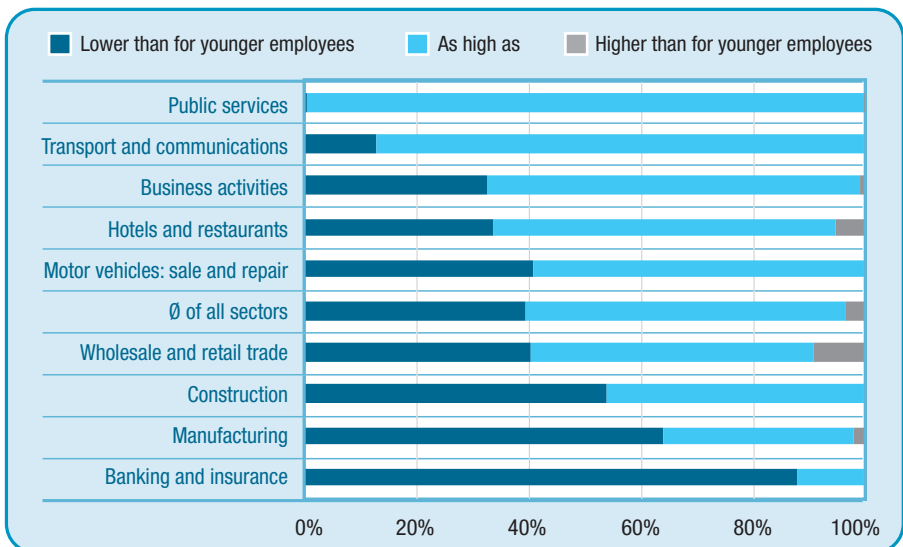
Figure A5.3. **Age-specific participation rates in informal learning (2003)**



NB: Country ranking according to the proportion of people in informal learning.

Source: Eurostat, EU-LFS 2005, 2006 or 2007; IBW calculations.

Figure A5.4. **Sector distributions of company views about older employees' aptitude for learning**



NB: Sector ranking according to the proportion of companies which report that older employees' aptitude for learning is 'as high as' that of younger ones.

Source: IBW calculations in Schmid and Kailer (2008), based on IBW company survey, 2008.

Table A5.1. **Logistic regression: effects of socio-economic and company variables on CVET participation for Austria**

	Exp. (β)	Sig.
Constant	0.066	0.000
Gender (ref.: male)		
Female	0.911	0.000
Employment (ref.: full time employment)		
Part-time employment	0.827	0.000
Occupational level (ref.: residual employees)		
White collar	2.502	0.000
Civil servant	2.743	0.000
Skilled blue collar	1.598	0.000
Educational level (ref.: compulsory education)		
Apprenticeship	1.424	0.000
VET school	1.377	0.000
General upper secondary	1.596	0.000
VET college	1.666	0.000
University or similar	2.586	0.000
Age (ref.: 20-34 years)		
35 to 44 years	0.966	0.000
45 to 54 years	0.826	0.000
55 to 64 years	0.388	0.000
65+	0.110	0.000
Nationality (ref.: Austria)		
Non-Austrian nationality	0.822	0.000
Company and apprenticeship (ref.: no training company)		
Training company	1.017	0.000
Company and training infrastructure (ref.: company has no training infrastructure)		
Company has own training infrastructure	2.734	0.000
Economic sectors (ref.: agriculture)		
Fishing	0.059	0.000
Mining of coal, extraction of crude petroleum and natural gas	0.013	0.000
Mining of metal ores, other mining and quarrying	1.312	0.000

	Exp. (β)	Sig.
Manufacture of food products, beverages and tobacco products	0.626	0.000
Manufacture of textiles and wearing apparel	0.709	0.000
Manufacture of leather and related products	2.461	0.000
Manufacture of wood and of products of wood and cork (excl. furniture)	0.744	0.000
Manufacture of paper and paper products; printing and reproduction	0.515	0.000
Manufacture of coke and refined petroleum products	0.599	0.000
Manufacture of chemicals and chemical products	1.016	0.454
Manufacture of rubber and plastic products	0.639	0.000
Manufacture of other non-metallic mineral products	0.713	0.000
Manufacture of basic metals; manufacture of fabricated metal products	0.711	0.000
Manufacture of machinery and equipment	0.712	0.000
Manufacture of computer, electronic and optical products	0.909	0.000
Manufacture of motor vehicles and other transport equipment	1.243	0.000
Manufacture of furniture, jewellery, musical instruments, sports goods, games, toys	0.799	0.000
Energy and water supply; sewerage; waste management	1.138	0.000
Construction	0.633	0.000
Wholesale and retail trade; repair of motor vehicles and other basic commodities	0.657	0.000
Accommodation and food service activities	0.501	0.000
Transport and storage; telecommunications	0.763	0.000
Financial and insurance activities	1.205	0.000
Real estate activities; professional, scientific and technical activities	0.689	0.000
Public administration and defence; compulsory social security	0.648	0.000
Education	1.328	0.000
Human health and social work activities	0.962	0.021
Other services activities	0.836	0.000
Activities of households as employers	0.324	0.000

NB: Only statistically significant regression coefficients are presented (with the exception of some economic sectors).
Dependent variable: dichotomous variable for vocational training participation.

Nagelkerkes R-Squared = 0.19

The overall fit of the model seems to be rather high (71% of all cases were predicted correctly). Nevertheless, this was true for only 8% of employees with training participation, which leaves doubts as to the reliability the model. The decision to participate in CVET seems to be more complex, as suggested by the model.

Source: Austrian LFS 2003 ad-hoc module on lifelong learning, in Schmid (2008a).

Table A5.2. **Probability of wage increase because of training course attendance (logistic regression)**

Dependent variable: wage increase above 5%	Exp. (β)	Sig.
Constant	2.296	0.356
Gender of the participant (ref. male)		
Female	0.808	0.488
Social stratum	1.043	0.392
Agreement with the employer (ref.: no agreement with the employer)		
Agreement with the employer before attending the course	1.825	0.018
Course attendance (ref.: during leisure time)		
Course attendance during working time	0.550	0.047
Financing of training (ref.: financed by employer)		
Financed by employee	1.097	0.730
Employment (ref.: full-time employment)		
Part-time employment	0.353	0.008
Age of participant	0.978	0.161
Job tenure	1.011	0.519
Employer change		
	3.349	0.000
Company size	1.015	0.770
Usefulness of training in current working context	0.873	0.458
Course quality	1.136	0.190
Income level before course attendance		
	0.678	0.037
Hourly wage before course attendance	1.037	0.379
Course topic (ref.: WIFI segment business administration)		
Sector	0.816	0.610
Computing/informatics	0.799	0.617
Management	0.606	0.359
Personality	0.594	0.299
Languages	0.852	0.701
Technics/technology	0.733	0.427

NB: Significant regression coefficients are formatted in bold.

The dependent variable is a dummy for wage increases greater than 5% coded with 1.

Nagelkerkes R-Squared = 0.190.

Source: IBW WIFI Course Participant Survey, 2008; IBW calculations in Schmid (2008a).

Table A5.3. **Non-formal training participation and labour-market participation of older people (55 to 64 years) in Europe**

Country	Non-formal training participation (in %)	Labour-market participation rates (in %)
Austria	12.3	39.8
Belgium	7.8	35.9
Cyprus	7.6	57.7
Czech Republic	6.3	48.2
Denmark	37.7	60.8
Estonia	7.2	62.2
Finland	29.4	58.8
France	7.5	40.4
Germany	5.7	57.5
Greece	1.0	43.9
Hungary	1.4	34.5
Ireland	8.6	55.2
Italy	2.1	34.6
Latvia	7.9	60.3
Lithuania	3.6	55.6
Luxembourg	6.4	32.7
Netherlands	5.0	52.8
Norway	24.7	69.6
Poland	2.8	31.8
Portugal	3.6	54.4
Slovakia	7.5	38.8
Slovenia	8.4	34.6
Spain	3.8	47.4
Sweden	44.3	72.8
Switzerland	43.8	69.3
UK	21.7	59.3
EU-25	8.5	47.5

Source: Eurostat, EU-LFS 2005, 2006 or 2007; IBW calculations in Schmid and Kailer (2008).

List of abbreviations

EU	European Union
LFS	labour force survey
CVET	continuing vocational education and training
WIFI	Wirtschaftsförderungsinstitut
EU-LFS	European labour force survey

CHAPTER 6

Learning later in life: the older worker's perspective

Shari De Baets and Veronique Warmoes

Given the increasing need to keep older workers in employment longer, this chapter investigates requirements for effectively training older workers. A significant lacuna in research on the training of older workers has been the failure to take account of the views of older workers themselves. Moreover, a study specifically concerned with the training needs of older workers in Belgium is particularly relevant, since Belgium is seriously underperforming in the training participation rates of older workers compared to other north-European countries.

An extensive literature review was undertaken, based on an in-depth qualitative research design with seven focus groups, whose participants were over 45 years of age, and 11 individual semi-structured expert interviews. A wide range of internal influencing factors (experience, anxiety and insecurity, and motivation) were identified which had implications for the design of training for older workers (didactical approach, trainer requirements, etc.). The outcomes of the qualitative study are discussed and set out in the literature review.

6.1. Introduction

Our workforce is ageing, and this brings serious consequences for the pension system in particular and the social security system in general (Fouarge and Schils, 2008). Keeping our older workforce employed longer is one of the major issues of the coming decades (Young, 2006). One way to achieve this is to invest in education and training, which is beneficial both for the employer (longer productivity, more experience and knowledge) and for the employee (greater employability). Indeed, over the past few years, there has been an increase in the number of studies conducted on the training of older workers and on age awareness (Tikkanen and Nyhan, 2006). The retention and

training of older workers is a critical issue and will continue to be so in years to come (Armstrong-Stassen and Templer, 2005, 2006; Brewington and Nassar-McMillan, 2000; Collins, 2003; Van Dalen et al., 2009; Kirk and Belovics, 2005). If the current social security system in Belgium is to be maintained, the ageing workforce must remain productive longer and the average retirement age must be raised. However, a significant shortcoming in research on the training of older workers has been the views of older workers themselves (Paloniemi, 2006; Tikkanen, 2006). In order to increase participation in and improve the effectiveness of training for older workers, training providers, management, policy-makers and human resources professionals need to be more aware of the expectations of older workers (Hedge et al., 2006; Kubeck et al., 1996; Tikkanen, 2006).

Therefore, this study investigates the views of older workers in Belgium on their training needs and requirements and outlines the views of academics and trainers of older workers. The workforce and training participation rates of older workers in Belgium are far lower than those in comparable EU Member States (Bredgaard and Tros, 2008; Buck and Dworschak, 2003; OECD, 2005; Tikkanen and Nyhan, 2006), and this supports the need for an in-depth study of the matter.

6.2. Training older workers in Belgium and Europe

The employment rate in Belgium, defined as the active working age population and given as a percentage of the population aged 20-64 years (OECD, 2011b), is rather low at only 62%, especially if compared with the employment rate in its neighbouring countries (the Netherlands 74.7%; France 64%, Germany 71.2%; the United Kingdom 70.3%, OECD countries on average 64.6%). A particular problem is the employment rate of the older workforce: a mere 35% of people between the ages of 55-64 years are employed in Belgium. At 19% below the European average (54%), this is the lowest work participation level for older workers in the whole of the EU (OECD, 2011a). At the 2001 Stockholm European Council, the target was set for increasing the employment rate among people aged 55-64 to 50% by 2010 (Nordheim, 2004). Moreover, an additional issue is the declining average retirement age, which applies not only to Belgium but also to Europe as a whole (Vansteenkiste et al., 2009). The average retirement age in Belgium in the 1950s was calculated at 64.3 years (Cohen et al., 2003). In 2001, this had

dropped to an average retirement age in Belgium of 56.8 years ⁽⁴⁵⁾. Although several European countries have planned the introduction of a higher statutory retirement age (Reuters, 2010), Belgium has not. The implications of these statistics, combined with a prolonged life expectancy and a decline in the birth rate, will place a heavy burden on the social security system in the near future and have major financial consequences.

The current focus on pension reforms and a review of the statutory retirement age are necessary but not sufficient (Nyhan, 2006). If we in Belgium, and the world in general, want to handle this issue more effectively, we need to take a broader perspective than a purely legislative one. The European Commission (2002) proposes, among other things, to support higher and adaptable skills at work through lifelong learning. All of the EU Member States have made a commitment to enable people at all life stages to participate in learning and to develop the education and training sector across Europe (European Commission, 2002). Lifelong learning is considered critical for everyone, but especially for older adults (Charness and Czaja, 2006). However, according to several studies, participation in training programmes generally decreases with age, and older workers rarely seem to participate in training courses (Bassanini et al., 2005; Elias and Davies, 2004; de Grip and van Loo, 2002; Phillipson and Smith, 2005). The average participation rate of older workers (55+) in on-the-job training is less than 8% in the EU (European Commission, 2007). Workers, and especially older and more experienced workers, need to know that they have access to training and are still capable of being trained (Maurer et al., 2003). Previous empirical studies have shown that on-the-job training increases workers' employability and compensates for the depreciation of formal and informal knowledge (Bishop, 1997; Groot and Massen van den Brink, 2000). Moreover, in a study on European retirement systems and training participation by Fouarge and Schils (2009), the difference in early retirement probabilities of older workers with and without training was calculated in all European countries. The difference was the largest in Belgium, Germany, Italy and Denmark. Belgian older workers who had received no training in the past year retired early in 23% of the cases. Belgian older workers who had received training in the previous year retired in only 11% of the cases. Training is thus a significant strategy in keeping the ageing workforce employed longer.

However, simply advising companies to provide more training is, in itself,

⁽⁴⁵⁾ Eurostat database: average exit age from the labour force: annual data
http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsl_exi_a&lang=en [accessed 23.5.2011].

not effective. Discrimination against and negative perceptions of older workers continue to abound in the workplace: they are often seen as being less trainable, less flexible, lacking in competences and not worth the cost investment (Henkens, 2005; Maurer et al., 2008; Simpson et al., 2002; Taylor and Walker, 1998). The stereotype that older workers are 'less trainable' has been challenged (Kubeck et al., 1996; Sterns and Doverspike, 1988; Warr, 1994), and it has been suggested that differences attributed to age may, in fact, be at least partly caused by external factors (Hedge, et al., 2006). For instance, training is almost never customised to meet the needs of older learners (Hedge, et al., 2006; Peterson and Wendt, 1995; Schooler et al., 1998). Moreover, although they might not put it so bluntly, employers in Europe are more likely to spend money on the training of younger employees than of older workers, since they perceive the return-on-investment as far greater with younger employees (Brunello and Medio, 2001; Giraud, 2002). If older workers are denied training opportunities, they might face skills obsolescence and become more likely to be made redundant or face difficult career transition periods. Accordingly, the stereotype becomes a self-fulfilling prophecy (Hedge, et al., 2006). However, perceptions about cost investment have been proved wrong, as previous research has suggested that older workers, given their lower turnover rate, are actually a cost-effective trainee population (Brooke, 2003). Older workers are thus a worthy investment and, above all, trainable, contrary to widely held negative views and stereotypes. However, training and education must be adapted to their specific needs (Hedge, et al., 2006; Kubeck et al., 1996; Tikkanen, 2006). Researchers have long called for training measures that target specific groups (Tannenbaum and Yukl, 1992). However, the question as to whether older workers themselves feel the need for training, especially as regards the older age group, has largely remained unanswered and has, therefore, been addressed in this study.

6.3. Method

In order to generate a detailed and contextualised understanding (Creswell, 2003; Shah and Corley, 2006), we developed a qualitative research design, combining focus groups (seven groups with an average of six employees per focus group) and individual semi-structured expert interviews (11 participants). Focus groups are an important source of in-depth information, since conversations and discussions among participants may lead to the expression of perceptions, experiences and attitudes (Krueger and Casey, 2009). Each

focus group was formed according to language (four Dutch-speaking groups and three French-speaking groups) and position (blue-collar workers, white-collar workers, lower management and higher management). All focus group participants were over the age of 45, ranging from 45-64 years ($M=48.75$, $SD=4.83$), with 30% female and 70% male participants. Focus group participants worked in a diverse range of sectors, such as food, retail, bank and insurance, construction, automotive industry, education, government, hospital, agriculture, IT, consultancy, health care, distribution and energy. The number of participants in each group ranged from six to seven, which is considered by Bloor et al. (2001) to be optimal for focus groups. Two moderators were involved in the discussions: one for the Dutch-speaking focus groups and one for the French-speaking focus groups. In each focus group, an additional researcher was present for taking notes in addition to the recordings. To increase reliability and consistency, the same researcher and moderators were used for the various focus groups.

Table 6.1. **Content clusters and questions**

Methodological clusters	Questions
Differences between people aged 45+ and younger people	Do you think that training for older employees requires a different approach from that used in training aimed at younger colleagues?
Requirements	What topics would you like to learn about? What topics are you required to study?
Didactical approach	What type of teaching materials do you prefer? Do you prefer training to take place in-house or outside your organisation?
Motivations and annoyances	What annoys you in training? What motivates you in training?
Knowledge-sharing	How do you pass on newly acquired skills or knowledge to your colleagues? How does your company encourage training for older employees?

To gain information about how older workers view training, a wide range of topics was discussed. These topics were determined as a result of both the literature review and the expert discussion. First, the literature on training older

workers was reviewed. Second, a meeting was held with several experts to determine what should be discussed. The following content clusters were identified with regard to topics for discussion: differences between people aged 45+ and younger people, educational requirements, the didactical approach, motivations and annoyances, and post-training knowledge-sharing. In terms of approach within the focus groups, every participant was given a card with a specific question to be discussed (Table 6.1). Each focus group concluded its discussions by providing an opportunity to make further remarks or propose additional points for discussion.

Based on experience and knowledge about the topic 'training and older employees', individual semi-structured interviews were held with Belgian university professors (n=3; one woman and two men) and Belgian trainers (n=8; one woman and seven men). The semi-structured interviews were aligned with the topics of the focus groups. Each interview lasted, on average, for two hours. Two researchers conducted the interviews; one for the Dutch experts (6) and one for the French experts (5).

Table 6.2. **Factors emerging after cluster analysis**

Methodological clusters	Factors	Type
Differences between people aged 45+ and younger people	Anxiety, insecurity	Internal
	Experience	Internal
Specific requirements	–	–
Didactical approach	Didactical preferences	External
	Trainer requirements	External
Motivations and aggravations	Intrinsic motivation	Internal
Post-training knowledge-sharing	–	–

Analyses were carried out in three different stages. In preparation, all focus groups and interviews were translated from recorded audio data to written text. In the first stage, a codebook was developed with a structure consisting of the five different clusters (Table 6.1), with labels, definitions, corresponding

interview questions, examples and sub-clusters. Every interview passage was then coded according to the codebook. This was done independently by two researchers, to increase the reliability and objectivity of the coding. In a second stage, summaries were developed for each interview and the various focus groups based on the elaborate versions. Third, the clusters of the focus groups were cross-referenced with the expert interviews. During cross-referencing, several important factors emerged. These were internal factors referring to experience, anxiety and insecurity, and motivation on the one hand, and external factors referring to didactical approach and trainer requirements on the other.

6.4. Results and discussion

In-depth analyses of the information provided by the older workers and experts (academics, trainers) were carried out, and two types of influencing factors were identified in relation to the education and training needs and expectations of older workers: internal factors, such as motivation, experience and particular emotions (anxiety and insecurity), and external factors, such as didactical preferences and trainer requirements.

With regard to the internal influencing factors, a significant proportion of the information gathered conveyed older workers' feelings towards education and training. Older workers mentioned a wide range of insecurities and feelings of anxiety, such as fear of evaluation which is indicated by a reluctance to participate in role plays or ask questions in a group. 'How I hate those role-playing exercises!' (lower management, Dutch-speaking group). 'They [role-playing activities] make me feel utterly ridiculous' (white-collar workers, French-speaking group).

Older workers also fear not being able to keep up with the pace. Since a long time has passed since they were in school, they are also afraid that their knowledge and skills have depreciated. 'Sometimes the pace is simply too fast to follow. We [older workers] need to dig deep for some kinds of knowledge' (white-collar workers, Dutch-speaking group).

Sterns (1986) already recognised this fear of failure and poor sense of self-efficacy more than 20 years ago. Tikkanen (2006) also noted that many older workers feel insecure about taking the first step in seeking training, because of a combination of both their age and unfamiliarity with the world of learning. It appears from this study that this continues to be a significant issue in the

training of older workers. Therefore, attention to motivation and confidence (Hedge, et al., 2006) and anxiety reduction (Hale, 1990) are crucial components in encouraging older workers to participate in education. Given that it has often been a long time since older workers were in a formal learning situation, it helps in assisting them to 'relearn how to learn' (Warr, 1994). The experts who were interviewed in the context of this study confirmed this and also mentioned that the classic school-like way of teaching is not applicable to older workers. 'You're not dealing with high-school students: forget about too much theory, but focus on exercises' (expert, Dutch-speaking).

In addition to these general feelings, a specific issue of insecurity that was identified in our research was related to information and communications technology (ICT) training. With regard to ICT training only, older workers feel that it is justified to organise training groups according to age, as they believe that younger workers seem to have an advantage in technology. Although older workers express their insecurity about ICT-related training, they are willing to be educated on that topic on the condition that the pace of these courses is adapted to their specific needs. 'We [older employees] generally do not have a great deal of experience with e-learning. It might be relevant to exchange experiences [of e-learning]' (higher management, French-speaking group). 'Computers are okay, I guess ... but the pace must be slower' (blue-collar workers, Dutch-speaking group).

In general, studies have shown that older workers are able to learn new technologies, but that they are slower in doing so (Goldberg, 2000). Hence, it is important to realise that we do not only live in an information society but also in an ageing society (Bernard and Phillips, 2000). Bringing older workers up to speed is crucial for their employability in today's world and to overcome the 'digital divide' (Bernard and Phillips, 2000; Green and McAdams, 2003; Wills, 1999). Although ICT courses adapted to older workers are a necessity, research has shown that older adults are often excluded from this kind of training (e.g. Hanley, 2002; de Koning and Gelderblom, 2006; Madden and Savage, 2000; Selwyn, 2004; Teo, 2000). The results of this study show that this is unjustified, as older workers are both willing to undertake ICT training and are becoming more comfortable with new technologies. This is in line with the findings of Goldberg (2000).

With reference to the issue of whether or not to organise training groups according to age, our analyses showed that, with regard to all other topics and types of training (apart from ICT training), older workers believe that division according to age is neither necessary nor justified, since it enhances stereotyping and stigmatises people. Heterogeneous groups are seen as

being helpful: older workers can be helped by their younger counterparts in processing information and in keeping up with the pace, whereas younger workers can learn valuable lessons from their older colleagues. According to older workers, experience is the main difference between older and younger workers that should be considered in the organisation of training. 'I really don't care about age, it's being interested that matters' (higher management, Dutch-speaking group). 'They [younger and older employees] can learn from each other during training ... it depends on the culture of the organisation' (expert, Dutch-speaking).

Warr (2001) also recognised experience and knowledge as a benefit for older workers in relation to training. The broad and deep knowledge structure of older employees can help in integrating new information (Charness et al., 2001; Darley, 1999). Therefore, older workers find it very important that their experience is acknowledged and integrated in the training. In the research project on 'Working life changes and training of older workers' (Tikkanen et al., 2002), experience emerged as a positive aspect of age. Since age is often seen as being negative (Posthuma and Campion, 2009), it is important to highlight the related, positive concept of experience. Several of the experts interviewed mentioned that it is not wise to keep stressing age differences as an important factor. Age cannot be blamed for everything. There are other, possibly even more important factors to consider in training, such as experience. Hence, stressing the older workers' contribution in terms of experience and knowledge can counter the negative feelings of anxiety and insecurity that they often face in relation to the learning context.

Finally, the last important internal factor identified is that of intrinsic motivation to participate in training and education. All focus group participants mention intrinsic reasons for participating in training: keeping up to date, self-development and social contacts. For some blue-collar workers job security is another reason. All of the older workers disliked participating in compulsory training. 'There's nothing more demotivating than being forced to participate in training' (blue-collar workers, Dutch-speaking group).

This result can be viewed in the light of the self-determination theory (Deci and Ryan, 1985), which distinguishes between types of motivation according to reason or goal. Intrinsically motivated people participate in training because it is interesting and gives them satisfaction. Extrinsically motivated people participate in training because of reasons external to the person, such as obligations, career moves, etc. Intrinsic motivation, which is the case with our older workers, leads to high-quality learning and creativity (Ryan and Deci, 2000). The cognitive evaluation theory (Deci and Ryan, 1985), a sub-theory of

the self-determination theory, posits that a need for autonomy combined with a need for competence will lead to intrinsic motivation. However, an external obligation will decrease intrinsic motivation, as our results have shown. In contrast, it is remarkable how one management focus group (higher management, Dutch-speaking) in our study claims that older workers are often averse to training and education: 'Older workers are not motivated because they are convinced that they already know everything'. This opposes the results of the other participants: they are motivated and they feel the need to learn.

The specific internal factors that emerged have a significant impact on the external factors that were identified by the older workers. For instance, to reduce the anxiety and insecurity of older workers, both the way in which the training is organised and information about the training should be clear, well-structured and transparent. Older workers prefer a limited amount of theory with frequent repetition. Expert trainers also point to the need to explain the reasons behind learning theory and the usefulness of abstract concepts, as has already been mentioned by Rix (1990). More important than theory and abstract ideas is an emphasis on the concrete (Hedge, et al., 2006). Because of their experience, older workers do not wish to be treated as students: the extent of their experience should be recognised and that experience integrated into the content of the training. 'Older employees have more prejudices [feelings, experience of success/failure, conceptual representations] about what is learned in training' (expert, French-speaking).

In terms of the style of training, older workers prefer an experiential way of learning (Dewey, 1983; Kolb, 1984). With regard to the trainer, older workers place great value on not being patronised or treated as if they were ordinary students. A trainer must be perceived as credible by displaying people skills and professional knowledge. Older workers view the ideal trainer as someone who listens, pays attention to the various needs of trainees, is competent, can facilitate discussions smoothly, is good at recapping the subject matter and adapts his/her didactical approach to the needs of the group.

In addition, clear communication and a transparent policy after the training has taken place are also considered important for reducing insecurities. Older workers appreciate it when what has been learned is shared, both in a formal and an informal manner, after the training has taken place. This does not need to be extensive: a short recapitulation about the usefulness of the training and the interesting lessons learned would suffice. Importantly, the way in which knowledge is shared depends on the organisational culture and the formal rules and systems within the organisation. A transparent policy, evaluation of the training structure and training based on performance evaluation are all

factors that contribute to better post-training knowledge-sharing. Moreover, this knowledge-sharing facilitates older workers' participation in training. Older workers are, in fact, motivated to participate in training, as confirmed by previous research (Maurer and Rafuse, 2001). However, a transparent training policy is a prerequisite for taking the actual step to engage in training. Adequate information about training opportunities is thus important (Straka and Stöckl, 1998), as are encouragement from management and peers and the reinforcement of training (Sterns and Doverspike, 1988; Warr, 2000).

6.5. Conclusion

Studies have shown that, although there is a general awareness of the issues surrounding an ageing workforce, few employers have taken action to address the situation (Arnone, 2006; Parker, 2006). Moreover, in an extensive study of 25 countries with more than 28 000 employers, Manpower (2007) found that only 21% of these employers had taken action to retain older workers. The main reason was the lack of knowledge of how effectively to retain mature workers. As Hedge et al. (2006) already noted, knowledge about the development and implementation of human resources practices suitable for older workers is lacking. However, training and development are critical and will become even more so for retaining older workers (Maurer et al., 2003). This study focused on the opinions of older workers themselves on training with a view to increasing participation in and the effectiveness of training. Accordingly, our research will make a highly relevant contribution to these debates.

6.5.1. Research implications and limitations

Researchers have long called for greater attention to be given to effective training for specific groups (Tannenbaum and Yukl, 1992). The evolution of world demographics is causing us to consider ways in which to improve the current situation. The training of older workers is critical to retaining them (Maurer et al., 2003): employers need to facilitate access to training courses, encourage their employees' participation and adapt training to the needs of older workers (Armstrong-Stassen, 2008). This study focuses on the views of both older workers and training and academic experts. Several important internal and external factors emerged. First, anxiety and insecurity play a major role in the attitude of older workers towards training. Second, older workers have a vast amount of experience, and this needs to be recognised and integrated into training courses. Furthermore, older workers are

intrinsically motivated to participate in training. Therefore, the various stakeholders need to increase training participation rates by adapting the training content and context, providing transparent information and implementing policies that facilitate training.

Despite these important findings, some limitations should also be noted. First, the group of older workers has been defined differently across research studies, and there is no common agreement on the age range. The EU Lisbon benchmark defines the group of older workers as those people aged between 55 and 64, an age range used, for example, by European institutes such as Cedefop in their statistics. However, in research, the cut-off age between younger workers and older workers is often 45 years (Tikkanen and Nyhan, 2006; Warr, 2000). In this study, the range of 45-64 years was used in accordance with the main body of research.

Second, this study aimed at interviewing a varied sample of Belgian workers occupying different positions (blue-collar, white-collar, management) and from different language groups (Dutch and French). However, to have a more comprehensive view, more stakeholders should be interviewed (e.g. policy-makers, human resources professionals, employers). In addition, large-scale quantitative research could also contribute to the understanding of the needs of and expectations of older workers towards training and education.

6.5.2. Practical implications

As Schalk et al. (2010) noted in their recent overview and agenda of research on work and ageing, 'the advantages and positive age stereotypes of older employees should be promoted'. Employers and managers must move away from the stereotypical views of older workers, based on challenges such as inflexibility or resistance to training (e.g. Chiu et al., 2001; Redman and Snape, 2002), towards a more positive view on age, based on attributes such as reliability, loyalty and experience (e.g. McGregor, 2001; Taylor and Walker, 1994). This may be achieved by training managers in age awareness and how to interact with and support older workers, as suggested by previous research (Armstrong-Stassen, 2008; Goldberg, 2005; Hedge, et al., 2006).

Trainers, managers and policy-makers all need to focus on reducing anxiety and insecurities in older workers (Hale, 1990) and work against emerging emotions of fear and insecurity. Although active learning is viewed as a supporting strategy, older workers might feel uncomfortable when forced to ask questions or engage in role-playing activities. Trainers need to strike a balance between participative learning strategies and a teaching style that reduces anxieties experienced in the learning environment.

Not only trainers but also politicians, employers, managers, human resources professionals and older workers themselves need to be actively engaged in age-related issues (Schalk et al., 2010). Policy-makers can contribute by offering information about training opportunities and providing the legal framework for training (Bassanini et al., 2005). They might monitor the quality of training programmes and introduce incentives, such as subsidies for firms or certificates attesting to participants' newly acquired skills (Woessmann, 2006). Employers need to lend their active support and commitment to these types of initiatives (Van Dalen, et al., 2009). As Vickerstaff et al. (2003) stated, any changes in retirement behaviour will come primarily from employer policy modifications.

Within organisations, companies and their human resources departments need to work closely together with training providers to overcome the possible reluctance of older workers to take the initiative to participate in education. Training opportunities need to be made more readily available to older workers (Tikkanen, 2006), thereby facilitating training participation. Managers and human resources professionals have a responsibility to motivate older workers and facilitate their training. Lastly, older workers themselves need to face up to their insecurities and focus on the benefits that they can bring such as their extensive experience. They need to keep an open mind towards training. To conclude, the training of older workers cannot be achieved without the active support and commitment of all stakeholders.

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List of abbreviations

ICT	information and communications technologies
M	mean
SD	standard deviation

PART 2

Emerging models of age-awareness in organisations and sectors

Constraining and enabling factors for establishing age-oriented corporate working and learning environments: Empirical evidence from the German metalworking and electrical industry, from the chemical and pharmaceutical industry and from retailing

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The impact of lifelong learning for coping with the challenges of demographic change in the logistics sector – good practices from Germany

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Organisational demographic literacy: developing a conceptual framework

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CHAPTER 7

Constraining and enabling factors for establishing age-oriented corporate working and learning environments: Empirical evidence from the German metalworking and electrical industry, from the chemical and pharmaceutical industry and from retailing

Knut Tullius

While there is widespread consensus among social scientists that an ageing and shrinking German labour force is making age-oriented working and learning conditions a necessity for German companies, empirical findings so far indicate that corporate human resources and work policies still fall short of establishing such conditions. The situation is particularly problematic for older employees (50+ age group), who are not generally provided with the crucial resources (up-to-date competences, physical and mental health) to maintain their work ability and employability up to normal retirement age. On the basis of new empirical findings in three core sectors of the German economy, this chapter presents differentiated data on these issues, because – this is a basic assumption – differentiation is important. Three possible explanations for the gap between discourse and practice are discussed briefly. Finally, it is argued that collective bargaining agreements can be a decisive enabling factor in promoting age-oriented working and learning conditions.

7.1. Introduction

There is a considerable gap between the level of public and scientific debate in Germany about the need to implement corporate learning and working environments that are capable of dealing with the foreseeable demographic changes, on the one hand, and actual corporate practices, on the other hand. By the late 1980s, the German government had started scientific programmes and initiatives to address the issue of demographic change ⁽⁴⁶⁾. Since then, an almost ‘unmanageable’ (Kistler, 2008) amount of literature – both conceptual and practical in nature – has been published ⁽⁴⁷⁾ and numerous examples of good corporate practice have been documented ⁽⁴⁸⁾. In addition, according to company polls, demographic issues rank very highly on the strategic agendas of German firms, – even in (the wake) of the economic crisis (Adecco Institute, 2009). However, survey findings – e.g. the German Establishment Panel of the Institute for Employment Research (IAB) (Bellmann and Leber, 2011); the adult education survey (AES) (BMBF, 2011); BIBB’s continuing vocational training survey (CVTS) (Moraal et al., 2009) – show that, by and large, German firms do very little to create better working and learning environments for their (ageing) employees. When it comes to participation in continuing training, older, less qualified employees, part-time working women and workers with a migration background in particular are strongly disadvantaged (BMBF, 2011; Leber and Möller, 2007). If we look at other measures that might improve the employability and work ability of the workforce, for example better working conditions or working time arrangements, the available data also show that the needs of older workers are not addressed by corporate human resources policies (Bellmann et al., 2003; 2007; Brussig, 2011).

What are the barriers to creating ‘age-oriented’ working and learning conditions in Germany? Why, on the other hand, are (some) companies already addressing the issue of demographic ageing, i.e. what are the enabling factors for their actions, and what are they doing?

⁽⁴⁶⁾ Prognos AG counted 177 publicly funded projects in Germany between 2005 and 2009 alone which directly addressed issues of demographic change and which had a practical consulting-oriented character (Prognos AG, 2010).

⁽⁴⁷⁾ E.g. HBS, 2009; INQA, 2005; Kocka and Staudinger, 2009; Kistler, 2008; Matthäi and Morschhäuser, 2009.

⁽⁴⁸⁾ INQA database <http://www.inqa.de/DE/Lernen-Gute-Praxis/Top-100-Gute-Unternehmenspraxis/inhalt.html> [accessed 16.10.2012].

Before these questions are addressed empirically, it is useful to clarify what age-oriented working and learning conditions mean. The term 'age-orientation' encompasses two aspects:

- (a) from the point of view of ageing (the process of growing older), age-oriented working and learning conditions comprise all those measures that allow employees to develop (or at least maintain) their personal abilities until retirement age (and beyond). Such measures could address issues of work-life balance and working time, continuous training, physical and mental stress reduction, and organisation of work (team work, job rotation);
- (b) from the point of view of being older, age-oriented working and learning conditions are those that are specifically aimed at the needs and circumstances of those already in the last phase of their working life (50+). How can they at least maintain or restore their work ability and employability? In principle the measures are the same as those described above, but take account of the special needs, interests, and also limitations of older employees. Although this age cohort – if not already well qualified – is particularly disadvantaged when it comes to competence development and physical and mental wellbeing, any sustainable change has to take into consideration the entire working life span.

The parallel (and compatibility) with the concept of continuous (lifelong) professional learning is obvious. The latter is considered a necessity in Germany for two reasons: first – and with respect to individual employees – ongoing socio-economic change within and outside the employment system⁽⁴⁹⁾ requires that they more or less permanently 'update' their competences to maintain their employability. Second – with respect to the individual company (as well as 'Location Germany' as a whole) – the foreseeable demographic ageing and the shrinking of the workforce requires learning and working conditions that activate hitherto unused potential of employees⁽⁵⁰⁾ to maintain competitiveness.

With regard to the way in which continuous professional training in Germany is institutionalised and organised, it is important to note that such training

⁽⁴⁹⁾ Shift towards services, growing importance of 'interactive service work', globalisation/ internationalisation, new information technologies, etc.

⁽⁵⁰⁾ Despite the rallying cry of corporations and employers' associations about the severe lack of qualified (young) personnel (*Fachkräftemangel*), there are 1.5 million adults between the ages of 25 and 35 who have no formal (training) qualification (Destatis, 2011, p. 169). However, many qualified Germans and foreign migrants are formally over-qualified for the job they are actually performing.

mostly takes place within firms, i.e. in the context of the employment relationship (*betriebliche Weiterbildung*; type 1 learning according to the AES definition). According to the AES Trend Report for 2010, around 60% of all formal and non-formal adult education measures are of this type (BMBF, 2011). Although difficult to assess and measure, informal learning in the workplace is even more important (Baethge-Kinsky et al., 2006). Empirical evidence shows that there is a strong interrelationship between individual competence development and working conditions: the more opportunities work processes themselves offer for learning, the higher the level of individual competence development (Baethge and Baethge-Kinsky, 2004). It is also well documented that older and/or less qualified employees in particular prefer informal (on-the-job) learning environments to formalised learning situations (e.g. seminars in classrooms) (Tippelt et al., 2009). Informal learning is embedded in the daily work process and requires, as was mentioned above, work tasks and organisational structures that stimulate the acquisition of new knowledge and skills, both technical/professional and social/communicative/methodological.

This chapter presents empirical results from a recently completed research project financed by the German Initiative Neue Qualität der Arbeit (INQA). The project dealt with the potential and prospects of age-oriented labour policies in three core sectors of the German economy: the metalworking and electrical industry, the chemical and pharmaceutical industry, and retailing (Freidank et al., 2011; Tullius and Kaedtler, 2011). The aim of the chapter is threefold:

- (a) to show that demographic change (and its consequences) in the sphere of work has to be analysed and discussed with reference to sector and industry-specific differences. Such a perspective shows that demographic changes have different outcomes in different sectors of the German economy. In addition, variations become apparent in the way companies in different industries deal with demographic changes today;
- (b) to discuss why German corporations, by and large, seem to do little regarding age-oriented working and learning policies. One reason is that the 'demographic impact' differs between sectors. Another reason is the dominant economic paradigm and 'short-termism' regarding labour policies: because age-orientation is (or should be) an extensive concept (age management) with a long-term perspective, it is hard to legitimise in times of increasing competition and economic crisis. It is also complex in nature, which makes it difficult for many firms, particularly SMEs, to find the resources for implementing age-oriented measures. A third constraint is an institutional regulatory framework, created in the 1980s, that

established early retirement as the primary means to ‘deal’ with older employees. Although this institutional regime has changed significantly in the last couple of years, companies have not yet adjusted their employment policies;

- (c) to show the potential of a new collective bargaining agreement in the German chemical industry that seeks to balance the continuing need to allow for early retirement and opening new ways for age-oriented labour policies.

7.2. Methodology

The findings presented here come from two sources:

- (a) a standardised online and – additional – computer-assisted telephone interview survey of managers and works councillors in companies with more than five employees in the three industries ⁽⁵¹⁾ (Table 7.1);
- (b) short case studies in selected companies in these three industries, mostly consisting of lengthy interviews (1.5 to 2.5 hours) with the heads of the human resources departments and with members of the works council (usually the chairperson).

We also conducted interviews with representatives of the respective unions and employers’ associations (Table 7.2).

Table 7.1. **Standardised questionnaire**

Industry	Netsample managers (N=)	Netsample works councillors (N=)
Metalworking and electrical industry	229	211
Chemical and pharmaceutical industry	29	15
Retailing	216	85
Total	474	311

⁽⁵¹⁾ The survey sample is drawn from a representative population of 4 500 companies provided by the German Federal Employment Agency. To allow for firm size, sector structure and works council density we used statistical loading factors. However, due to our methodology (online questionnaire plus additional telephone interviews), there might be selectivity effects. In addition, because of the small sample in the chemical and pharmaceutical industry, the illustrative power of the data in this sector might be further limited (although the response rate is good).

Table 7.2. **Case study interviews**

Industry	Company level	Employees'/employers' association
Metalworking and electrical industry	21	7
Chemical and pharmaceutical industry	8	2
Retailing	13	3
Total	42	12

7.3. Effects of demographic changes at sector/industry level

Before the questions posed above are discussed, it would seem worth making some brief observations on the three industries studied, as industry conditions produce different problems and outcomes in relation to demographic change.

The metalworking and electrical industry comprises roughly 23 500 companies, most of them (72%) with fewer than 100 employees, in which more than 3.5 million people (mostly men) are working. The biggest sectors are mechanical engineering (950 000 employees), automobiles (780 000), metalworking (530 000), and electrical engineering (530 000). The industry generates a sales volume of about EUR 770 billion, around 60% in foreign markets (all figures Gesamtmetall, 2010). Overall, the metalworking and electrical industry is a prime example of the German innovation and production model of diversified quality production (Sorge and Streeck, 1988). That model is based on skilled personnel (ISCED 3B, 4, 5B) capable of performing flexible tasks in high-technology production processes. Innovation is still predominantly located in Germany, raising the demand for skilled and highly-skilled (ISCED 5A, 6) labour ⁽⁵²⁾.

The German chemical and pharmaceutical industry employs about 415 000 persons today, 30% less than in West Germany alone before reunification in 1990 (VCI, 2011). In the same period, total sales increased from around EUR 100 billion to EUR 171 billion (almost 60% in foreign markets, compared with

⁽⁵²⁾ The international standard classification of education is a Unesco classification structure, to improve the international comparability of education statistics. The classification scheme ranges from ISCED level 0, pre-primary education, to level 6 the second stage of tertiary education (e.g. PhD) (Unesco, 2006).

42% in 1996; VCI, 2011). These figures not only indicate strong productivity gains⁽⁵³⁾ but also point to a strategic shift in this industry in the last 20 years. While high-volume standardised production and low-skilled labour have been outsourced to foreign locations and markets, more knowledge/innovation, technology and capital-intensive products and processes are located in Germany (Briken, 2004). Therefore, the marked decrease in total employment corresponds to an increase in the proportion of skilled labour: whereas in 1988 about 40% of all blue and white-collar employees were non-skilled or low-skilled, this group accounts for only 22% in 2006. Conversely, the share of skilled labour grew to 38%, and that of the high-skilled personnel to 40% (BAVC, 2007).

Both industries are also major players within the German industrial relations system. While the industrial relations system is no longer as stable (or predictable) as it used to be (Jacobi et al., 1998), within that system both the unions (IG Metall, IG BCE) and the employers' associations (Gesamtmetall and BAVC, respectively) in these two industries play an important role. Approximately 90% of the companies in the chemical and pharmaceutical industry are (still) members of the employers' association BAVC. In the metalworking and electrical industry the coverage is not as extensive as in chemicals, but both IG Metall and Gesamtmetall are still leading actors in the industrial relations system and forerunners when it comes to innovative general collective agreements. In both industries collective agreements directly addressing the issue of demographic change have recently been concluded: in the German steel industry in 2006 and in the chemical and pharmaceutical industry in 2008. These contracts are seen as prime examples of a new way of regulating working and learning conditions in the context of demographic change.

In retailing the situation is different in certain respects: the retailing market is basically domestic and probably the most competitive market in the world. Most (around 60%) of the 2.83 million employees are female, half of them working on a part-time employment contract (in the food segment 61%) (Warich, 2010). Despite the fact that retailing is dominated by just a dozen or so big corporations (e.g. Metro Group; Rewe Group; Aldi; Schwarz Group) and registered cooperatives (e.g. Edeka Group)⁽⁵⁴⁾, each with more than

⁽⁵³⁾ Per capita sales increased from EUR 169 million in 1990 to EUR 412 million in 2010 (VCI, 2011, p. 51).

⁽⁵⁴⁾ Today, 70% of total sales in food retailing (the biggest branch) are concentrated in only five of these big players (Warich, 2010).

100 000 people on their payroll, an average individual establishment employs only seven people (Destatis, 2010). The discount segment (Aldi, Schwarz and Lidl) has significantly gained market share in the last 20 years, and today generates 40% of total sales (Warich, 2010). Conversely, the independent quality retail segment (smaller shops with a differentiated product range) and traditional department stores are on the retreat. Stiff competition, capital concentration and expansion by the big players, deregulation of opening hours and new technologies have significantly changed the organisation of work and employment and working conditions in this industry. Industrial relations in retailing are characterised by relatively weak corporate actors on both sides: membership of the employers' federation HDE ⁽⁵⁵⁾ is low in comparison with the other two sectors, and union membership density among employees is around 10%. As a consequence, the impact of collective bargaining agreements is limited at present: general agreements regulating income and working conditions cover only 36% of establishments, and 51% of employees in western Germany, respectively (only 14% of firms and 28% of employees in the east; Ellguth and Kohaut, 2011, pp. 243-244).

Comparing the age structures of the labour force in these three industries (Figure 7.1) significant differences become apparent:

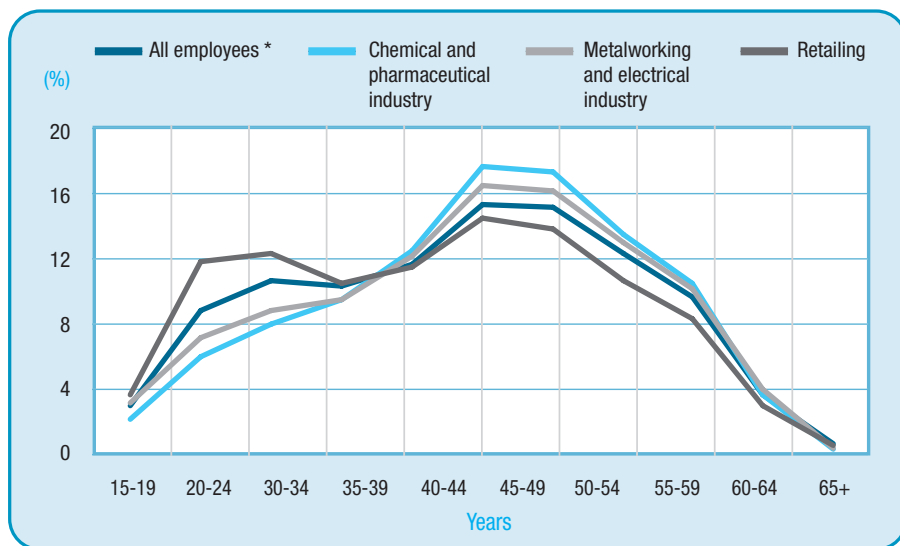
- (a) the age structures in the two industrial sectors show a below-average proportion of younger employees (15-30 years) and above-average proportions of older employees (40+);
- (b) in stark contrast, in retailing younger cohorts are much larger and older cohorts much smaller in comparison;
- (c) the proportion of employees older than 60 is below 4% in all three sectors.

However, the demographic ageing of a company, or an industry, would not be problematic as such – either from an individual or a corporate perspective – if working and learning conditions provided sufficient resources: from the employee's point of view, maintaining employability until retirement; from the corporate point of view, preserving and developing the knowledge and innovation base. However, in all three industries these resources are not adequately provided. According to the DGB-Index *gute Arbeit* (2009) the physical working conditions in typical industry jobs have to be classified as 'bad work' and for retailing jobs the classification is not much better ⁽⁵⁶⁾. High

⁽⁵⁵⁾ *Hauptverband des Deutschen Einzelhandels [German Retail Federation]*.

⁽⁵⁶⁾ According to this survey the physical exposure index for metal workers is 37 points, for machinists 41 points, for automobile workers 46 points, for chemical workers 50 points; up to 50 points such working conditions are characterised as bad work according to the DGB-Index *gute Arbeit* (2009).

Figure 7.1. **Age structures in selected industries, 2009**



(*) With social insurance.

Source: Federal Employment Agency (2010, reference date: 30.6.2009).

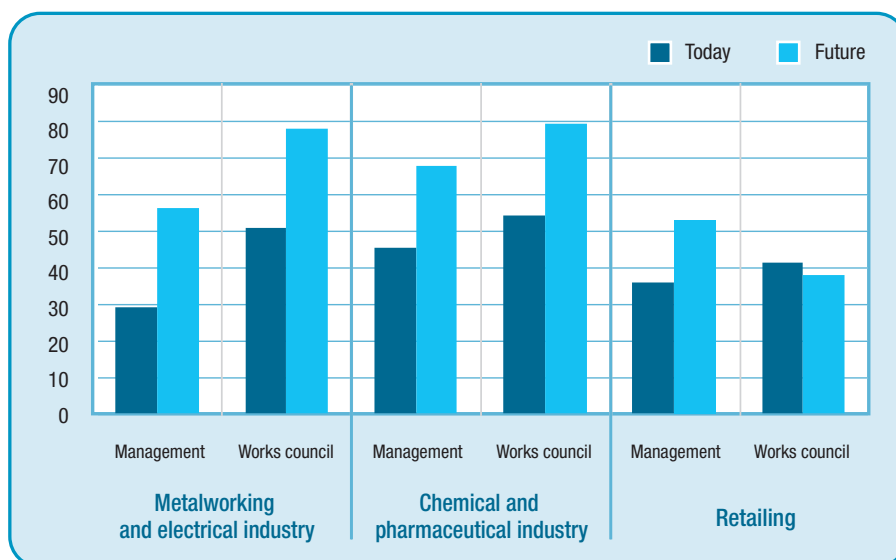
physical and mental exposure – which accumulates significantly in older cohorts – is documented in a BIBB/BAuA survey (BIBB and BAuA, 2006) and also in the government report *Safety and well-being at work 2009* produced by the Federal Ministry of Labour (BMAS and BAuA, 2011). Recent data from the German statutory pension insurance scheme (Deutsche Rentenversicherung Bund) also point to high physical and mental stress in all three industries, indicated by relatively high numbers of people taking early retirement because of reduced earning capacity (*Erwerbsminderung*)⁽⁵⁷⁾.

In the context of ongoing technological and organisational change and – however differentiated in nature – an increase of knowledge and work requirements in all three industries, and against the background of the abovementioned insufficient learning and working conditions, the demographic ageing of their workforces will put increasing pressure on companies. However, our own survey data (Freidank et al., 2011) show that only few companies perceive noticeable demographic effects today, but that this

⁽⁵⁷⁾ For sales persons the figure is 21%, for chemical workers 18.8%, for welders 23%, for automobile mechanics 21.8%, for plastic processors 25.5%, and for metal workers 17.3% (DRV Bund, 2011).

assessment changes considerably looking to the future (Figure 7.2). Figure 7.2 also reveals differences in the assessment between the industries and between the two actor groups, albeit anticipated differences. With regard to industry differences: whereas in the chemical industry demographic effects are felt to be the most pronounced – today and in the future – in retailing such effects are not widely experienced or expected. If we look at the specific problems that managers and works councils associate with demographic change, in the chemical industry health issues (physical and mental) are viewed as most important, along with an expected lack of skilled labour and loss of know-how. In metalworking the issue of a shortage of skilled labour/loss of know-how dominates the perceptions of the respondents. In retailing both aspects play a less important role, although a shortage of new young employees does play a role in some sectors.

Figure 7.2. Impact of demographic change from the perspective of managers and works councils, respectively – today and in the future; figures in % of establishments



NB Under the heading 'How severely is your establishment affected by demographic change?' the respondents commented on two statements: 'demographic changes are noticeable already today' and 'demographic changes will be noticeable in the future' on a 5-point Likert scale. Figure 7.2 shows the combined figures for 'strongly agree' and 'agree' for managers and works councillors, respectively.

Source: Own survey 2009/10 (Freidank et al., 2011).

With regard to the perspectives of the different actors: works councils report much more pronounced demographic effects on their establishments than management (except in retailing). They also emphasise issues of physical and mental stress much more strongly than managers. This difference in actor perspective affects almost all dimensions in our survey; it can be further illustrated by taking a look at internal labour market problems with respect to the older employees (Table 7.3).

Table 7.3. Top three ranking problems of older employees (50+) by industry and actor group

Management		Works councils
Chemical and pharmaceutical industry		
1	High training requirements	Mental stress
2	Low training participation	Physical stress
3	Lack of development options	High training requirements
Metalworking and electrical industry		
1	Low training participation	Mental stress
2	Low training affinity	Lack of development options
3	Lack of development options	Low training affinity
Retailing		
1	Lack of development options	Physical stress
2	Physical stress	Lack of development options
3	High training requirements	Mental stress

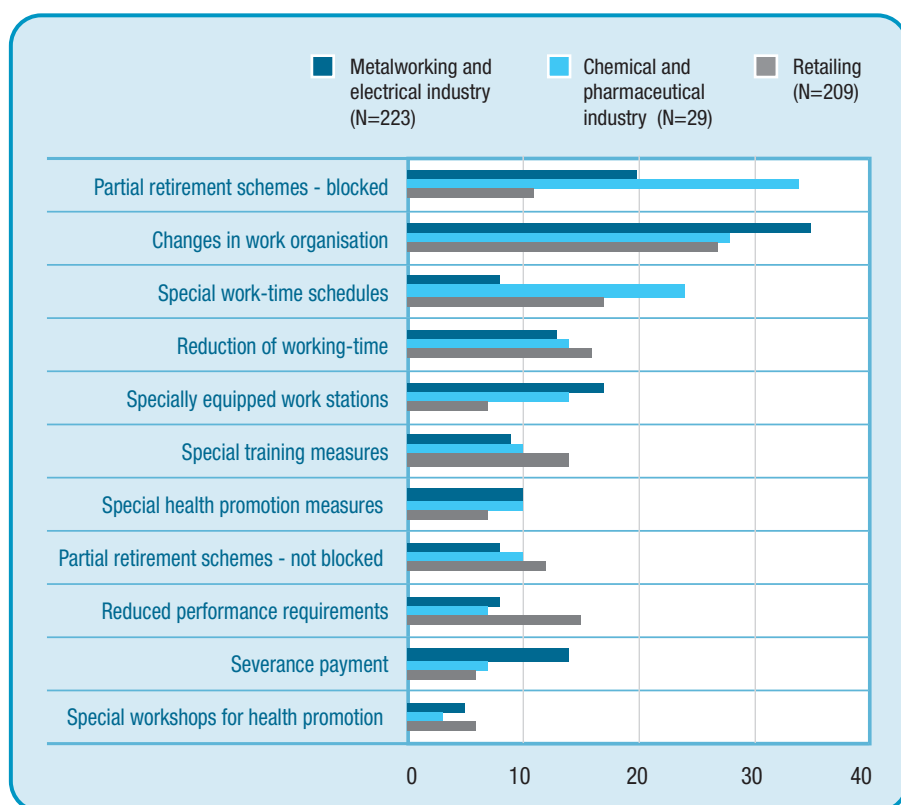
Source: Own survey 2009/10 (Freidank et al., 2011).

Such different perceptions of the same subject-matter may be rooted in different institutional roles within the firms, setting different priorities for each party. With regard to the relevance of mental stress – an issue that is ranked very highly by the works councils, but plays no role in the perceptions of management – it can be assumed that employees are more likely to report such stress to their workers' representatives than to the personnel department.

7.4. Insufficient dissemination of age-oriented working and learning programmes

Regarding the dissemination of corporate programmes that could (and should) be implemented to preserve or enhance the employability of ageing workforces and the innovativeness and competitiveness of companies, our survey data show that the efforts being made are still insufficient. This is particularly the case with regard to programmes or policies that address the specific needs of older (50+) employees (Figure 7.3).

Figure 7.3. **Dissemination of age-oriented programmes or measures for older employees (50+); frequencies (establishments in %; manager sample)**



Source: Own survey 2009/10 (Freidank et al., 2011).

The figures underline earlier findings indicating an almost complete neglect of that age group in the field of corporate human resources and work organisation policies (Bellmann et al., 2003; 2007). Overall, the most frequently implemented measures are changes in work organisation to reduce physical and mental stress for older employees, such as job rotation. However, they can be found in no more than 35% of establishments. And again, differences between the sectors become apparent, most prominently in the case of partial retirement schemes and working time. Because partial retirement schemes play a major role in collective bargaining agreements in the chemical industry (see below), this measure is the most common in that industry ⁽⁵⁸⁾; the same applies to a reduction of working time, especially for shift workers. The same is true, although on a much lower level, for severance pay in the metalworking industries. Overall, special training measures for older workers again play only a negligible role (between 8% in the metalworking and electrical industry and 13% in retailing). These figures are significantly higher than average according to the IAB Establishment Panel (Bellmann and Leber, 2011), but also higher than the sector-specific figures of the CVTS3 additional survey by the Federal Institute for Vocational Education and Training (BIBB) ⁽⁵⁹⁾.

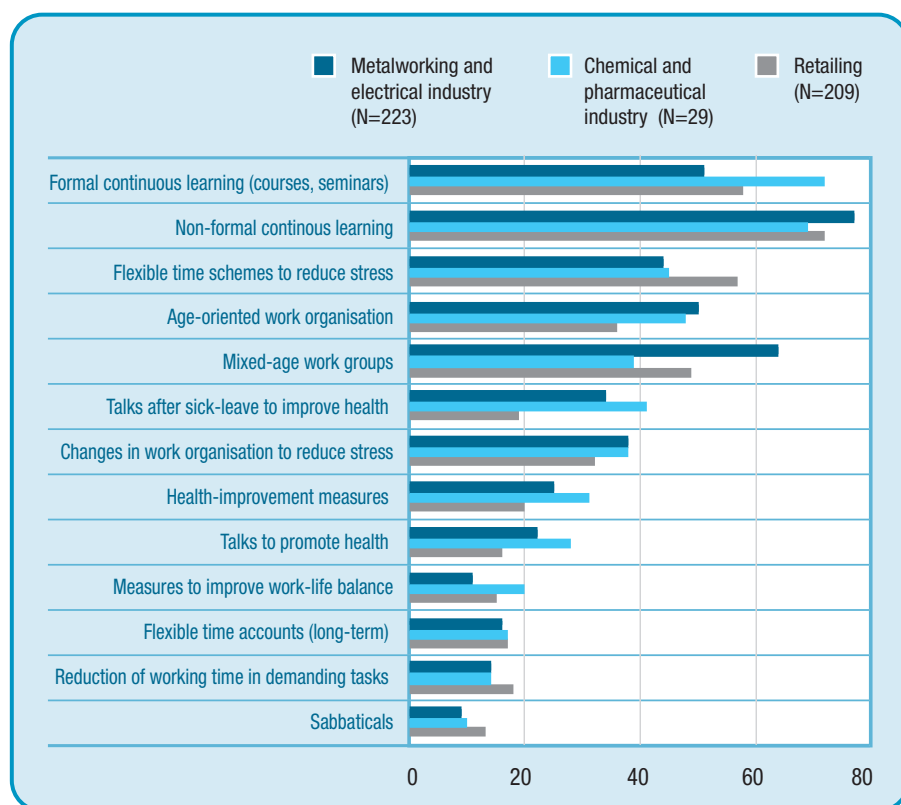
If we look at measures that could improve working and learning conditions for all employees – irrespective of age group – the picture is less bleak (Figure 7.4). Formalised and non-formal learning arrangements are the measures most frequently offered by companies, although our data give no information on how many and what kind of employees actually participate in these measures ⁽⁶⁰⁾. In addition, working time schemes that allow a balancing of accumulated work stress, as well as work groups composed of different age groups are found in every second establishment. However, many

⁽⁵⁸⁾ Partial retirement schemes here do not seek to keep employees longer in the company, but quite the opposite. The same holds true for severance payments.

⁽⁵⁹⁾ According to the IAB Establishment Panel, only 1% of all establishments in Germany (west and east alike) offered special training measures for older (50+) employees in 2002, 2006 and 2008 respectively (Bellmann and Leber, 2011, p. 171), much lower than our results. However, according to the CVTS3 additional survey data produced by BIBB in 2008, 6.5% of all chemical firms, and 3% of all firms in the metalworking and electrical industry, but 0% (sic!) in retailing, offered special training for older employees (BIBB, 2009). Specifically with regard to retailing, our sample might consist of exceptionally learning-oriented companies.

⁽⁶⁰⁾ The latest AES Trend for 2010 shows that the average participation rate of non-skilled or semi-skilled employees in job-related training measures is 33%, the rate for skilled employees is 54% and the rate for executives is 70% (BMBF, 2011, p. 26).

Figure 7.4. **Dissemination of age-oriented programmes or measures for all employees; frequencies (establishments in %; manager sample)**



Source: Own survey 2009/10 (Freidank et al., 2011).

programmes or measures that can have a positive impact on employability as well as the sustainability of a firm's competence base still play only a limited role in most firms: this applies to work organisation measures and health improvement programmes – both are disseminated in less than one third of establishments. What is somewhat surprising is the marginal proliferation of measures to improve work-life balance – particularly in retailing where this issue has relevance because of the deregulation of working time in the last few years, which has put strain on female employees in particular (child and family home care).

To briefly sum up these findings: German companies in the three industries studied basically have no activities addressing the particular needs of older employees with a view to improving working and learning conditions. Although our data show some increases with regard to certain aspects, for example further training specifically addressing 50+, by and large, the companies still do very little. With regard to measures and policies that have the potential to improve working and learning conditions throughout the working life, there are at least some aspects into which a policy change towards better working and learning environments in Germany could connect.

7.5. Constraining and enabling factors

Why do companies – by and large – not do more to improve learning and working conditions against the background of demographic and socio-economic changes? Three explanations – partly interrelated – seem to be most compelling. Enabling factors will be discussed later.

7.6. Three possible explanations for the gap

One explanation has already been given implicitly; it has to do with difference and context: not every establishment in every sector of the economy is – or considers itself – really affected by demographic effects. Our data underline the need to discuss these issues at least according to sectoral (and professional labour market) differences. In addition, regional disparities [for Germany: east versus west; rural versus metropolitan regions] have to be considered. As we have seen, companies in the chemical and pharmaceutical industry perceive the most noticeable demographic effects, whereas in retailing perceptions are less distinct. That has to do with the objective age structures in each case, with the chemical industry having the oldest labour force and retailing the youngest. Our survey data indicate a significant correlation between the degree to which companies perceive themselves to be affected by demographic changes (lack of personnel, falling performance) and the degree to which they have implemented human resources measures (or are planning to implement measures).

Our empirical findings also reveal that only a few companies in these three industries systematically gather or use information that might be helpful in evaluating whether a company already has problems with the age and/or

qualification structure of employees – or might have such problems in the future. Again, there are significant differences regarding the dissemination of instruments between industries: whereas roughly every second company in the chemical and pharmaceutical industry conducts analyses of age structures and the qualifications available to perform corporate tasks, the figures are much lower in the other two industries, particularly in retailing.

Table 7.4. **Use of information tools; in % of establishments (manager sample)**

▼ Instrument	Sectors ► Metalworking and electrical industry (N=224)	Chemical and pharmaceutical industry (N=29)	Retailing (N=210)
Analysis of age structure	24	46	7
Analysis of qualification structure and demand	43	54	28
Work ability index	8	14	7
Mandatory risk assessment for work places	74	76	44

Source: Own survey 2009/10 (Freidank et al., 2011).

Less than half of the establishments in retailing (and only three out of four in the other two sectors) use or conduct risk assessments of workplaces. This is striking insofar as German occupational health and safety law requires each establishment to conduct and document risk assessments in the workplace, that not only cover workplace hazards due to environmental or technical dangers, but also those that might result from lack of qualifications (Arbeitsschutzgesetz, 2009, paragraphs 5-6). However, the low numbers in retailing in particular illustrate that legal regulations per se do not lead to appropriate actions, but that employers have to be forced to comply with the law. In Germany, works councils play an important role as enforcers: our correlation analysis shows that use of all of the abovementioned instruments, except the work ability index, is significantly more likely in establishments with works councils than in those without. Since employee representation in retailing is traditionally weak, so is the dissemination of such instruments, and vice versa regarding metalworking and chemicals.

Another (frequently used) explanation is economic in nature. According to arguments based on rational choice or human capital approaches (Becker, 1999), investments in substantive and sustainable labour policies (e.g. investments in learning, ergonomics, health and safety, work organisation) are made only when there are economic returns to be assumed. In demographic change those investments need to be made now, although possible returns (e.g. lower number of sick days, better performance) might only materialise sometime in the future. Our case study interviews indeed indicate that as long as performance and competitiveness are not really threatened (or perceived to be), corporate management has little or no incentive really to change labour policies. And as long as works councils (if they exist at all) and unions are on the retreat and not powerful enough to push issues of 'good work' in firms, the major actor to combat microeconomic reasoning is thwarted. The economic crisis in 2008/09 undoubtedly further delegitimised attempts (not only from works councils but also from some parts of corporate management, particularly in human resources) to address the consequences of demographic change. According to our survey, most companies in the metalworking and electrical industry and in retailing which were at least to some degree adversely affected by the economic downturn (70% in the metalworking and electrical industry, and 47% in retailing, respectively) stated that the demographic challenge is no longer important, but that other issues have priority. For works councils too the avoidance of lay-offs or plant closures, or the implementation of short-time work, gained immediate importance over long-term strategic issues like demographic change.

In addition to microeconomic and legitimacy barriers, there is also a complexity problem: advanced, comprehensive approaches that deal with demographic problems and possible solutions at corporate level are rather complex in nature. This is because substantive age management needs to address issues in different – very often politically controversial – areas: human resources (training, recruitment, professional development), work organisation and work performance, working time (e.g. shift work, work-life balance), remuneration, as well as leadership issues (corporate culture). This complexity places excessive demands (knowledge, finance, time) on the main corporate actors, both in the human resources department and in the works council. Small and medium-sized enterprises in particular are often overburdened by such comprehensive approaches.

A third major barrier to establishing age-oriented learning and working environments could be an institutional one. Institutionalised rules and normative frameworks represent legitimacy and significantly influence

individual and collective behaviour. In Germany (as in other European countries), the way corporations and individuals deal with issues of age and ageing in the employment relationship is embedded in a system of institutionalised rules on three societal levels: on the State or macro level there are legislative regulations governing the transition from employment to retirement (retirement age, early retirement regulations, etc.). On the meso level of industrial relations there are collective bargaining agreements that often refine federal law for an industry or a sector of the economy (e.g. early retirement schemes, employment protection for older workers). Finally, on the micro level of the firm or establishment there are further agreements (employment contract or company agreement). Those institutions and their contents were and are the object of sometimes contested bargaining processes on all three levels. For the situation in (west) Germany, a major turning point in the handling of ageing employees was the institutionalisation of early retirement as a new policy in the first half of the 1980s – for federal labour market policies, for corporate human resources policies, but also for the expectations and prospects of the individual worker. There were several reasons why this new policy gained and maintained importance:

- (a) the sociopolitically cushioned transition into early retirement was a prime instrument used by German governments to deal with labour market problems in times of slowing growth rates, corporate downsizing and outsourcing. For employers and for works councils, early retirement had the advantage of avoiding conflicts within firms. Capital also appreciated the externalisation, or socialisation, of the costs of this mechanism;
- (b) for corporations, early retirement offered some leeway for corporate personnel strategies, particularly in those industries where the dynamic of restructuring and modernisation required an upgrading of the competences of the labour force, such as the chemical industry. Such an upgrading is much easier if less qualified older workers make way for better qualified younger employees;
- (c) finally, early retirement also appealed to employees because the reductions in income/pensions were – due to subsidies – rather limited, whereas in many industrial jobs health problems were already manifest or very predictable.

On the collective bargaining level, the contracting of the modes of early retirement became an important part of general agreements. Within firms, the move towards early retirement gave little or no incentive at all to enhance the competences of those beyond the age of 50, or to invest in better working conditions (as long as the labour supply was secured). In addition, many older

workers themselves had little incentive actively to improve their employability (or less generally speaking their know-how and competences). In general, the German institutional regulatory regime has provided various incentives for both employers and employees to seek retirement as early as possible.

7.7. Closing the gap with new collective agreements?

During the last decade, however, the different German governments have closed down some of the institutionalised pathways into early retirement: the transition of older unemployed workers into early retirement has basically been blocked and State subsidies for partial early retirement schemes (*Altersteilzeit*) have been terminated from the end of 2009. In addition, the compulsory retirement age will gradually increase to 67 years (instead of 65) by 2029. While the unions, particularly the metalworkers union (IG Metall) and the public sector union Ver.di, fiercely – but unsuccessfully – opposed the shift in the retirement age, they also came up with new collective agreements that attempted to tackle the issue of improved learning and working environments in the context of demographic change.

Historically there have been some attempts by German unions to address issues of working conditions and continuing vocational training in collective bargaining agreements ⁽⁶¹⁾. Yet, employers in particular traditionally oppose regulations that might give works councils greater influence over personnel or work and learning-related issues at corporate level. But also within the unions and their membership, so-called quantitative (and quantifiable) aspects of the employment relationship (particularly income redistribution) were considered more important than ‘qualitative’ issues such as training issues. As a result, the effects and the lasting impact of these agreements were – by and large – rather limited (Bahnmüller, 1999).

However, in the first half of the last decade, unions and employers’ associations in some industries concluded new collective agreements dealing with on-the-job training. Without going into too much detail here, according to recent empirical evidence (Bahnmüller et al., 2006) and comments from union and employers’ representatives in the course of our own research, there have

⁽⁶¹⁾ Most notably in the 1970s and 1980s in the metalworking industry of northern Württemberg, and in some general or firm-specific agreements in the 1980s and 1990s that dealt with training issues in relation to technical and organisational change (Bahnmüller, 1999).

been a number of positive effects of these contracts. Most notably, they brought issues of on-the-job learning and training back on the corporate agenda. Particularly in firms that were not very active in continuing training previously, these agreements constituted a decisive impulse for both works councils and human resources departments to start to deal with that crucial issue (Bahnmüller and Fischbach, 2006). Yet, particularly with regard to better integration of disadvantaged workers (unqualified or less qualified, older employees, female part-time workers), the impact of the contracts seems to be limited. One major reason is that the agreements most frequently consist of only structural and procedural rules: they deal with procedures, for example, to determine demand and to develop training plans; they also regulate participation by works councils and how financial burdens are shared between employer and employees. But they neither establish an individual entitlement to receive training nor put more pressure on employers to improve the crucial work-learning nexus, i.e. to integrate better learning into daily work processes. Nevertheless, collective agreements are an important framework for the regulation of working and learning conditions.

Two recent general agreements may play a pivotal role in paving the way for institutionalising the issue of learning and working conditions in a new manner. In 2006 and in 2008 the ‘social partners’ in the German steel industry and in the chemical industry, respectively, agreed on contracts that address the issue of improving working and learning conditions fairly comprehensively. Since both contracts are basically identical, we will focus on the agreement in the chemical industry (BAVC and IGBCE, 2008) ⁽⁶²⁾. This agreement – covering around 90% of all employees in the German chemical industry – requires an analysis of the demographic and qualification structures of the companies. Corporate management and workers’ representatives are also obliged to discuss the results and the consequences of that analysis. The agreement also gives recommendations regarding five specific areas or subjects the corporate actors should address: ergonomics, working time, work-life balance, qualification and health issues. So far, statements from the trade union and the employers’ association and empirical evidence indicate that this mandatory age analysis has had a decisive impact on the companies (Freidank et al., 2011; Latniak et al., 2010). Such age analyses are much more common in the chemical industry than in the other two industries in our sample. In many – even large – companies it was certainly not a matter of course to conduct such

⁽⁶²⁾ For an evaluation of the agreement in the German steel industry see Katenkamp et al. (2011).

analyses or to make projections about the interrelation between demographic ageing and qualification requirements. As such, by simply looking at age structures and projections, for many companies the issue of demographic change started to become an important issue to deal with.

Another obligatory part of the agreement is the accumulation of a demography fund in which EUR 300 has to be paid for each employee per year. Here, the fund is strictly limited to five possible uses, all of them outside of the abovementioned areas or subjects. Without going into too much detail here, the fund can be used to finance partial retirement schemes for older workers (Schack and Volkwein, 2010). However, the economic crisis in the chemical industry in 2009 initially slowed down the implementation of the contract and produced other priorities. While the obligatory rules had to be implemented, it still remains an open question if and to what extent the companies will implement the recommendations on working and learning conditions.

The new general agreement in the chemical industry provides a useful framework and methodology for corporate actors to negotiate the steps towards a more age-oriented corporate policy. A key aspect is the mandatory analysis of a firm's age structure, which is a central means of addressing the issue within companies and of raising awareness. However, as mentioned above, previous experience with collective agreements on continuous further training indicates that such 'soft' regulations require knowledgeable and powerful corporate actors on both sides, specifically in the works councils.

External assistance, e.g. from their respective federations, is also of utmost importance to overcome resource deficiencies, particularly in the case of SMEs. In industries and corporations where industrial relations are not well developed (i.e. where trade union density and employee representation is low and works councils are weak), as in retailing, it is unlikely that comparable agreements will come into place.

7.8. Conclusion

Better learning and working conditions for older employees are still a long way off in German corporations, although in the three industries presented here, more specific training measures for the 50+ age cohort are offered than on average. Similarly, in areas like health improvement, ergonomics and work-life balance, the needs of older employees are not adequately addressed by corporate human resources policies. There are some hints that companies

are becoming more aware that sustainable changes in the organisation of work and working time are needed, but there is still a huge gap between a publicly claimed need to reorganise work and learning and the actual situation on shop floors, in offices and in supermarkets. This gap is basically the result of corporate strategies of labour use in finance-driven capitalism. Perhaps Reindl (2009) is right to state that in today's short-term-oriented, finance and shareholder-value-driven capitalism, any attempts to implement sustainable work policies and practices look like a 'carried-off utopia'. As long as sustainable human resources management remains a lower-ranking function and the influence and power of employees and their unions remain limited, any real improvements in learning and working conditions will be sparse. Yet, there is also a legacy of an institutional regime that puts more emphasis on early retirement than on improving working and learning conditions. To convince workers to bid farewell to the biographical norm of early retirement – and continuously to invest in their employability – is a difficult task. However, by terminating legal and regulatory rules on early retirement without providing a new framework and new incentives – and without making real changes in the working and learning environment in the companies – the widespread plea for lifelong learning will most likely remain unheard. Collective agreements that seek to integrate the demographic challenges with issues of improving learning and working environments, working time and work-life balance are an important step in the right direction.

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List of abbreviations

AES	adult education survey
BAuA	Bundesanstalt für Arbeitsschutz und Arbeitsmedizin [Federal institute for occupational safety and health]
BIBB	Bundesinstitut für Berufsbildung [Federal institute for vocational education and training]
BMAS	Bundesministerium für Arbeit und Soziales [Federal Ministry of Labour and Social Affairs]
BMBF	Bundesministerium für Bildung und Forschung [Federal Ministry of Education and Research]
CVTS	continuing vocational training survey
IAB	Institut für Arbeitsmarkt- und Berufsforschung [Institute for employment research]
SMEs	small- and medium-sized enterprises

CHAPTER 8

The impact of lifelong learning for coping with the challenges of demographic change in the logistics sector – good practices from Germany

Verena Leve, Barbara Zimmer,
Sandra Mortsiefer and Anja Kurfürst

As demography is shifting towards an ageing and at the same time shrinking population and workforce in most European countries, there is a great need for organisational initiatives that support the employability of an ageing workforce. The transport and logistics sector, as one of the driving motors for economic growth, especially in North Rhine-Westphalia, has been severely affected by demographic change and the ageing of the workforce in particular. The greatest challenge is to familiarise entrepreneurs, particularly in small and medium-sized companies, with the subject and with the wide range of demographic issues. Logistics companies have to adapt their corporate personnel policies constantly to stay innovative and competitive in a personnel-intensive sector. This leads to necessary measures being taken not only for an ageing workforce but also for all employees in all stages of life or with different cultural or ethnic backgrounds. Therefore, the Ministry for Labour, Integration and Social Affairs of the Federal State of North Rhine-Westphalia and the European Social Fund (ESF) are providing funding for the 'Intelligent personnel management for logistics' (IPL) project. The project is coordinated by Dr Mortsiefer Management Consulting GmbH and the Institute of Gerontology at the Technische Universität (TU) Dortmund.

This chapter focuses on lifecycle-oriented personnel management encompassing all phases of working life, from recruitment to retirement. Companies and their employees benefit from investments in structural improvement in personnel management policies in general, but especially competence and knowledge management, and measures to implement lifelong learning practices are highly relevant in improving the employees' ability to work in the logistics sector.

8.1. Introduction

The number of older people living in Germany will increase in the future due to demographic developments, especially declining birth rates and longer life expectancies (European Commission, 2012). This structural change is not without extensive consequences for federal states and communities, as well as companies, businesses and wage earners.

The ageing and shrinking workforce will have an increasing impact on the age structure of employees in companies in the years to come. Due to the talent shortage and competition between companies to find qualified staff, on the one hand, and the gradual increase in the retirement age from 65 to 67, on the other, it is necessary to implement new (organisational) concepts, especially in areas of personnel management. If companies want to maintain and improve their competitive edge in the future, it will be essential for them to promote existing staff resources across their career trajectories and to pay special attention to their ageing staff. New personnel and organisational concepts are not only designed for (older) employees, but also make the company more attractive to future talent.

In the future, companies and businesses will not be able to afford to lose experienced employees. With fewer and fewer qualified young people entering the job market each year due to demographic changes, internal company strategies for retaining and expanding the working capacity of all employees, especially older ones, will become more important. Health, competences and qualifications of employees provide the basis for determining how employable and fit for work they are (Ilmarinen, 2005). They also serve as the prerequisite for ensuring that they remain motivated and healthy to perform high-quality work until the new higher retirement age of 67. If older employees are to retain their ability to work over the long term, investments in further vocational education must be made early on. Employees are not the only ones to benefit from age-specific continuing vocational education and training (CVET) – the

entire company does. Investments in developing qualifications and expertise not only increase the level of qualification and ingenuity of staff, but also boost employees' motivation and flexibility, which can improve the products and services of the organisation in the end (Naegele and Walker, 2006). Continued education efforts beyond people's career trajectories (in the sense of lifelong learning), and specifically for older workers, are a central parameter of forward-looking, sustainable staff development that aims to do more than ensure the employability of the individual, but also represents a suitable strategy for combatting the talent shortage and helping companies to stay competitive.

This is the current CVET situation in Germany. The training provider market is extremely specialised, and it is extremely difficult for companies and employees to navigate this market. In an international comparison, company investments in CVET are about average (Behringer et al., 2008). At the same time, the opportunities for participating in CVET are not equally distributed among all status and age groups and vary greatly by gender. This reinforces structural inequalities between different groups in society over the courses of their lives.

The effects of demographic change at the operational and individual levels have led to a paradigm shift in the discussion regarding the integration of older employees. Public discussion has increasingly focused on the expertise and resources of older employees. The professional experience and knowledge specifically gained by older employees is becoming increasingly significant, and should be kept within the company. For employees, spending more time working over a longer lifetime can be an important and fulfilling aspect of life. Participating in CVET can improve older employees' knowledge, abilities and competences, helping them to be employable and fit for work throughout their occupational trajectories (Heien et al., 2008).

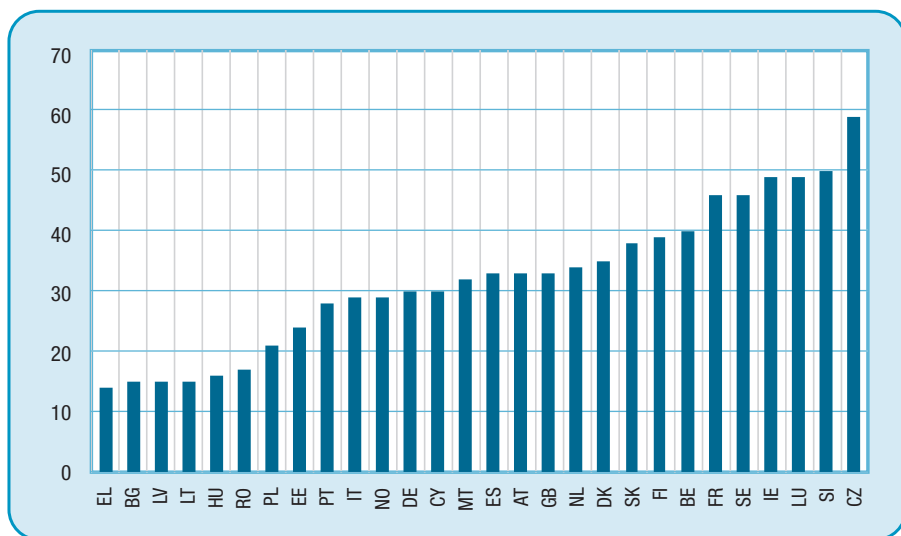
In addition to the specific qualification risks of older workers, this chapter examines the participation patterns of older workers in CVET programmes. First, an overview of the (unequal) participation in CVET in Germany will be provided on the basis of available data (e.g. CVTS3, AES). The relevance of this topic to the logistics industry will then be examined as one of the drivers of growth for the development of business locations, especially in the State of North Rhine-Westphalia. The concept of a life-course-oriented personnel management policy offers approaches that can meet the challenges of demographic changes in the logistics sector. Practical examples (from the logistics industry) are used to illustrate various tools that can help to establish a culture of lifelong learning in these companies.

8.2. The unequal distribution of opportunities to participate in in-company training in Germany

The dynamic pace of innovation associated with the development of the information and knowledge society requires people continuously to adapt their professional qualifications to the changing demands of the workplace (Heien et al., 2008; Sporket, 2010). If this adaptation can be ensured, it helps employees to stay employable and increases their opportunities to participate in the world of work throughout their lives.

Various studies based on available CVET data show that there is no such thing as uniform, comprehensive participation among all groups in society (Bannwitz, 2008; Behringer et al., 2008; BMBF, 2010). For policy-makers as well as decision-makers in companies, a change of attitudes can be identified, with greater awareness of the need continuously to adapt and update knowledge. Furthermore, there is also growing awareness that this leads to an increase in competitiveness and innovation. Nevertheless, as is shown in Figure 8.1, Germany's CVET figures are only average when compared with other countries within the European Union (see also Behringer et al., 2008).

Figure 8.1. **Percentage of participants in in-company training courses (as a percentage of employees in all companies)**



Source: Own diagram based on Eurostat New Cronos database, CVTS3 (query date 12.8.2011).

Extensive research and expert opinions specifically show that older people, women and low-skilled workers are disadvantaged in several ways when it comes to their participation in CVET programmes. Other factors, such as migration background, industry and/or company size, also impact the likelihood of people to participate (BMBF, 2010; Eurofound, 2010; Figueira et al., 2010; Huber, 2009; Heien et al., 2008; Bohlinger, 2004).

Considering the demographic developments and future talent shortage in Germany, it is necessary for older employees in particular to participate more in (in-company) CVET. They are subject to various individual risks specifically linked to their qualifications which often accumulate and lead to problems in employing and integrating older employees. Frerichs and Naegele (2001) identify the following risks:

- (a) qualification risks that result from the individual change in performance due to age;
- (b) intergenerational qualification risks resulting from cohort effects, for example lower graduation of older female workers compared to younger female workers;
- (c) risks of de-qualification or devaluing existing qualifications, which are especially significant when considering the progressive globalisation and spread of technology in the world of work.

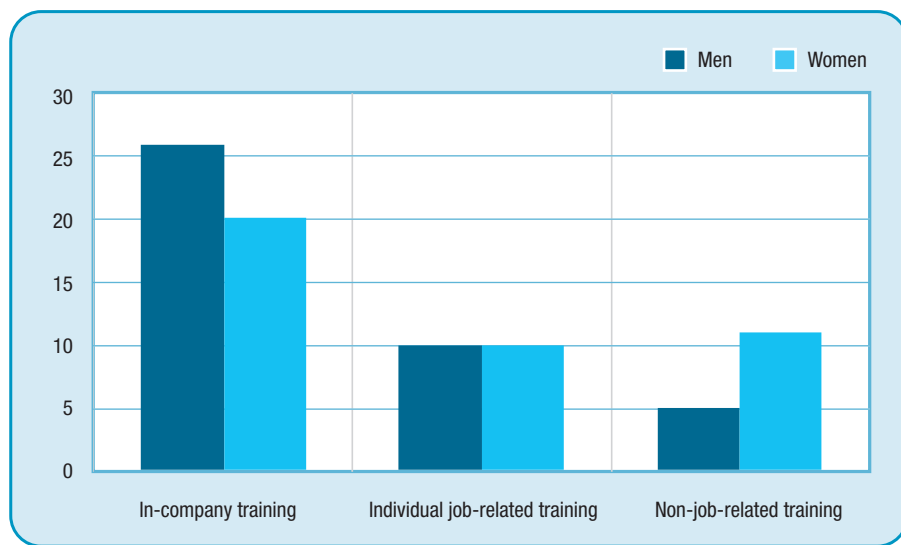
Frequently, the qualifications that the employee once obtained are no longer adequate for handling new professional demands. If the employees are not further qualified systematically to adapt their initial professional qualification to new, mostly technological knowledge requirements, older people in particular run the risk of being replaced by younger colleagues (Frerichs and Naegele, 2001; Sporket, 2010).

Older employees still have poorer prospects of improving their basic qualifications by participating in CVET. Employees aged 50 to 65 participate less frequently in further education. Their participation rate is 15 percentage points lower than the participation rate of the group of employees below the age of 50 (their participation rate is 48%). This lower figure is due in particular to the decline in in-company training.

Gender differences are also clearly apparent here. Unlike external or general adult education programmes, where women sometimes participate even more frequently than men, women are underrepresented in in-company training across all age groups (Figure 8.2).

When compared with adult education programmes in general, it is clear that the reason for the low participation is not the women's individual behaviour overall, but possibly the limited opportunities for accessing CVET and the

Figure 8.2. Continuing education participants, ages 50-65, by gender



Source: Own diagram based on TNS Infratest social research, AES 2007.

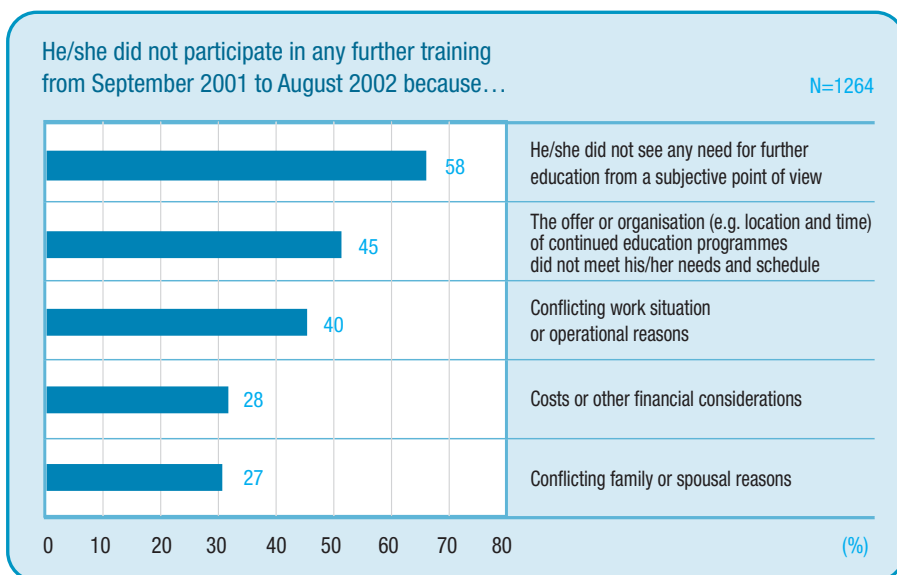
gender-related disadvantages caused by management behaviour within these organisations (Leber and Möller, 2007; Unabhängige Expertenkommission, 2004; BMBF, 2010).

In addition to gender and age, the initial qualification is another factor that has an impact on participation in further education overall. About 23% of employees aged 50-65 with and without secondary school diplomas participate in CVET programmes, while about 39% of people with intermediate certificates and 55% of workers with a (technical) university education take part (Von Rosenblatt and Bilger, 2008). Participation also varies dramatically depending on the size of the organisation. Men in larger organisations are far more likely to undertake in-company training. In contrast, older women are less likely to participate in CVET programmes overall, especially in medium-sized organisations (Huber, 2009). When examining the data on further training, it is apparent that women face other structural disadvantages: for example, women with children participate less frequently in CVET programmes than men. Only single fathers are affected in the same way (Unabhängige Expertenkommission, 2004; Leber and Möller, 2007). Women with lower levels of education did not undertake in-company training nearly as often as men with the same educational backgrounds (BMBF, 2010). In

addition, they often work in lower positions, or predominantly female, lower paid and lower status professions that also have a negative impact on women's participation in CVET.

Individual and structural factors have an impact on the learning habits of adults. Infas ⁽⁶³⁾ conducted a study in 2004 to determine the reasons why people do not participate in CVET. When asked about the reasons why they did not take part in further education during a single year, about 60% of people felt that the additional training was not necessary (Figure 8.3). This justification for not learning was primarily found among groups of workers who are already exposed to a higher risk on the job market. A lack of learning requirements and incentives can encourage attitudes of having a low subjective perception of the need for CVET even though there is a high objective need (Unabhängige Expertenkommission, 2004). Of this group, 45% did not attend the available educational programmes because these failed to meet their own personal needs. Other major obstacles were professional or operational in nature (28%) or related to the cost of the course. The ability to balance family obligations with educational activities also played a major role.

Figure 8.3. **Reasons for not participating in CVET**



Source: Own diagram based on Schröder et al. (2004).

⁽⁶³⁾ Institute for Applied Social Sciences: <http://www.infas.eu/institut/> [accessed 16.10.2012].

These results once again reveal the importance of the relationship between subjective needs or individual learning habits and the CVET programmes on offer. The participation and financing of these initiatives cannot be realised only by individuals. The company and policy-makers must also be held more accountable. Further individual CVET measures can help today's older and lower skilled employees to compensate for their lack of skills. For ageing employees and especially for unskilled workers, participation in CVET measures must be facilitated over the course of their working life to increase their employability. Managers should also be trained in and made aware of this issue. Participation by disadvantaged groups in CVET depends on their commitment.

8.3. Implications for meeting the challenges of demographic change in the logistics industry

The logistics industry is very significant in North Rhine-Westphalia and the regional job market. In 2009, this core industry comprised 21 600 companies with 272 000 employees. If those responsible for logistics work in industrial and commercial enterprises are counted as well, the number of employees rises to 607 500 (Abelmann et al., 2010).

In general, one can say that a mature, innovative logistics industry is an important success factor for many companies in the age of global sourcing and cost-optimised procurement. After the medical technologies and healthcare sectors, the logistics industry offers the best future prospects for its professionals. However, this industry can only take advantage of these opportunities if its companies consider the issues of demographic change in their staffing and CVET policies as well as in their recruitment practices. It will be essential to take these factors into consideration for the future competitiveness of companies in the staff-intensive logistics sector.

The consequences resulting from negative demographic developments, such as the talent shortage, are already apparent in the manpower-intensive logistics industry today. The increasing external challenges which companies face on the market and among their competitors are compounded by a series of internal problems, especially in human resources: issues in finding apprentices and new talent among young people with a training qualification, college graduates and young academics, high turnover rates in industrial workers amidst recruitment problems, physical and psychological strain due to the massive pressure to be productive, and skill gaps among professional drivers, employees in warehouse management and in the handling of goods. It is therefore not only necessary to

adapt staffing policies and recruitment practices, but also to develop CVET opportunities accordingly to meet the challenges and demands involved in the increasingly technological logistics industry.

The industrial sections of logistics companies in particular employ a large proportion of low-skilled workers. The percentage of seasonal employees further reinforces this effect. The high cost pressure in the industry frequently leads to outsourcing to temporary employment agencies. As has already been shown, low-skilled workers are far less likely to participate in further education programmes over their entire career trajectories. This is compounded by their subjective perception that there is no need for CVET (Unabhängige Expertenkommission, 2004). On the one hand, these factors have a negative impact on the individual employability of industrial workers in the logistics industry. On the other hand, logistics companies risk losing the resources and skills of employees already working within the company by not providing them with adequate CVET opportunities, despite a shrinking workforce.

The income level in logistics is another risk factor. Lower wage segments also lead to less personal initiative being taken to participate in individual job-related educational programmes because these employees simply lack the financial means (Figueira et al., 2010).

Women, especially those with children, also participate less frequently in CVET. This has a large impact on the logistics industry, where the percentage of women has risen in logistics professions, as was shown in the initial findings of the IPL project ⁽⁶⁴⁾. In addition, women in the logistics industry are at a clear disadvantage when it comes to opportunities for advancement and career prospects ⁽⁶⁵⁾.

The extension of operating hours in logistics combined with increased cost pressure makes it increasingly difficult for people to participate in CVET. Initial results from the IPL project show that managers and human resources directors are very willing to allow their employees to take part in further training. However, it can be assumed that small and medium-sized enterprises in particular would have difficulties in implementing and retaining corresponding CVET measures for their employees due to the increased cost pressure and longer operating hours. The initialisation and the dissemination of policy initiatives and CVET programmes are very significant in enabling people to participate in CVET.

⁽⁶⁴⁾ The references mentioned here were determined in the course of the evaluations of the first 20 business checks conducted in the course of the pilot project from August 2010 to July 2011.

⁽⁶⁵⁾ Findings of the IPL project.

8.4. The Intelligent personnel management for logistics project

The pilot project 'Intelligent personnel management for logistics' (IPL), which is funded by the Ministry of Labour, Social Integration and Welfare in North Rhine-Westphalia and the European Social Fund, focuses on improving human resources management. The project ran from May 2010 to April 2012 and was implemented by Dr Mortsiefer Management Consulting GmbH (Cologne) in cooperation with the Institute of Gerontology at Technische Universität Dortmund.

8.4.1. Methodological implementation of the pilot project

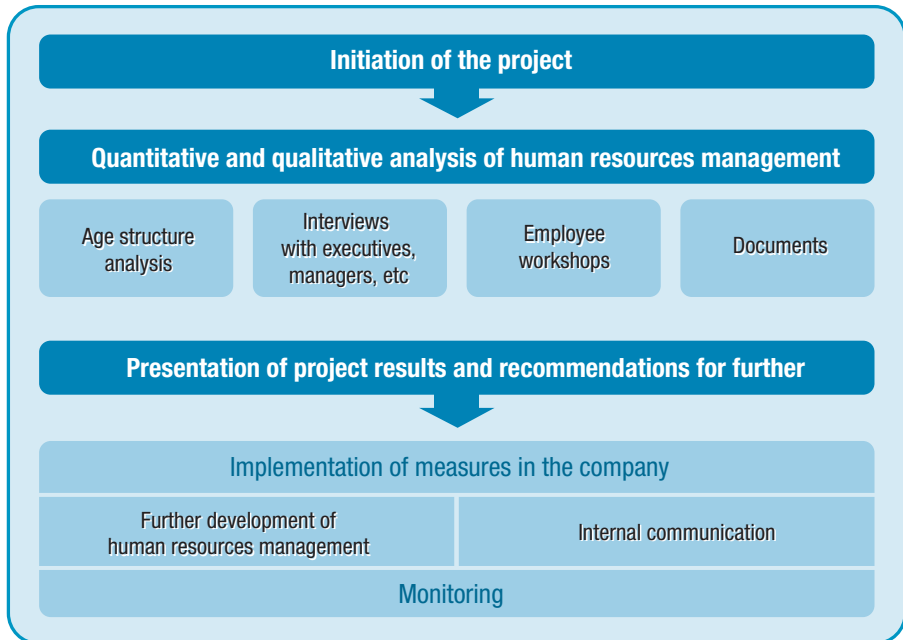
In the pilot project, a demographically sensitive personnel management policy is being developed for 40 companies in the logistics industry or with especially large logistics departments. Small and medium-sized organisations in particular are supported in their efforts to adapt strategic personnel planning, build on their strengths and effectively counteract the impact of demographic changes. The project team conducts business checks at the participating companies. These checks focus on the human resources management policies while considering the specific parameters in place at each company ⁽⁶⁶⁾. Elements of this business check include a comprehensive age structure analysis based on company-specific personnel data as well as an analysis of existing human resource management measures, for example CVET, diversity management, health promotion, etc. Documents such as mission statements and company agreements are analysed and structured interviews are conducted with executives, managers and human resources directors.

The participation of employees is an essential part of the business check. Employee interest groups ⁽⁶⁷⁾ are involved from the beginning in communication and information as well as the planning of processes on the IPL project. An employee workshop is organised to explore the employees' opinions on the strengths and weaknesses of the company's human resources management and to develop ideas for need-based solutions and changes. The results of these analyses then lead to recommendations for action that are tailored to each individual company.

⁽⁶⁶⁾ These parameters refer, for example, to regional effects of demographic change, area of specialisation, company size, employment structure, etc.

⁽⁶⁷⁾ Employee interest groups include works councils or other employee representatives.

Figure 8.4. **Elements of a demographically sensitive personnel management policy**



The aim is to trigger a dynamic process in the companies that can continue independently after the project has been completed. Examples of best practice for demographically sensitive human resources management are developed. An important goal of the pilot project also involves establishing an active business and know-how network with a focus on 'personnel management in the logistics industry'. Furthermore, supplementary training courses are offered to share practical and operational experiences. The different elements of a demographically sensitive, life-course-oriented personnel management policy provide the focus for developing recommendations for action.

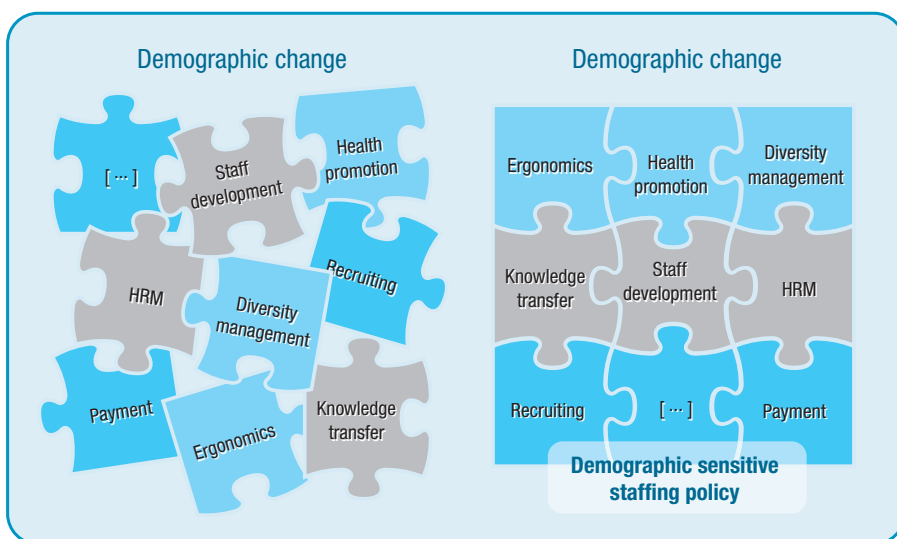
8.4.2. **Elements of a demographically sensitive life-course-oriented personnel management policy**

The discussions on implementing a demographically sensitive personnel management policy are often cut short, even when it comes to the increased age of retirement. Economic issues and their impacts on the organisational structure and staff planning take precedence in daily business, while human resources management seems to have lower priority (f-bb, 2010).

The concept of a demographically sensitive life-course-oriented personnel management policy aims to improve how well a job fits an employee and to ensure that people can be employable and fit to work over their entire career trajectories. It fosters the individual resources of each employee that are not yet in use, which also benefits the company in the end. For example, customised health promotion measures can help reduce rates of sick leave. Life-course-oriented human resources management is a comprehensive strategy that considers all life phases of employees – from their recruitment and relationship with the company to their retirement (Flüter-Hoffmann, 2010; Naegele, 2006).

Figure 8.5 shows an overview of the areas of action involved in a life-course-oriented personnel management policy. The elements cover strategies and measures of operational and strategic staffing policies and can be seen as ideal types that cannot be separated in many cases. For example, a CVET measure combined with the provision of childcare contributes to the employee's level of qualification, but also helps to improve work-life balance. In implementing this concept, it is necessary to devote a great deal of attention to connecting the various areas of activity effectively and to designing measures specifically for each company.

Figure 8.5. **Elements of a personnel management policy that address demographic change**



Source: Authors.

A key area of activity in this concept is personnel development and further education. Continuing skill and expertise development includes employee surveys on the topic, potential analyses, qualification meetings, lifelong learning, provision of a range of different duties and ideal working conditions which allow employees to perform at their best (Flüter-Hoffmann, 2010; f-bb, 2010; Heien et al., 2008). When it comes to older workers, the aim is to retain their knowledge in the company, to help them stay healthy and motivated until they retire, and to activate their resources with a view to effectively counteracting the talent shortage.

As all areas of life become increasingly knowledge-based, CVET efforts on the part of the company, as well as the employees themselves, are essential for them to be fit for work and employable throughout their career trajectories. The following section suggests practical approaches that include aspects of lifelong learning and explain how these can address qualification and employment risks at the operational level.

8.4.3. Lifelong learning approaches as a component of practical operational human resources work that reflects demographics

The approaches to implementing lifelong learning as a component of demographically sensitive human resources work were generated from the results of the IPL project. Business checks were conducted and IPL network partners from the expanded logistics industry ⁽⁶⁸⁾ developed lifelong learning approaches.

8.4.3.1. *Promoting vocational education and training*

The declining number of applicants for apprenticeships has also affected logistics companies. To find a sufficient number of suitable applicants, the companies are offering various types of support measures to increase training opportunities for low-skilled applicants early on in their career trajectories. In addition, further efforts are being made to attract high school graduates with dual higher education study programmes in logistics. Examples of measures include:

- (a) additional training for trainees with immigrant backgrounds: applicants and trainees with immigrant backgrounds face specific challenges because of educational disadvantages. Their key competences include their foreign language resources, which are especially important for internationally operating logistics companies. Training programmes can target and rectify

⁽⁶⁸⁾ The expanded logistics industry consists of conventional logistics companies as well as companies with particularly large logistics departments: <http://www.ipl-nrw.de> [accessed 16.10.2012].

any of the applicants' shortcomings in mathematics or German language skills, for example;

- (b) part-time training: several companies now offer part-time training to applicants with children to help them better balance their family duties and careers. These programmes specifically target young mothers, who are especially disadvantaged in the training and job markets;
- (c) dual higher education study programmes in logistics: German universities are increasingly accommodating the need for dual study programmes. These allow logistics companies to offer qualifications for young talent and to integrate them into their operational processes during their studies. Such programmes offer advantages for both companies and students due to the strong practical orientation of the study programmes and the combination of theory and practice.

8.4.3.2. *Further qualification of older workers in warehouse management and professional drivers*

Logistics companies are responding to the already apparent talent shortage by targeting employees from warehouse management, goods handling and professional drivers and training them further. Individual employees obtain qualifications with the goal of improving their opportunities for advancement and consolidating their company-specific experience. The CVET measures specifically target older employees, whose ability to work is especially at risk due to the high physical strain they have endured over several years. One example involves further qualifications for professional drivers to become schedulers, and industrial warehouse employees being trained to work as team and shift leaders. When implementing such measures, it is important that the employees' individual expertise and development needs are considered. The need for CVET can then be determined based on the current scope of work and the future field of activity. Measures may include management training, training on administrative tasks, etc.

8.4.3.3. *Mixed-age teams*

Mixed-age teams are designed to retain the knowledge and experience of older workers within companies, to foster intergenerational learning, and to prevent the development of age-specific stigmas among employees. Mixed-age teams can be used in industrial and commercial areas to encourage informal and non-formal learning in the workplace. Younger workers benefit from the experience of the older team members, while the older employees gain insights into state-of-the-art information, such as technical developments,

from their younger colleagues. Experience shows that this exchange requires support and facilitation from managers. It is necessary to train managers accordingly to integrate mixed-age teams into their operations. Problems due to existing monopolies of knowledge and/or fear of losing one's job may arise when the teams are formed. Mixed-age teams are used especially in the areas of knowledge transfer and succession planning.

8.4.3.4. *On-the-job training*

Other non-formal learning settings include on-the-job training measures. Participants learn information relevant to their workplace, while at the same time processes can be directly reviewed and optimised in actual operations. Such measures are successfully used primarily in warehouse management or for professional drivers. For example, in warehouse management, training is organised for temporary and seasonal employees to improve operating procedures. When it comes to professional drivers, effective on-the-job training measures would involve new employees accompanying them on regular day trips.

On-the-job training can also be implemented in conjunction with measures to promote good health. The IPL evaluations showed that warehouse employees in particular rarely participate in back training sessions and other measures to promote good health. Combining on-the-job training with optimising workplaces and operational ergonomics is an alternative way of increasing awareness independently of conventional health or fitness classes. Companies report the success of on-the-job training measures, for example correct lifting and carrying at the workplace under the direction of physiotherapists.

8.4.3.5. *Job rotation schemes and mixed work*

Employees can expand their fields of activity with job rotation schemes. Extending the field of activity allows employees perpetually to expand and activate their knowledge and resources. Job rotation can help to create settings for implementing lifelong learning concepts. In the case of conventional leaves of absence to participate in CVET, for example, the corresponding workload can be covered through job rotation for a defined period of time. This type of job rotation is rarely used in logistics, but is more established for highly skilled personnel in corporations.

Nevertheless, internal job rotation processes are used to expand or enrich jobs among low-skilled workers and/or in industrial areas within logistics. Such measures have a positive impact on the company. They make employees

more employable, flexible and avoid concentrated stress due to prolonged repetitive activities. Switches to different spheres of activity to expand expertise can take place at weekly, monthly or yearly intervals. Logistics companies that use such internal rotation processes also report a positive impact on the motivation of their employees.

8.4.3.6. *Employee discussions on specific topics*

Employee discussions on specific topics represent an innovative way of getting even those who reject CVET involved in learning processes. The session focuses on selected topics and informal learning processes are initiated through the discussion of these topics. The goal of this measure is not learning in a narrow or formal sense. The process of informal learning is based on social networks and interaction between individuals (Von Rosenblatt and Bilger, 2008; Bubolz-Lutz et al., 2010). Employee discussions promote self-organisation in learning processes through social interaction (Bubolz-Lutz et al., 2010).

Employees learn by sharing their experience and expertise, for example on health issues, challenges such as family care, or their transition into the post-employment phase of life. Employee discussions involve employees from various areas, formal qualification levels and age groups. To ensure the balanced and equal sharing of ideas in this heterogeneous group, the employee discussion needs to be facilitated. Companies that use this approach reported that employees who have never participated in CVET activities became more willing to take part in educational measures as a result.

8.5. Summary

Older employees are required to manage innovations in technology and work organisation. This is considered a prerequisite for employability and therefore a decisive factor for the ability to work up to the age of 67. As the half-life of knowledge continues to decrease, lifelong learning plays a major role in handling these demographic changes. People need to improve their knowledge early on and to continue to do so throughout their entire career trajectories. They also need to adapt to meet the needs of a constantly changing world of work to continue their careers until they have reached retirement age (Bosch, 2010).

Initial and professional qualifications, career status, age and gender are all factors that impact the opportunities for employees to expand their own

expertise and knowledge resources in CVET programmes. There are also industry-specific risks involved, for example in the manufacturing and service industries. Other factors, such as the size of the company and the corporate culture, also influence employee participation in CVET. For low-skilled and part-time employees, as well as low-status positions, certain 'risk factors' may accumulate and hinder them from participating. If the retirement age is to be raised in all industries, it is necessary to implement various measures at operational level that ensure structural changes of working conditions and, most importantly, participation in CVET programmes throughout people's career trajectories.

The following learning-related recommendations for action at operational level have been defined:

- (a) to promote involvement by especially disadvantaged groups such as low-skilled workers in further education, it is necessary to enable them to participate as early as possible and to continue throughout their career trajectories. It is also essential to reduce barriers to access. This can be done by developing participation opportunities for specific target groups. When it comes to older employees, targeted educational measures should be designed to fill the skill gaps that have developed over the course of their careers;
- (b) in addition to further professional training, semi-formal and informal methods of learning that are integrated into the workplace will become more significant in the future. By expanding semi-formal and informal learning settings, it is possible to provide a low-threshold response to qualification needs in more low-skilled areas. Measures include on-the-job training, group work and job rotation. Tools and supplies for work can also be used as learning materials;
- (c) to be able to respond adequately to the increasing number of innovations in technology and work organisation, it is necessary to establish age and status-specific CVET practice within companies. Incentives should be created to motivate employees to participate in CVET early on in their careers. Small and medium-sized businesses in particular need to create an environment that promotes learning;
- (d) when initiating learning, it is also necessary to focus more on developing employee expertise related to specific points in their resume. Initial results of the business checks and the network partners of the IPL project show ways in which employees can be moved from their high stress positions and integrated into other areas, for example training for older professional

drivers to become team leaders in warehouses ⁽⁶⁹⁾. The expertise and experience gained by employees in an informal setting is becoming increasingly significant in creating effective transitions in people's career paths;

- (e) establishing a culture of appreciation at operational level also helps to retain the experience and knowledge of older employees who have accumulated considerable know-how over their many years with a company. Measures such as mixed-age teams or mentoring programmes can improve the knowledge transfer process;
- (f) as these findings show, older employees are thoroughly aware of their situation and are willing to counteract potential risks. There is great potential here that should be taken into greater consideration. Integrating interest groups and making them aware of the special education and training needs of specific groups of employees is also important in initiating and implementing corresponding measures at operational level.

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List of abbreviations

CVET	continuing vocational education and training
ESF	European Social Fund
IPL	intelligent personnel management for logistics

CHAPTER 9

Organisational demographic literacy: developing a conceptual framework

Mirko Sporket

The discourse on changing demographics is mostly concerned with the question how social security systems – especially pension schemes – can be financed against the background of an obvious demographic imbalance. A shrinking population of working age stands alongside an increasing ageing population which depends largely on financial transfers (OECD, 2006; Kluge, 2009).

As a consequence, in many countries of the European Union extensive labour market and pension reforms have been introduced which aim to prolong working life and/or to increase labour force participation of older workers (Taylor, 2006; Frerichs and Sporket, 2007). However, considering the ageing and shrinking population, the organisation and performance of social security systems is not the only factor to be considered. The efficiency and competitiveness of organisations can also be affected directly or indirectly by current demographic development trends. Therefore, organisations have to learn more about demographic shifts, how these developments may affect them and how to deal with these changes.

This chapter focuses on this question and broadly outlines what kind of knowledge and competences organisations have to develop and acquire to deal with the new and emerging uncertainties caused by demographic shifts. The concept of demographic literacy suggested in this chapter should provide a conceptual framework for organisations to develop such knowledge and competences.

9.1. Population dynamics

The ageing and shrinking of the European population is one of the most striking contemporary developments. This demographic transition is characterised by two processes which develop independently from one another: declining fertility rates and an enormous increase in life expectancy.

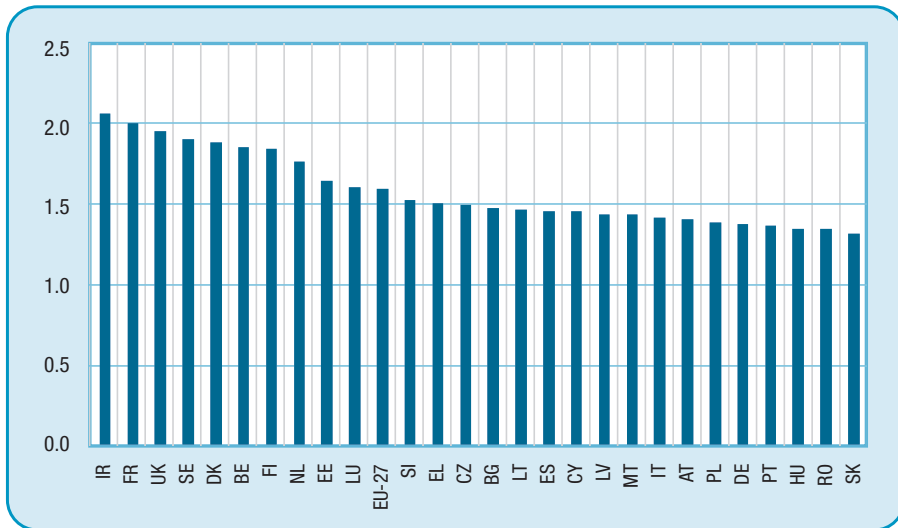
In most of the industrialised Western world a more or less sudden fall in birth rates has been observed since the mid-1960s (Kohler et al., 2006). In many countries the birth rates dropped below the replacement level of 2.1 children per woman ⁽⁷⁰⁾. This development is primarily a product of sociocultural changes. The enormous dynamics of social change and the widespread use of contraceptives have led to emancipatory movements resulting in changing gender relations and a decreasing importance of traditional family models (Kaufmann, 2005) ⁽⁷¹⁾. The same process took place in the eastern European countries. However, in those countries the process was characterised by an even faster and greater decline in birth rates after the Eastern Bloc collapsed (Kohler et al., 2002). Even though the period of extreme low birth rates, the 'lowest-low fertility', seems to be over (Goldstein et al., 2009), countries with a low birth rate are not expected to approach the replacement level in the near future. Despite this general trend of low fertility rates there is a huge variation across the EU Member States (Figure 9.1).

The second process is an enormous increase in life expectancy since the mid-19th century. By analysing historical data from different countries, Oeppen and Vaupel (2002) showed that life expectancy has increased almost linearly since 1850 by 2.5 years every decade. Whereas the first gains in life expectancy were primarily due to a reduction of infant mortality, since the 1970s the strongest contributions to the still continuously increasing life expectancy come from the older population itself (Christensen et al., 2009). A deceleration in this steady increase in life expectancy has not been observed yet. Therefore, there is no evidence of the often predicted decelerated increase in life expectancy (Oeppen and Vaupel, 2002). The increase in life expectancy becomes quite striking if we look at the group of people who reach extremely old age, the 'oldest old'. A study by Maier and Scholz (2004, 2010)

⁽⁷⁰⁾ In countries with low infant mortality a birth rate of 2.1 children per woman would enable the next generation to replace their parental generation.

⁽⁷¹⁾ According to Kaufmann, this second decline in birth rate was for different reasons than the first decline in the birth rate at the beginning of the 20th century, which was caused primarily by socio-economic reasons. Children lost their economic importance due to social benefits offered by the State (Kaufmann, 2005).

Figure 9.1. Birth rates across Europe, 2008



showed that in 1990 there were only 45 women of the age of 105 years and over in the reunited Germany. Ten years later, this number has increased to 299 women, which is more than five times as many. In other countries, such as Sweden or Japan, the latter being the country with the highest life expectancy in recent years, the increase in the number of people reaching extremely old age is even more drastic (Vaupel, 2010).

Both these briefly described processes, declining fertility rates and increased longevity, are responsible for changing demographics. As a consequence, populations are ageing and – in some cases – shrinking ⁽⁷²⁾. The latter is especially true for the population of working age (20-65 years old). However, taking a look at different countries of the EU, the population dynamics vary considerably (European Commission, 2009b). Nevertheless, all Member States will face an increase in numbers among the older population (Table 9.1).

These major shifts in Europe's population structure will lead to huge societal challenges. Presumably, there will be hardly any part of social life which will not be affected by these developments. As mentioned earlier, this is especially

⁽⁷²⁾ However, it is uncertain how migration, as the third influencing factor, will affect the demographic development of a certain population in the future. Migration has been disregarded since a steady trend and development could not be observed in recent years and decades.

Table 9.1. **Population growth and ageing in Europe 2010-30**

	Growth of the working age population (20-65), 2010-30 (%)	Percentage of people aged 65+		
		2010	2020	2030
EU-27	-4	16.0	19.1	22.6
Belgium	3	17.2	19.2	22.3
Bulgaria	-21	17.5	20.9	24.2
Czech Republic	-7	15.2	19.6	22.0
Denmark	-1	16.3	19.9	22.5
Germany	-14	20.7	23.0	28.1
Estonia	-13	17.1	19.1	22.3
Ireland	9	11.3	14.4	17.6
Greece	-4	18.9	20.9	23.7
Spain	1	16.8	19.1	22.8
France	-1	16.6	20.2	23.2
Italy	1	20.2	22.3	25.5
Cyprus	12	13.1	16.5	19.6
Latvia	-16	17.4	19.0	23.1
Lithuania	-16	16.1	17.6	22.1
Luxembourg	18	14.0	15.7	19.3
Hungary	-7	16.6	19.7	21.8
Malta	-9	12.1	14.8	20.5
Netherlands	-5	13.6	15.3	19.7
Austria	-2	17.6	19.8	24.1
Poland	-11	13.5	17.9	22.5
Portugal	-3	17.9	20.6	24.0
Romania	-9	14.9	17.4	20.2
Slovenia	-7	16.5	19.8	24.2
Slovakia	-6	12.3	16.1	20.5
Finland	-6	17.0	22.1	25.0
Sweden	5	18.1	20.6	22.3
United Kingdom	4	16.4	18.7	21.2

Source: European Commission (2009b).

true for social security systems, which are already under pressure because of the imbalance between net contributors and net recipients. Labour market and pension reforms will be able to absorb at least some of the demographic effects by prolonging the effective time in employment, for example by postponing retirement and increasing labour market participation by older workers.

Nevertheless, the ageing and shrinking population, as well as policy reforms, will also result in new uncertainties and risks for organisations, which will be explained in more detail in the next section.

9.2. Emerging organisational uncertainties

Organisations usually operate in an unpredictable and therefore insecure environment. Thus, one of organisations' core activities is to reduce and absorb those uncertainties and make them processable and manageable (Luhmann, 2005; Seidl and Becker, 2006). Looking at the changing demography, three new organisational uncertainties may emerge: the ageing of workforces and the related possible decline in individual productivity and organisational performance, changes in the organisational knowledge base, and the development of labour supply.

9.2.1. Ageing workforces – Still productive and competitive?

Age profiles can be described for the general population as well as for workforces. However, they differ in the factors that affect their respective age profile. Whereas the general population age profile is mostly shaped by birth rate and life expectancy, organisational age profiles are primarily the result of organisational decisions. This becomes obvious if we take a look at different organisations and their respective 'demography', which is the subject-matter of organisational demography (Pfeffer, 1983; 1997; Mittman, 1992), an arm of organisational theory that developed during the 1970s and 1980s, especially in the USA. Organisational demography is defined as 'the composition in terms of basic attributes such as age, sex, educational level, length of service or residence, race and so forth' of an organisation (Pfeffer, 1983).

Although different organisations show different demographic compositions, the ageing of the workforce is a clear trend that many organisations are currently experiencing (Alley and Crimmins, 2007). This development is to a great extent caused by pure demographics, since the large group of the baby-boomer generation is ageing and those large cohorts are approaching

retirement age. In Germany, this trend started in the 1990s and will probably last for the next couple of years (Fuchs et al., 2011).

Furthermore, these demographically induced ageing processes will be accelerated by labour market and pension reforms that aim to prolong working life; older workers may stay longer with an organisation than before. One could legitimately argue that ageing per se is not a threat for organisations. This is certainly true but nevertheless some consequences of workforce ageing may be challenging in terms of organisational performance.

Nienhüser (2000, 2002) approaches the topic of an ageing workforce by asking to what extent different organisational age profiles affect the respective organisation's human resources policy and strategy, especially in terms of skills availability, motivation, performance, organisational adaptability and labour costs. He distinguishes between different imbalanced age structures, which have various effects on human resources management. Age profiles are described as imbalanced (a) if the workforce has a high proportion of older employees; (b) if one cohort dominates the workforce; or (c) if the age profile is characterised by huge age differences.

As regards ageing workforces, Nienhüser states that a high proportion of older employees may be an advantage if the experience-based knowledge the older employees possess is important for the organisation's productivity and competitiveness. On the other hand, if this experience-based knowledge is less important for organisational performance, a higher proportion of older employees will become less beneficial. From a personnel development perspective, a higher proportion of older employees could also impede the career development of younger cohorts, which could not only lead to negative effects on motivation and work atmosphere but also have serious consequences for the organisation's skills flow. According to Nienhüser, the simple fact that in most cases older employees incur higher costs than their younger colleagues may be another negative impact of workforce ageing.

Whereas Nienhüser mainly examines the consequences of workforce ageing in terms of personnel economics, Skirbekk's (2008) review focuses on the correlation between age and labour productivity. In his paper he provides an overview of different approaches and findings, most of which suggest that work performance declines with age. However, this is not true for all work tasks, 'and less so in occupations where abilities that do not decline by age are important' (Skirbekk, 2008). The same trend is suggested by data from the work ability index (WAI), a questionnaire for self-assessment of work ability. Multiple studies have shown that work ability, i.e. the ability to perform one's work – decreases continuously over the working life, and thus with age

(Ilmarinen, 2005). However, this decrease in performance is to a large extent due to poor working conditions. There is much evidence to suggest that an improvement of working conditions and leadership and the implementation of health promotion and training measures is able to sustain and even restore work ability (Nygård et al., 2011).

Börsch-Supan and Weiss (2008) took a look at work performance at the team level, since productivity is the result of team performance rather than individual achievement. To study the relationship between age and productivity they used a data set that was collected at the assembly line of a large car plant. This data set combines information on production errors (which was used as an indicator for productivity) with information on the age composition of working teams. The analysis has shown that older workers are no less productive than younger workers. This is due especially to their experience (i.e. tenure) and their ability to avoid serious errors.

In addition to the abovementioned perspectives on productivity, gerontological research has shown – especially in disproving the loss-deficit model of ageing – that ageing is not necessarily linked with a series of losses and a decline in mental and physical performance. Ageing has to be understood rather as a process which is associated with gains and losses concerning the different dimensions of competences and performance (Baltes et al., 2006). While certain functional abilities such as muscular strength or physical and mental flexibility typically decline with age, older employees show an increase in other abilities: precision, judgement and practical and process-related knowledge. Other abilities such as attention, concentration, retentiveness or long-term memory remain constant during one's occupational career.

To sum up: ageing is not a problem per se but an ageing workforce could become a problem for an organisation if age-related declines in employees' capacity negatively affect their work performance and productivity.

9.2.2. The looming loss of knowledge

With reference again to Nienhüser, the availability of human resources may become a problem in organisations which are characterised by an imbalanced age structure (Nienhüser, 2000, 2002), i.e. by a comparatively high proportion of older employees. In the next few years these large cohorts are expected to reach retirement age and consequently leave the organisation. This huge retirement wave is at the same time linked to an enormous loss of important skills and knowledge possessed by those older employees. It is highly unlikely that this 'uncontrolled loss of knowledge' (Piorr et al., 2006) will simply be compensated by recruiting younger employees.

Several studies have shown that this demographically induced brain drain is a concern for organisations. In Germany for example, the Cologne Economic Institute found that four out of five companies can hardly imagine doing without the invaluable, essential knowledge of their older engineers (IW, 2004). Another German study by Riese (2007) showed similar results. According to their findings, bigger companies with more than 500 employees in particular are affected by problems resulting from the age-related loss of knowledge. However, companies expect not only the loss of professional knowledge but also the loss of organisational memory, since older long-tenured employees know most about organisational developments.

In his international chemical industry company survey in the USA, Japan and Europe, De Long (2002, 2004) identified four aspects that could be negatively affected by these huge retirement waves:

- (a) reduced capacity to innovate: if the important tacit knowledge of older employees is lost, the innovative capacity of a company may be reduced since not only do older employees provide the knowledge to develop innovations but, based on their experience, they often also possess knowledge about how to make those technical developments and innovations saleable on the market;
- (b) ability to pursue growth strategies threatened: according to the companies, their growth strategies are endangered by retirements of older employees for two reasons. First the experience and professional knowledge of older employees are necessary when it comes to the companies' expansion activities. Younger employees providing the necessary skills are generally not available in sufficient numbers on the labour market. Furthermore, older employees are needed to provide their knowledge for younger employees recruited as a result of the expansion process;
- (c) less efficiency: due to their specific professional knowledge based on experience, older employees cause fewer mistakes and ensure fast and conscientious error correction and they provide greater efficiency in their methods. One of the interviewed executives came straight to the point by saying: 'What you really lose through people leaving is efficiency – knowledge of how to get a job done faster and better' (De Long, 2002).
- (d) less quality/more mistakes: a reliable process knowledge provided by older employees is necessary to ensure a hitch-free functioning of the many complex computerised operating procedures in the chemical industry. According to the interviewees, younger employees cause more problems in operating procedures than older ones.

To sum up: the retirement wave of the huge baby-boomer generation may lead to an uncontrolled loss of invaluable experience-based knowledge and know-how.

9.2.3. Skills shortages

The expected change in labour supply is another uncertainty which may result from demographic shifts. As has been shown above, in a couple of European countries and in the EU-27 the total labour supply will decrease over the next few decades. This means that fewer people will be available on the labour market. In Germany for instance, the number of people of an employable age of 20 to 65 is expected to fall by 30% by 2060 ⁽⁷³⁾. All in all, the EU as a whole will not be affected that drastically by this shrinking process, but nevertheless the volume of the potential workforce will decrease by 15% from 2010 to 2060 (European Commission, 2009a). However, the decrease in the population aged 20-64 is not a sufficient indicator of the extent to which a lack of labour supply and skilled personnel can be expected in the next couple of years. In addition, the labour supply is influenced by other factors, such as the availability of certain groups within the population (e.g. old people, women and migrants), the development of productivity, and economic progress (Fuchs et al., 2005).

There is evidence that a labour deficit is not necessarily to be expected throughout Europe in the near future. It is more likely that this problem will affect in particular regions which are economically underdeveloped and characterised by an enormous shrinking process and a weak infrastructure.

In addition to this regional aspect, qualification will play an important role in this context. A couple of countries expect a medium or long-term lack of skilled personnel (Dunkel, 2011). Due to the still increasing importance of knowledge there is a strong need for a more highly qualified workforce. To illustrate this development: in Germany the unemployment rate among low-skilled workers has been increasing continuously since the 1970s. Today the rate of unemployed low-skilled workers is four times as high, whereas the unemployment rate among academics has remained nearly the same (Sporket, 2010). This trend will probably continue all over Europe in the future (Cedefop, 2010).

To sum up: organisations will be affected differently by potential skills shortages depending on their skills needs and the development of their regional/relevant labour market.

⁽⁷³⁾ According to the 2060 outlook, Belgium, Cyprus, France, Ireland, Luxembourg, Norway, Sweden and the UK are the only countries that show an increase in their population aged 20 to 65 years old (European Commission, 2009a).

9.3. Developing demographic literacy

Thus far, demography and demographic developments and their consequences for organisational performance have been neglected by organisations and especially by human resources departments. Given the potential risks described above, this may change in the next couple of years since changing demographics may directly or indirectly affect organisational performance and thus organisational competitiveness.

In recent years a broad discussion about the development, introduction and implementation of organisational age management or ageing workforce management has emerged, especially in Europe (Walker, 2005). In his definition Walker states that age management ‘may refer specifically to the various dimensions by which human resources are managed within organisations with an explicit focus on ageing [...]. There are five main dimensions of age management in organisations: job recruitment (and exit); training, development and promotion; flexible working practices; ergonomics and job design; and changing attitudes towards ageing workers’ (Walker, 2005). In relation to this definition the development of a good practice in age management is defined ‘as those measures that combat age barriers and/or promote age diversity. These measures may entail specific initiatives aimed at particular dimensions of age management; they may also include more general employment or human resources policies that help to create an environment in which individual employees are able to achieve their potential without being disadvantaged by their age’ (Naegele and Walker, 2006). Ilmarinen adds an organisational dimension to age management, saying that ‘age management means managing the work ability of personnel and the success of the enterprise’ (Ilmarinen, 2005). In addition to these more conceptual frameworks, many guidelines and recommendations for the implementation of age management strategies have been published by different EU and national organisations. In their review of 16 age management guidelines, Bögel and Frerichs come to the conclusion that age management strategies should be comprehensive and multidimensional (Bögel and Frerichs, 2011). This means that age management should account for all the different dimensions (depending on the underlying concept this may be working time arrangements, career management, training and development, health promotion, job design and ergonomics, knowledge management, recruitment, retention, leadership etc.) since this is said to be more effective than simply introducing individual measures to address specific problems. However, even though this requirement seems to be obvious, there is no

empirical evidence for this assumption. On the contrary, a qualitative study of good practice in age management has shown that most of the organisations studied simply introduce specific problem-related measures and do not reorganise their entire human resources management practice according to age or ageing (Sporket, 2010). In addition, Streb et al. (2008) concluded from their findings in the automotive sector that ‘the ageing workforce affects organisations individually and they thus require individual solutions’ (Streb et al., 2008). The enormous variety and diversity of measures taken by different organisations indicates that there is no general need for a holistic approach to managing an ageing workforce. To evaluate the actual individual need of an organisation with regard to tackling demographically induced risks, it seems to be much more important for organisations to understand the processes at work and the effects they may produce and to derive tailored policies from this analysis.

9.3.1. Why demographic literacy?

As mentioned earlier, one of the core functions of organisations is to reduce and absorb uncertainties and make them processable and manageable. Against the background of the abovementioned potential risks resulting from demographic shifts, organisations should evaluate to what extent they are affected by those emerging uncertainties and what action needs to be taken. However, most organisations lack the abilities and competences that are necessary to do so. The development of demographic literacy precisely describes this organisational learning process. The term ‘literacy’ has already been established within educational research and goes beyond the scope of its initial meaning, which is the ability to read and write. Unesco defines literacy as ‘the ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve his or her goals, develop his or her knowledge and potential and participate fully in community and wider society’ (Unesco, 2005). According to this definition, the term ‘literacy’ includes the whole process of acquisition/generation, processing/analysis, interpretation, evaluation and understanding and practical application of information.

According to this broad meaning of literacy, demographic literacy should be defined as the ability and competence of organisations to acquire, provide and generate data and information about internal and external demographic shifts, to process and analyse that information and data and, if necessary, to link it with other relevant information and data, to understand and evaluate

the resulting information and, if necessary, to introduce appropriate measures. Demographic literacy therefore focuses on the three abovementioned risks and their evaluation and processing.

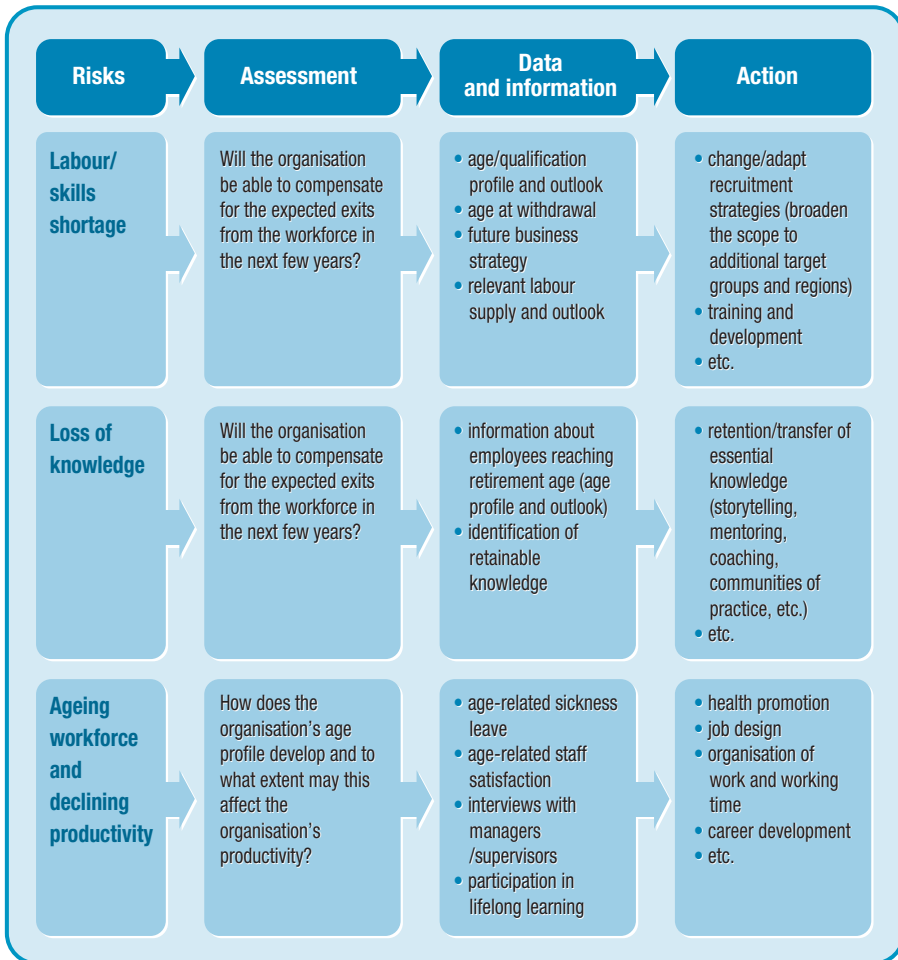
9.3.2. Developing a conceptual framework for demographic literacy

It is explicitly not the aim of this section to develop a human resources instrument that makes it possible to calculate exactly the demographic risk for a specific organisation, since such an instrument would be too inflexible to be adapted to different organisational settings. Instead, this section seeks to describe what kind of data and information is needed to evaluate those risks (Figure 9.2).

Labour/skills shortages are mostly concerned with the question whether the organisation will be able to compensate for the expected exits from the workforce in the next few years. To answer this question it is necessary to gather information on how labour needs will develop and if that observed demand can be covered by existing recruitment strategies. To estimate carefully the labour demand it is important to know how many people will leave the organisation in a defined timeframe and what kind of competences these people possess. This value can easily be appraised by analysing and projecting the organisation's age/qualification profile. For this purpose the organisation needs to gather the relevant data (personnel data according to age, qualification, sex and department). On the basis of this information, assumptions can be made about the development of the personnel structure within an organisation. Thus the organisation knows how many employees from different departments with a certain qualification will retire at a particular time. Furthermore, it is also important to consider the organisation's general strategic development. If, for example, the organisation intends to follow a growth strategy, the need for skilled personnel will increase, so that the simple replacement of retired staff will not be sufficient to cover labour demand.

These organisational needs then have to be compared with the (projected) labour supply, which is much more difficult since the data are not readily available. Organisations should cooperate with (local or regional – depending on their relevant labour market) labour agencies to better assess future developments since labour agencies possess the necessary knowledge about the structure and potential development of the labour market. If the analysis reveals a need for alternative recruitment strategies, options could be the expansion of target groups (migrants, older workers, women), the shift of labour markets (e.g. international recruitment) or a higher investment in training of younger staff.

Figure 9.2. **Demographic literacy – A conceptual framework**



In the case of retirements the organisation loses not only employees but also the knowledge they possess. The question of knowledge retention is another risk to be assessed and is closely related to the aspect of labour demand. Thus, the question is whether – especially when the large group of baby-boomers exits the organisations – organisations are able somehow to keep the important knowledge and experience of their retiring employees, since in most cases the loss of this experience-based knowledge cannot be compensated simply by recruiting younger and possibly better educated

employees. To evaluate the risk for a specific organisation, it is necessary to find out whether important and relevant knowledge is lost and becomes unavailable in case of retirement. In addition to the abovementioned staff planning, which provides insights into how many employees will exit the organisation in a defined period, it is necessary to evaluate whether the related loss of knowledge has serious consequences for organisational performance. This evaluation can best be done by supervisors who are familiar with their field of work and with their employees' competences. Supervisors should be responsible for identifying employees who will leave within the next few years and at the same time provide knowledge and competences that are essential for the organisation's performance and not easy to replace. The transfer of this tacit and practical knowledge which is based on experience and which has been developed over years or even decades is a time-consuming process since it cannot simply be written down or put in a manual. Instead, this knowledge has to be transferred in a more conversational setting. Examples are mentoring, mixed-age teams, communities of practice, storytelling, co-working and others (Zimmermann, 2005).

The third risk, the potential decline in productivity of ageing workforces, is far more complex to evaluate than the two previously mentioned risks since individual productivity and its development over the life course is not known and is thus very hard to predict. Therefore, it is necessary to use indicators to create an impression of how productivity may develop against the background of an ageing workforce. The most important question to be answered is: does the ageing of the workforce negatively affect organisational performance and competitiveness? The background to this question is, as mentioned before, the assumption that individual productivity may decline with age. Potential indicators could be age-related sickness absence rates, job satisfaction and motivation or age-related participation rates in training (Cleveland and Lim, 2007). An analysis of these aspects could deliver insights into the development of age-related productivity and into potential fields of action to maintain individual performance or to optimise the fit between individual performance/productivity and the workplace. Depending on the results, possible actions could be health promotion, job design, new working time arrangements, leadership or training and career development, to mention a few.

9.4. Discussion

This chapter suggests that organisations have to develop a new organisational competence called demographic literacy in order better to evaluate the new risks that may emerge from demographic developments, especially the ageing of the workforce and shrinking labour supply. Since these developments will affect organisations differently, organisations should assess their own risk profile and develop and implement measures tailored to their respective needs. It is very likely that smaller and medium-sized companies in particular will need support in developing demographic literacy and coping with these new emerging risks. Some organisations and institutions are already providing support for those companies. One example is the German Pension Fund, which has developed a network of consulting services for smaller and medium-sized companies with a special focus on demographic change and its implications for companies (Deutsche Rentenversicherung Bund, 2011). Another German example is the introduction of collective agreements in the iron and steel industry and in the chemical industry. Both collective agreements focus on demographic change and how to tackle its implications and consequences on the organisational level. One important aspect included in both agreements that relates to the development of demographic literacy is the obligatory analysis of the organisational demographic profile, its development and the consequences deriving from these analyses (Katenkamp et al., 2011). In future, it will be of vital importance to disseminate these activities and further strengthen the development of demographic literacy as a future organisational key competence in times of new uncertainty as a result of demographic change.

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PART 3

International, interdisciplinary and other perspectives on working, ageing and learning

Working beyond 65 in Canada
and the United States

Antje Barabasch and Alexandra Dehmel

Characteristics of informal learning activities
of older trainers at work

Birgit Luger, Sebastian Anselmann and Regina H. Mulder

Factors influencing intergenerational learning:
towards a framework for organisations
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CHAPTER 10

Working beyond 65 in Canada and the United States

Antje Barabasch and Alexandra Dehmel

This chapter presents a comparative analysis between Europe and Canada and the United States. Similarities and differences between Europe and the other side of the Atlantic in terms of ageing trends are the focus of this literature review. Issues that are discussed include, among others, participation in the labour market, entrepreneurship among older workers, sectors employing older workers, attitudes of employers and employment strategies, anti-age discrimination policies and access to and participation in lifelong learning. The aim of the chapter is to gain a deeper understanding and to open up opportunities for policy learning.

10.1. Introduction

Economic and social circumstances as well as attitudes, beliefs and values with regard to population ageing and working longer are changing across Europe and similarly in Canada and the US. Although certain commonalities can be observed when looking at these parts of the world, there are also some differences which this chapter seeks to explore to inform policies and practice in Europe. The aim of this comparative work is primarily to introduce a degree of diversity to help explore the variety of mechanisms operating in the case of delayed retirement and working beyond 65. In this way, we can differentiate between North American and European trends with the purpose of gaining a deeper understanding and opening up opportunities for policy sharing.

The primary approach to policy learning often involves benchmarking, which is a working method used to support improvements in regional policy, such as approaches to access in higher education for older workers. By uncovering differences and similarities, benchmarking can be a source of new ideas that can be used to reconsider or redesign policies in Europe. Comparing results and effects makes it possible to learn from mistakes and failures. This is not straightforward: the challenge that remains in this respect

is that there is no sufficient coherence between the policies in the various countries, while, at the same time, their effects need to be monitored and evaluated (Orrantia and Federighi, 2007). To reach the objectives of policy sharing, it is essential for public authorities, industry and academia to engage in a dialogue on innovation policies that support older workers and to prepare authorities for transnational cooperation. It is the intention of this chapter to contribute to this process by identifying policies and practices in Canada and the US and to provide information on changing attitudes, values and beliefs based on a detailed Internet and literature research. These might form a basis for policy learning by providing new ideas on how to maintain and set standards to support older workers through active ageing policies across Europe. The following aspects are touched upon: participation in the labour market of older workers in Canada and the US, entrepreneurship among older workers, sectors employing older workers, attitudes of employers and employment strategies, values, attitudes and beliefs as well as changing lifestyles among older workers, anti-age-discrimination policies and access to and participation in higher education. While a direct comparison is almost impossible, we provide some comparative analysis on the basis of the survey of health, ageing and retirement (SHARE) in Europe (2004-07), which closely follows the health and retirement study (HRS) in the US.

10.2. Demographic developments

Demographic trends, although following similar patterns in both regions, are not identical. Generally, the situation is characterised by declining birth rates, while life expectancy increases. The proportion of older adults continues to grow steadily. In the US, individuals aged 65 years or older numbered 39.6 million in 2009 (the latest year for which data are available). They represented 12.9% of the population, about one in every eight Americans. By 2030, there will be about 72.1 million older persons, more than twice their number in 2000 (Administration on Ageing, 2011). In Canada, by 2036, the number of seniors is projected to reach between 9.9 million and 10.9 million, more than double the level of 4.7 million in 2009. They would surpass the number of children aged 14 or under for the first time ever between 2015 and 2021, depending on the scenario. By 2036, the median age of the population would range between 42 and 45 years, compared with the current median of 39.5 (Statistics Canada, 2010).

In Europe, according to Eurostat population projections for the EU-27, the proportion of people aged 65 years or over in the total population will increase

from 17.1% in 2008 to 30% in 2060, and the median age will rise from 40.4 years to 47.9 years (Giannakouris, 2008). Demographic ageing is accelerating. The number of people over 60 years old is now increasing twice as fast as it did before 2007 (European Commission, 2010). The latest Eurostat projections show that, over the next 50 years, population ageing is likely to attain unprecedented levels in Europe, but the magnitude, speed and timing thereof are likely to vary from country to country (Lanzieri, 2011).

Contrasting developments in the US and Europe's demographic projections indicate that the increase in the older population is more modest in the US (McMorrow and Roeger, 1999). Therefore, Europe is particularly challenged in this respect (although developments differ widely across the EU Member States) and needs to address the declining fertility rate as much as the longer participation of older workers in the labour market. In both regions, the changing demographic trends have serious implications for retirement policies, because the increasing burden on the younger generation to cover social benefits needs to be addressed.

10.3. Employment patterns

Ever since the global economic crisis started in December 2007, unemployment has increased in Europe as much as in the two North American countries. The crisis and its impacts on the labour market have not only forced many individuals into unforeseen and unplanned career transitions, but also caused many workers to remain in the workforce beyond retirement age. Across the Atlantic, these developments have reinforced the trends of the recent past, while, in Europe, they are relatively new. Whereas a clear trend towards working longer has been observed in Canada and the US for approximately 15 years now, working longer in Europe has been a fairly recent phenomenon.

The average life expectancy in Canada and the US has changed considerably over the past half century and increased to 78.4 years in the US and 81.4 years in Canada in 2011. According to Hurd (1990) and Lumsdaine and Mitchell (1999), increasing social security benefits provided a financial security that led to early retirement among male workers in the post-war period. As a result of improved health among older people, the chances of them remaining longer within the workforce or returning to the workforce are higher. An indication for delaying retirement and working longer is that, between 1993 and 2008, the labour force participation rate in the US at ages 65 to 69 increased from 25.4 to 35.6% for men and from 16.1 to 26.4% for

women (BLS, 2009). In Canada, the situation is similar, to some extent, to that in the US. Canadians aged 60 years and over account for about one third of all net job gains (new jobs since the economic recovery in mid-2009) (Carriere and Galarneau, 2011). A report based on the survey of health, ageing and retirement in Europe (2004-2007) provides comparative statistics about labour force participation among older workers and uses the Netherlands as a representative country of reference for Europe. According to estimates, labour force participation rates in the Netherlands (and in Europe in general) were much lower compared to the US in 1995. Since then, they have increased much faster compared to the US (Zamarro et al., 2008).

Table 10.1. **Employment of men and women aged 55 and older**

	Men		Women	
	Netherlands	US	Netherlands	US
55-59				
1995	59.3	74.6	23.4	53.7
2000	68.7	75.3	37.9	59.9
2004	73.6	74.2	45.2	62.7
2005	74.3	73.9	47.3	63.4
2006	75.4	73.7	50.7	64.8
60-64				
1995	20.5	51.3	7.9	34.6
2000	26.7	53.5	11.2	39.2
2004	30.8	54.8	16.2	43.7
2005	29.0	56.2	17.3	44.3
2006	32.4	57.0	19.8	45.6
65-69				
1995	8.2	25.8	2.1	16.9
2000	9.7	29.3	2.8	18.9
2004	11.8	31.4	4.2	22.5
2005	12.4	32.5	5.0	22.9
2006	13.0	33.3	4.8	23.5

Source: Authors' tabulations from OECD Labour Market Statistics (OECD, 2012). Career transitions later in life

10.4. Career transitions later in life

While statistics clearly indicate a strong trend towards working longer, recent developments show partially opposing trends. Unemployment in the US has risen since March 2008. Until then, workers aged 55 and over had actually participated more in the labour market than before, which shows that participation rises in times when the economy is booming. Maestas (2004) points out that about one quarter of workers who retired during the 1990s eventually returned to work, some taking up new careers. Old occupations were left for various reasons. Some people pursue employment that is more personally fulfilling but less financially rewarding than their previous job. Transitions later in life may also involve moves from wage-and-salary jobs to self-employment, or represent a gradual shift towards retirement, with workers moving from demanding, full-time work to less stressful part-time work (Johnson et al., 2009).

In the US, retirement is generally now more a process than an abrupt transition (Singh and Verma, 2001; Rhum, 1990; Doeringer, 1990). It can be attractive because it prevents an income gap in a context where life expectancy increases and promotes health, since the increase of time for oneself can prevent burnout or other stress symptoms. Traditionally, bridge jobs tended to be part-time in nature, in a sector or industry different from career jobs and paid at a lower level (Doeringer, 1990). The Urban Institute found that most older workers changing careers enjoy their new jobs more than their old ones. This seems to be the case, despite any decline in prestige or social standing involved in the new careers (Johnson et al., 2009).

Johnson and Kawachi (2007) report that 77% of job changes by older workers leaving long-term jobs (with 10 or more years of tenure) involved a move into a different occupation, and 73% involved a move into a different industry. It is increasingly common in the US for workers to change careers in their 50s and 60s. Out of 10 full-time workers aged 51-55 in 1992, eight had left their employer by 2006 (when they were 65-69). Half of the workers who left their jobs (and 43% of all older workers) had a new employer by 2006. Of all older workers, 27% switched occupations in this time period. High-school graduates without any further education are most likely to change jobs. Men are more likely than women to remain in the workforce and engage in a late-life occupational change (Johnson et al., 2009). However, according to the HRS, the likelihood of older workers changing employers declines with increasing age because many workers fear losing either part of their pensions or health insurance benefits or having them reduced.

The EU has also seen an average increase in the employment rate of ageing people. Even so, older workers (55-64 years) reached a mere 46.4% employment rate in 2010 (European Commission, 2011c), failing to meet the 50% target set for this group. The reasons for the low employment rate of older workers stem from a combination of factors that lead to an early exit from the labour market (European Commission, 2011c): various forms of early retirement schemes and practices of age management as well as an improper functioning of labour markets for older people (e.g. low demand for older workers, low levels of up-skilling, lack of support for jobseekers, entitlement to early retirement benefits, insufficient reintegration and re-training provision after redundancy). Workers in Europe are, therefore, far less likely to change jobs and engage in career transitions later in life than their counterparts in the US.

10.5. Benefits and losses from working longer in life

There are various driving factors behind the decision to work longer in life. While personal benefits should encourage older workers to remain or return to the labour market, some individuals are also forced to work longer to make ends meet. While the economic crisis contributed to an increase in the number of ageing people remaining in the workforce, the decline of welfare provision and social security for those at the lower end of the labour market has started much earlier and has also increasingly affected the middle class. Declining wages or wages that were not adjusted appropriately to cost-of-living increases, the tightening of social security provision for those in need of it, the increase in temporary employment and an increase in the private debt rate across Canada and the US (in the former to a lesser extent) are forcing an increasing number of individuals to work longer than originally intended and even beyond 65.

The retirement decision depends, to a large extent, on the structure and availability of pensions. The expansion of defined-contribution plans and decline in defined-benefit plans over the past 20 years may be playing a role in ending the trend towards earlier retirement. According to Johnson et al. (2009), the defined-benefit pension coverage in the US significantly reduces the likelihood of older workers changing jobs. However, the preferred route to retirement is gradually to decrease the amount of time spent at work, which is not encouraged by the design of many pension plans. In the Canadian context, which resembles the situation in the US, the longer participation in the labour market is also a result of changing pension plans.

Another reason for the increase in the labour force participation of older workers is the need to work longer because of insufficient income from pensions and savings, sometimes caused by large investment losses affecting their pension pots. Older workers need to ensure adequate post-retirement incomes to address the issue of increased life expectancy (Engemann and Wall, 2010). This is especially the case for individuals from low-income households. Not only income itself but also the continued availability of benefits (health, disability, life insurance) through continued employment help to support people's lifestyles.

Although there are various incentives either to stay in employment beyond retirement or to seek new employment during this period, there are many barriers that prevent individuals in North America from doing so. These include personal reasons, for example family responsibilities, sickness or disability or the desire for more time for leisure and recreational pursuits. A lack of supportive organisational culture, internal retirement policies and legislation, stress associated with work, physical demands at work, a lack of opportunities for alternative work arrangements or phased retirement, early retirement options or incentives under the pension plan, the reduction or cessation of insurance coverage or a lack of opportunities to update knowledge and skills may also constitute obstacles to retirement at the normal age (Alberta Employment and Immigration, 2008).

Older workers are also changing their attitudes towards working longer and combining work, family life and leisure. Accordingly, their reasons for choosing whether to retire or not do vary based on their lifestyle, life circumstances and priorities. People are living longer and generally lead more active lives. Many want to stay healthy and maintain their social lives. An increasing number of older adults are keen to continue working for personal fulfilment. Encouragement by employers or customers and the continuing recognition that they are a part of an organisation motivate them to remain active. This also leads to an increase in the number of entrepreneurs for whom independence is one of the most important drivers.

10.6. Mandatory versus statutory retirement age

The US and Canadian federal and state legislation ensure the right to work beyond the age of 65 and provide some protection against discrimination based on age. Most employers are permitted to keep workers beyond 65, but might also face legal action if they decide otherwise.

In Canada, labour laws do not specify a retirement age for employees, but there are some exceptions, for example for government employees. Forcing an employee to retire by reason of age is considered to be a human rights issue and is regulated by human rights legislation. Although the normal age for retirement in Canada is 65, one cannot be forced to retire at that age. Similarly, mandatory retirement is generally unlawful in the US, except in certain industries and occupations that are regulated by law and are often part of the government (such as the military and federal police agencies).

In order to provide older workers with the opportunity to work beyond retirement age and to seek flexible pathways for combining work, family life and leisure activities, the appropriate legal foundations and frameworks must be set up. Based on massive demographic shifts across the EU, several Member States are debating raising the official (full) retirement age up to 67 or higher. An official retirement age is laid down in national legislation, and employers can terminate employment based on retirement policies. This is not the case to the same extent in Canada and the US where a significant amount of the population is still in the labour market beyond the age of 65. More generally, the employment rate of workers aged 65 and over has increased significantly in the past 30 years, a development to which these particular labour laws might have contributed.

In Europe, the statutory retirement age is gradually changing, but legislation differs widely. In Germany, for example, the statutory retirement age increases in steps of either one or two months from 65 years of age, depending on the year of birth. As an example, the statutory retirement age for persons born in 1946 or earlier remains at 65; for persons born in 1947, the statutory retirement age is 65 years and one month; for persons born in 1948, the statutory retirement age is 65 years and two months, etc., and for those born in 1964 and later, the statutory retirement age will be 67. The 2012 ageing report of the European Commission outlines pension reforms across Europe in more detail (European Commission, 2011a). The timing of retirement transition is strongly influenced by national legislation, which varies to a considerable extent among Member States. Legislation governing retirement is often very complex: most countries have a lot of exception clauses and regulations for certain groups (women and men, disabled, early retirement issues, pensions and company pensions) or occupations (e.g. police, army). But, overall, the retirement age in Europe is on the rise: the average retirement age has increased across the Member States by about 1.5 years during 2001-09 (European Commission,

2011a). Pension reforms, especially the increased statutory retirement age will probably contribute to higher labour market participation among the older age cohorts in Europe in the years ahead (European Commission, 2011a).

10.7. Sectors employing older workers

The sectors where the largest number of older workers are employed in the US are health care, education, government and, to a smaller extent, retail. Like adults of all ages, older Americans work in a wide variety of occupations. About 36% of workers aged 65 and older are employed as managers or professionals, 17% work in service occupations, 15% in sales and 14% in office and administrative support occupations, including construction, manufacturing and transportation jobs (Johnson et al., 2009). Sectors where most bridge jobs are available are the health and social care sector, education and the retail/service sector.

Most of the job gains for older workers in Canada have been concentrated in the service industries, including professional, scientific and technical services and health care, but with the single biggest category being retail. The analysis of the participation of older workers in the workforce in the provinces of Alberta and British Columbia showed that most, approximately three quarters of mature workers aged 55 and over, are employed in the service/retail sector industries. Other industries employing many older workers in Canada are health care and social assistance, professional, scientific and technical services as well as educational services (Statistics Canada, 2007).

Especially in the silver economy, mainly the health care sector gains importance, as the population is ageing in both countries and the demand for health and social care is on the rise. In particular, home care service is increasingly in demand, and this is accompanied by an increase in the provision of administrative and customer-service jobs. Employment of registered nurses will grow by 23.4%. Other health occupations that are likely see an increase in demand include pharmacists and social workers. The education sector also seeks tutors and teachers, especially in subjects such as mathematics and science as well as special education, because there is general shortage of employees in these professions (Johnson et al., 2009).

In Europe, the Cedefop forecast for supply and demand until 2020 shows partially similar patterns. Employment in absolute terms for life-science and health (associate) professionals will grow by more than 11% in the next

decade, while for teaching associate professionals, the increase will be over 24%. More than 10% of all job openings between 2010 and 2020 will concern life-science and health or teaching (associate) professionals (Cedefop, 2012).

10.8. Entrepreneurship

Self-employment is on the rise among American older workers, who have more flexible work arrangements than their younger colleagues. In 2002, fewer than 20% of working people in their late 50s were self-employed, compared with nearly 40% at ages 70 to 74 and well over half of those aged 80 and over (HRS). According to a 2005 analysis of the national study of the changing workforce, 50+ workers are significantly more likely than younger workers to be independent self-employed workers (17% of older workers versus 12% of younger workers) or small business owners (9% of older workers versus 5% of younger workers) and are thus less likely than younger workers to be wage and salaried employees who work for someone else (74% of older workers versus 83% of younger workers) (Bond et al., 2005). Stangler (2009), in reference to the Kauffman Foundation analysis, points out that, in every year from 1996 until 2007, Americans aged 55-64 had a higher rate of entrepreneurial activity than those aged 20-24. For the entire period, the 55-64 group averaged a rate roughly one third higher than that of their youngest counterparts.

Business owners often do not expect to retire at 65, and statistics indicate that the share of business owners intending to retire at that age is only around 11%. Among the rest, some expect to work as long as health allows them to, while others plan gradually to work fewer hours (Jacobe, 2008). Groeneman (2008) points out that, according to a 2008 AARP survey of older workers, 11% plan to start a business or else work for themselves in retirement. An earlier study reported that 32% of early retirees who return to work after retirement become self-employed (Singh, 1998).

Ali et al. (2009) emphasise that the willingness to become an entrepreneur very much depends on available opportunities, and only a very small percentage (13%) started their business out of necessity. Also, older entrepreneurs have been particularly successful in Silicon Valley between 1995 and 2005. The average age of a tech start-up founder was not 19 or 27 but 39. And there were twice as many entrepreneurs older than 50 than younger than 25 (Lowrey, 2010). These figures indicate a strong interest among older people to be self-employed. Self-employment activities can be

as simple as forming one's own consulting practice, or as complex as creating a new business organisation either in related or unrelated markets.

In the EU, entrepreneurship development is considered to be an important requirement for achieving the goal of smart, sustainable and inclusive growth set out in the Europe 2020 strategy. The Global Entrepreneurship Monitor shows that, on average, the Member States lag behind in entrepreneurship as compared to Canada and the US. It also reveals that older people in the EU-27 tend to be less entrepreneurial than their younger cohorts. There are various initiatives in the EU aimed at promoting entrepreneurship. To increase entrepreneurship, senior entrepreneurs play an important role, and there are various initiatives targeting them. The number of senior entrepreneurs differs considerably between the Member States. Findings of the 2009 Eurobarometer survey on entrepreneurship in the EU-25 Member States show that Finland has the greatest share of 'senior' entrepreneurs (age 55+) (European Commission, 2008). Recent research on the development of entrepreneurship in ageing populations in the EU (e.g. Kurek and Rachwał, 2011) reveals that a great deal remains to be done, and that it is – among other things – crucial to develop entrepreneurial attitudes among ageing people (Kurek and Rachwał, 2011).

10.9. Changing attitudes, beliefs and values

Individuals who are approaching retirement are more active and healthier than ever before. Attitudes, beliefs and values about retirement and working have changed, particularly among highly educated individuals. While, for a significant proportion of those working beyond the age of 65, social economic benefits are the most important drivers, there is also a large number of ageing adults who are highly educated and motivated to continue working. A healthy work-life balance is important for older workers. Groeneman (2008), in reference to a 2008 AARP survey of older workers, pointed out that nearly two thirds (65%) of older American workers are concerned with this issue. Another survey conducted as part of a multigenerational study in 2009 among participants in work-based retirement plans revealed that 70% want to include at least some periods of work in their retirement; 43% of respondents envisage going back and forth between periods of work and periods of leisure; 22% would like to work part-time and 5% want to work full-time. Only 30% of the respondents envisage never working for pay again after retirement (Age Wave and Harris Interactive, 2009).

The general desire to work beyond retirement is also present among people in other age groups. Of Americans aged 25 to 70, 71% said that they hope to continue working past their expected retirement age (ACE, 2007). With changing behavioural and lifestyle patterns, the language to describe this group also changes. Instead of retirees and seniors, they are now called rebounders, prime timers or recareerers. Main aims for this stage of life include new personal achievement and learning for self-development (AARP, 2004).

In both Canada and the US, highly educated individuals are much more likely to continue working beyond the expected age of retirement than those with a lower level of education (HRS). Additionally, research indicates that working seniors are almost four times more likely to be self-employed than their younger counterparts. These individuals are also more inclined to continue to learn while working or even participate in formal education and training. Although data on participation in education and training among older workers are scarce, Canadian statistics indicate that job-related training continues to be closely linked to age, and although the participation rate among workers aged 55 to 64 is rather low compared with other groups, it has increased faster than the rate of any other age group. It is not clear whether and to what extent this applies to the 65+ generation.

Many older workers value maintaining long and supportive relationships with work colleagues and being able to continue to learn and gain new experiences through their work. In a recent survey conducted by Towers Perrin (AARP, 2005), 49% of Canadian respondents indicated that they intend to work in retirement. Although the main reason was for extra money (45% of responses), non-financial reasons also featured prominently: reasons mentioned most frequently were to stay mentally active (42%), to stay productive (27%), to stay physically active (26%) and to have something interesting to do (25%) (Groeneman, 2008).

While older individuals are changing their attitudes towards a more active and fulfilling retirement that includes work, they still can be victims of age discrimination as a result of negative stereotyping. Various scholars point out that, despite an increasing awareness about age-discrimination issues, ageist attitudes still persist towards older students and older workers (Butler, 2008; ACE, 2007). Generalised assumptions about the ability of individuals according to age run counter to human rights principles. Many studies have shown that businesses are making a mistake when releasing experienced and otherwise qualified staff early or not considering candidates for a job simply because they have reached a particular age.

The American Age Discrimination Act of 1975 prohibits discrimination on the basis of age in programmes and activities receiving federal financial assistance (US Department of Labor, 2012). It has been specifically designed to protect individuals (employees and job applicants) who are 40 years of age or older from employment discrimination based on age. According to this legislation, it is unlawful to discriminate against a person because of his/her age with respect to any term, condition or privilege of employment, including hiring, firing, promotion, layoff, compensation, benefits, job assignments and training. The law applies to employers with 20 or more employees, including State and local governments. It refers to apprenticeship programmes, job notices and advertisements, pre-employment inquiries and benefits. Despite these general rules, there are some exceptions depending on the type of job (EEOC, 2012). As a federal jurisdiction, Canada's 10 provinces and three territories do not have identical age-discrimination laws. Most of the provinces have eliminated mandatory retirement in recent years and have expanded the definition of 'age' to protect those 65 years of age or over from discrimination.

It may generally be observed that the willingness to participate in the workforce in Canada and the US is increasing. Concurrently, a relatively high awareness about anti-discrimination rights and corresponding legislation provide the basis for a shift in this direction. Despite this general trend, other values, such as work-life balance and more flexibility are also high on the list. While these trends are quite similar across Europe, they appear to be stronger in the two North American countries. Age-discrimination laws have also been enacted in many European countries, but little is known about their effects (Lus Laboris, 2012).

10.10. Approaches to lifelong learning

The sector of post-secondary education in Canada and the US is very diverse, and it is not always easy to identify overall trends and developments. In higher education, US adults aged 50 and over represent 3.8% of the 17 million students nationwide who are enrolled in credit courses at degree-granting colleges and universities (US Department of Education, 2005). According to the US Census Bureau (2005), 3 in 10 Americans will be over the age of 55 by 2030, which has various implications for higher education institutions. Approximately half of all college-going adults aged 50 and over prefer community colleges over research universities. They do so mainly because they generally appreciate the learning process, seek community

involvement and hope to acquire new knowledge and skills for work. They also seek intellectual stimulation, sociability and skills enhancement (Lamb and Brady, 2005; Manheimer, 2005). The most popular programmes are in the fine arts/humanities, business management and entrepreneurship, human services and counselling, teacher education and health services. Other programmes in which older adults frequently participate to prepare for participation in higher education programmes are computer training, career transition, English as a second language and GED/basic skills (high school diploma).

Institutions are also supporting the lifelong learning of older adults by providing financial assistance. However, owing to a lack of promotion by the institutions, many students do not take advantage of tuition waivers (ACE, 2008). To bridge various life spheres, many employees try to advance their education while working part-time or even full-time. Therefore, they require a high degree of flexibility in the provision of education but also in regard to their work organisation. In a 2009 study on access to flexible work options, 67.5% of employees reported that they are able to take paid or unpaid time off work for education or training (Pitt-Catsouphe et al., 2009). However, the availability of this option does not always imply that it is used: although time allowances are offered by various companies, many workers still seem not to take advantage of them (MetLife, 2009).

Research has shown that participation in lifelong learning is closely related to prior educational attainment and also affects the willingness to continue working in old age. Those with some college credits are nearly twice as likely to work past traditional retirement age as those without a high school diploma (Butrica et al., 2006). Adults with higher education levels are more likely than those with lower levels to participate in formal work-related education and training (Kleiner et al., 2005). Furthermore, women, especially higher educated ones, are more likely than men to participate in higher education at an older age. Also, women with lower incomes and levels of education participate more than their male counterparts (Lamb and Brady, 2005).

According to AARP, workplace support which enables older adults to participate in lifelong learning is limited. Many organisations continue to focus on younger employees when providing training opportunities, despite research showing that mature workers are keen to learn something new (AARP, 2002). While, for some community colleges and private educational providers, older workers have been discovered as a new source of income and are enticed by online courses as well as evening classes, other institutions offer free participation in education. For example, Ohio's four-year universities and two-

year technical colleges allow residents aged 60 and over to attend classes at no cost if space is available. Some colleges in Canada, for example Yukon College, offer targeted initiative programmes for unemployed older workers aged 55 to 64 to prepare them for career transitions. They can attend specific classes to gain new skills, participate in an extended work placement and upgrade their literacy and computer skills.

Supporting adults' participation in lifelong learning is very high on the political agenda in Europe (European Commission, 2006, 2007a, 2011b; Council of the EU, 2011). Therefore, the EU has set targets for participation rates. The benchmark for adults' (25-64 years old) participation in lifelong learning for the year 2020 is 15% (Council of the EU, 2009). According to data from Eurostat's Labour Force Survey, the EU-27 average participation rate of adults in lifelong learning was 9.1% in 2010. The rates vary by country and depend on individual characteristics such as age, educational attainment, etc. For the age group 50-64 years, the EU-27 average participation rate was only 5.3% in 2010. A great deal remains to be done to make lifelong learning more inclusive for ageing workers.

Participation rates in further and higher education cannot be compared across Europe and across Canada and the US. While Europe puts significant emphasis on increasing participation in lifelong learning, developments in the two North American countries seem to indicate that lifelong learning is partially driven by market forces and partially already an embedded value, especially among highly educated ageing adults. A common trend in Canada, Europe and the US is that their higher education institutions are increasingly addressing the needs and aspirations of older students.

10.11. Summary

Developments in the US indicate that the number of older workers is increasing, which has an impact on employment strategies, educational provision and attitudes and values in society. Many of these developments are similar to those taking place in Europe. However, the proportion of older people still in the workplace, returning to the workplace or becoming an entrepreneur is higher in the US than in Europe. Additionally, age-discrimination laws as well as a fairly high level of flexibilisation of work practices and educational provision seem to provide ideas as to how the needs of older workers can be better accommodated. Practical examples from the US show that incentives offered by employers to retain workers aged 50

and over include flexible work arrangements, training to upgrade skills, time for volunteerism, phased retirement, reduced shift work, job rotation and sabbaticals (Alberta Employment and Immigration, 2008).

Despite the fact that some older workers remain in or return to the labour market for financial reasons, developments also suggest that working longer in life and even becoming an entrepreneur at an older age serves the purpose of personal fulfilment and, to some extent, active participation in society. In view of these aspects, the European Commission proposes, in its policy recommendations, that extending employment over the lifetime requires the support of a better work-and-life balance, addressing the skill needs of ageing workers through lifelong learning, promoting active ageing and creating more inclusive labour markets. Key factors for retaining older people in the labour market are job satisfaction and job quality (European Commission, 2007b).

Remaining longer in the labour market or returning after retirement is a phenomenon that will last beyond the current difficult economic circumstances. Nevertheless, although continuing to work can be fulfilling, especially for those who are more highly educated, it is also often accompanied by downward mobility. A wage decrease and a possible loss of various types of benefits characterise the downside of it. Therefore, active ageing policies across Europe need to address accompanying risks to ensure that older workers do not fall into these traps. Successful arrangements capitalise on the flexibility that ageing people have while ensuring that a good balance is struck between work and family life.

With regard to changing values not only among older workers but also among employers in Canada and the US, various studies have examined the benefits of hiring older workers. Research indicates that no relationship between age and job performance can be found (although this claim depends on the type of work being performed). As ageing workers are known for taking fewer sick days, adapt to new technologies successfully and are more loyal to their employer than colleagues in their 30s, employers can benefit from recruiting ageing people. In order to maintain high skill levels and productivity in the workforce, the recruitment and employment of older workers will become more important in the near future. Similar results have also been found in research across Europe.

Curl and Hokenstad (2006) point out that the rising number of retirees relative to workers can lead to a decrease in economic growth and productivity, higher taxes and a decrease in living standards if people are not encouraged to work longer. One way of increasing the attractiveness of work for older people is to make working hours and work locations more flexible, a trend

which is increasingly taking place across North America. The demographic developments in Europe show that this support is just as relevant.

In addition to the potential benefits for employers, researchers assume that there would also be various benefits to society. The provision for those people who would like to continue to work of the legal foundation to do so and of the necessary support from employers contributes to motivation, feeling good about oneself and, consequently, better health. Providing older workers with this sense of fulfilment, keeping them active and healthy, might also contribute to a reduction of social security costs which will increase in line with the demographic shifts in society. Additionally, older workers employed as consultants can be an important knowledge source in enterprises. Although the experience, knowledge and mentoring ability of older workers in the workplace is being increasingly recognised and appreciated by some employers, employers generally are rather slow to accommodate or adapt to ageing employees because of negative stereotypes and outdated notions about the value of older workers (AARP, 2005; 2006). These need to be overcome, and new workforce development strategies need to be developed to provide opportunities for older workers that can address these demographic challenges.

With regard to the developments affecting older people and older workers in Canada and the US, there are various aspects that might serve as a source of inspiration for active ageing policies in the EU:

- (a) perceptions about ageing: if ageing is perceived more as a fluid process in which various life and career transitions are possible, the idea of a chronological life course with predefined age-normed trajectories might become obsolete and perceived barriers towards working longer could gradually disappear. This may encourage the young to have more children in the future, enable more inter-generational solidarity and provide the fertile ground for innovation and economic upturn;
- (b) to change attitudes, beliefs and values in society with regard to ageing norms, it is essential to increase awareness about the productive potential of older workers in the labour market, since this leads to the opening up of more opportunities for them to work beyond the current statutory retirement age. Older workers need to be encouraged to be part of the workforce for as long as they so choose. Providing older workers with high flexibility so that the individual can choose an optimal work-life balance can be an incentive that results in high motivation. Therefore, policies need to promote the implementation of age-discrimination laws and support the flexibilisation of statutory employment;

- (c) older people in North America are far more likely to become entrepreneurs than older people in Europe. Providing supporting and encouragement to older people to become self-employed and start up their own business can stimulate the economy by decreasing the burden of social welfare payments, increasing employment and promoting innovation;
- (d) if older people are to participate longer in the labour market and contribute to productivity or be innovative with their own business, easy access must be provided to education and training. Policies should aim to encourage both educational providers and companies to offer effective incentives for older people to participate in educational programmes and further training and to design programmes that specifically target the needs of this group.

Overall, to change attitudes, beliefs and values with regard to participation in lifelong learning and the labour market, all stakeholders need to work on facilitating access to education and training and on providing opportunities for lifelong involvement. Individuals will change their perceptions about age and retirement if opportunities are made available. While Europe has already come a long way towards achieving these goals, it could learn a lot from the experience of Canada and the US, which countries may provide useful information about where to go from here.

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List of abbreviations

HRS

health and retirement study <http://hrsonline.isr.umich.edu/>

CHAPTER 11

Characteristics of informal learning activities of older trainers at work

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Qualified workers need to be able to cope with newly occurring problems and challenges. Owing to a declining birth rate, the number of younger qualified workers will decrease and the need for qualified older workers will increase. Understanding how older workers learn at work is therefore crucial. Training is a domain where professional development is important. ‘Trainer’ is not a certified profession; accordingly, the need for further qualification is high. This study attempts to answer the following questions: What are the learning activities that older trainers engage in to solve a problem at work? What are the differences in responses between older and younger trainers? Semi-structured interviews with trainers (N=22) were conducted and analysed using qualitative content analysis. Various informal learning activities were identified, such as ‘discussing the problem directly’ or ‘asking colleagues’. Furthermore, the reasons given by older trainers for engaging in these learning activities differed from those given by younger trainers. Older trainers drew on previous experience when solving a problem, whereas younger trainers felt uncertain and wanted to ask for help. The results of this study will support the development of a survey to research learning activities at work.

11.1. Older workforce and learning

Demographic developments such as low birth rates will require companies to adopt substantially different approaches to human resources management. Over the next few years, the baby boomer generation will retire (Leibold and Voelpel, 2006). In addition, fewer young people will enter the labour market. Older people will have to work longer to compensate for this shortage of qualified labour. These developments and needs make lifelong learning an important issue (Tikkanen, 2008). Formal training does not seem to be used

enough to keep older workers learning. Participation in formal training decreases with increasing age (Rosenblatt and Bilger, 2008). In relation to the demands of their jobs and the need for lifelong learning, two different sub-groups of older workers can be distinguished: those who have well-structured work environments with many routine tasks, such as assembly-line workers; and those whose jobs involve individual initiative and a great variety of tasks and responsibilities within a complex and changing work environment, such as consultants or trainers. For both groups, it is crucial to become and to remain a professional with all the skills required both now and in the future. The work context provides important resources for older workers' professional development. For research on learning activities at work, the second group is of greater interest. Their job tasks and work environments provide more opportunities for learning. Owing to the dynamic nature of their jobs, additional learning is required. One domain where job tasks and required skills are highly distinctive is the training sector (Mulder and Baumann, 2005). There is no clear job profile for this occupation, and there is no standardised certification. A study undertaken by the Eurotrainer Consortium (2008) showed that the absence of a trainer identity is a major reason for difficulties in addressing trainers in enterprises as a target group for training. The absence of trainer identity means that most trainers have a vocational identity as skilled workers and not as trainers. They are experts in their own field, but fulfil an additional function as trainers. In-company trainers with their own specific training needs are often not recognised as a distinct category of employees. Nevertheless, trainers are required to engage in regular learning activities to extend their skills and knowledge (Lohmann, 2006), for example with regard to the acquisition of participants, administration and development of training programmes (Eurotrainer Consortium, 2008).

Employees learn at work (e.g. Felstead et al., 2005). Rosenblatt and Bilger (2008) found that this is also true for older employees. Since very little is known about the quality of informal learning activities experienced by older workers in the workplace, the kind of learning activities in which older workers engage must first be established. They need to be asked what they would do in a given situation. The key research questions are: In what learning activities do older trainers engage to solve a problem at work? What are the differences in responses between older and younger trainers?

This provides some insights into older trainers' learning at work. Examples of learning activities that occur during everyday work will be collected. The results of the study will be used to generate hypotheses that can be tested in further studies. Understanding how older workers learn at work can be used

to formulate recommendations for improving the learning of these workers.

The concepts of 'age' and 'informal learning' will be discussed below. This will be followed by a description of the empirical research carried out and a presentation and discussion of its results.

11.2. The concept of age

Age is a concept which is hard to define because it has more indicators than a mere figure (Kooij et al., 2008). Besides chronological age, factors such as health, motivation and work experience are also considered to be important. In most studies on older individuals, chronological age is used as the only indicator (Kooij et al., 2008) because it is the most obvious in organisational contexts (instead of, for example, work experience). Chronological age is helpful for comparing various age groups. In some international studies, employees over 45 years of age were defined as older workers (Tikkanen, 2008; Billett and Van Woerkom, 2008). The OECD (2006) uses the same definition, but emphasises that chronological age is not always sufficient for defining 'old' and 'young', and suggests using 'people in the second half of their working lives'.

Getting older is more than a figure that increases from year to year. It also has consequences for learning and development. Many prejudices exist against older people at work, one of which is an assumed reduced level of ability. In psychological studies on ageing, the main focus is on intelligence. A frequent assumption is that there is a decrease in fluid intelligence throughout adulthood, while crystallised intelligence continues to increase. Fluid intelligence means the ability to think and reason abstractly and to solve problems. Crystallised intelligence includes knowledge derived from prior learning and past experiences (Cattell, 1963). In the context of work, this means that older workers would be less able to perform than younger workers (Hasselhorn et al., 2009). In addition, it is assumed that older workers are less motivated (Lockwood, 2004), less competent at working with new technologies and less flexible (Leibold and Voelpel, 2006). In short, a general decline in productivity is assumed (Billett, 2004). In contrast to studies based on these assumptions, several studies are concerned with the abilities and potential of older workers (Hörwick, 2003; Maurer et al., 2003; Billett and Van Woerkom, 2008; Hasselhorn et al., 2009). Lockwood (2004) postulates reasons why older people should be part of the workforce and argues that older workers have a highly developed ethical ideal about their work and the tasks related

to it. The consequences of their actions are very clear for older people. Because of their epistemological beliefs, they tend to be loyal to their company. Furthermore, they have a great deal of professional experience, are part of an established network and analyse problems in multiple ways. In addition, they can be mentors for younger colleagues.

It is not enough to use only chronological age to define age groups. Changes in age also involve changes in cognitive and physical behaviour which, in turn, depend on an individual's experiences. Accordingly, further relevant indicators for age such as specific work experience, training and qualifications, and the number of years a person has worked in a particular job have to be considered. Biographical factors are assumed to be relevant in addition to chronological age (Luger and Mulder, 2010). In this study, in the light of all arguments and the domain concerned, trainers up to 39 years were defined as younger, trainers aged between 40 and 44 as the intermediate group and trainers over the age of 45 as older. One of the reasons for this classification is that trainers over 45 years of age are in the second half of their working life. In addition, the use of this definition enables a comparison to be made with the results of other studies (e.g. Tikkanen, 2008; Billett and Van Woerkom, 2008) is possible. The distinction between younger trainers up to age 39 and trainers aged between 40 and 44 is needed to establish whether trainers already start to change their cognitive and physical behaviour at an early age.

11.3. Characteristics of informal learning

Studies on older workers' learning often concern formal training. The focus of such studies is mostly on older workers' lack of motivation or failing ability to learn from training programmes. Less research is done on the workplace as a learning context. Older workers participate in informal learning activities despite their increasing age (Rosenblatt and Bilger, 2008; Felstead et al., 2005). In this study, the focus is on these informal learning activities at work. The characteristics of informal learning will be described and a definition given. Moreover, the results of studies on older workers' learning will be presented.

Simons and Ruijters (2004) define learning as 'implicit or explicit mental and/or overt activities and processes leading to changes in knowledge, skills or attitudes or the ability to learn of individuals, groups or organisations. These can, under certain conditions, also lead to changes in work processes or work outcomes of individuals, groups or organisations' (Simons and Ruijters, 2004).

This definition of learning includes the assumption that learning is a combination of mental processes and observable behaviour. Piaget (1985) considers a cognitive conflict to be a trigger for learning. Learning can take place in attempts to solve this cognitive conflict or other problems that occur during everyday work (Mezirow, 1990). Kolb's (1984) experiential learning circle describes how learning takes place. His model for the process of learning involves four phases: concrete experience; observation and experience; forming abstract concepts; and testing them in new situations. The experience will lead to the application of the newly learned information. The activities carried out in this process can be cognitive or physical. The learning cycle can start at any of the four phases but usually starts with a concrete experience. The outcome of learning is a change in behaviour and/or thinking (Ormrod, 2006). Informal learning is often defined as learning which takes place as part of the activity of everyday life (Lohman, 2009).

There is a wide range of definitions of informal learning. The most important distinctive criterion within these definitions is the degree of structure. Learning that takes place in education or training institutes and is certified is called formal learning (Merriam et al., 2007). When learning involves incidental learning, is conducted outside the classroom, does not lead to a certificate and is unstructured, while control of the learning is more in the hands of the learner, it is called informal learning (Marsick and Watkins, 1990). Non-formal learning can be positioned between these two, with a certain degree of structure but without formal qualification, such as self-directed learning. Research involving older workers shows that they are more likely to take part in informal than formal learning (Rosenblatt and Bilger, 2008; Tikkanen, 2008). For this reason, the focus of this study is on informal learning. To define clearly informal learning, and to be able to research informal learning, choices have to be made in respect to different components. Mulder et al. (2009) identified the following four components within definitions of informal learning: intention, type, setting and learning context.

11.3.1. Intention

One dimension apparent in many definitions of informal learning is intention. Eraut (2000) distinguishes three modes of intention. 'Deliberative learning' means planned and conscious learning. 'Reactive learning' is defined as a near spontaneous reaction to a specific event (e.g. Doornbos et al., 2008). 'Implicit learning' is unconscious, and the learners themselves might not even be aware of the learning that occurs. It can easily be argued that implicit learning cannot be measured, and it is not included in this study. Deliberate

and reactive learning both include reflection on prior experiences. Deliberate learning consists of structured and planned reflection. In contrast, reactive learning is spontaneous reflection. The dimension of intention is crucial for defining informal learning. It is important to know whether an activity took place in a planned or incidental way (Marsick and Watkins, 1990) in order to be able to support informal learning at work.

11.3.2. Type

As indicated by Simons and Ruijters (2004), learning refers to mental as well as overt activities. Learning is seen as a combination of cognitive and physical activities which take place during the learning process. However, mere engagement in learning activities is not equal to learning (Dewey, 1933). For example, Kwakman (2003) states that engagement in learning activities and the cognitive process itself are not the same. Therefore, these activities have to be distinguished to measure learning activities at work. In this study, cognitive activities are mental processes and are not observable. Physical activities are defined as observable behaviour. The distinction between cognitive and physical learning activities is necessary to be able to measure informal learning. Physical learning activities can be activities that were carried out to solve a problem or an observable result of prior reflective processes. Both can take place at the same time. For example, when a trainer asks a colleague for help because he remembers that his colleague had the same problem a few days earlier, then 'asking a colleague' is a physical activity (observable). However, this activity is the result of the cognitive process 'remembering prior experiences'.

11.3.3. Setting

Setting includes the kind of interaction that takes place while carrying out learning activities. Within the definitions of informal learning, two different kinds of interactions have been identified. Individual learning activities take place without social interaction. Social learning activities take place together with other individuals, and they may be either one-way (asking for help) or mutual (discussing something and learning from each other) (cf. Doornbos et al., 2008). In contrast to the environment (being alone or in a group), setting is about whether the learner thinks about a problem him/herself (individual) or reflects on a specific problem together with others (social). Mulder et al. (2009) describe the characteristics of social interactions between the learner and his environment at work, for example colleagues, materials and tools (Felstead et al., 2005). Here, the distinction is made between individual learning, without

social interaction, and social learning, with social interaction, whether mutual or one-way. It is not important whether the learner is alone in his/her room or in a meeting with colleagues. What is important is whether (s)he interacts with others, for example when asking a supervisor for help.

11.3.4. Context

Theories on situated learning often state that learning depends on contextual characteristics (e.g. Lave and Wenger, 1991). In research on workplace learning, determinants of informal learning activities were identified (e.g. Ellinger, 2005; Kwakman, 2003; Van Woerkom et al., 2002). Skule (2004) states that a strong willingness for change, a responsible attitude taken by management, close contact with experts or feedback from supervisors can stimulate learning. Nyhan (2006) points out that work tasks that barely support personal development, the monotony of work tasks and having work tasks imposed by others inhibit learning. Conditions at work need to be divided into individual conditions and contextual conditions, with the latter category subdivided into working conditions and organisational conditions.

Individual factors (Kwakman, 2003) as well as work and organisational factors (Ellinger, 2005) are important for learning. Berg and Chyung (2008) argue that individual factors are more important because individuals characterise the company. In contrast, Ellinger (2005) states that company characteristics are most important for learning at work. With regard to contextual factors, Fuller and Unwin (2002) state that the way in which work is organised, the supportive nature of the workplace, support from colleagues and variation in tasks are important for older workers. Eraut (2004) mentions the importance of changing positions at work or participation in teams. The facilitating character of the company's communications structure (e.g. the possibility to contact a supervisor or colleagues), task lists and a hierarchical framework are also regarded as fundamental factors (Ellinger, 2005). Van Woerkom et al. (2002) mentioned the influence of workload, communication with colleagues and the ability of workers to make their own decisions.

With regard to individual factors, Maurer et al. (2003) identified self-efficacy and motivation as important for older learners. Specifically in formal learning contexts, self-efficacy decreases with increasing age. Furthermore, the motivation to participate in training declines. Billett and Van Woerkom (2008) focus on epistemological beliefs which concern the nature and acquisition of knowledge. They stress the importance for older workers of epistemological beliefs, which, according to Harteis et al. (2006), are prerequisites for initiating learning processes.

Based on the arguments and research results mentioned above, we define informal learning as a process that can be deliberate or reactive in intention, and that leads to the acquisition of skills but not to formal qualifications. It can happen individually or socially outside organised learning settings. Cognitive and physical activities are both part of informal learning, with physical learning activities being overt and possible triggers for cognitive learning activities. Informal learning may be influenced by individual characteristics and characteristics of the workplace and organisations.

The following section concerns older workers' learning at work. The research questions are: In what learning activities do older trainers engage to solve a problem at work? What are the differences in responses between older and younger trainers?

11.4. Method

Semi-structured interviews were conducted. The objective was to find out how older learners behave in situations where a problem occurs and what kind of learning activities at work they report.

11.4.1. Sample

This study was carried out in the field of training for several reasons:

- (a) trainers need to handle a great variety of tasks and situations at work. They work in a profession with many non-routine work tasks and with many learning opportunities. They interact with clients and participants and have to assume different roles;
- (b) there is no standardised vocational education or training to become a trainer. Trainers differ in professional background and in the kind of work experience they have acquired;
- (c) despite the variances within the trainer profession, the level of complexity in the work tasks of all trainers is high. They are all confronted with complex problems and similar learning opportunities.

To select the respondents, theoretical sampling was applied (Lamnek, 2010). This means that the sample was selected systematically. It included both freelance and in-company trainers (N=22). Freelancers (N=11) and in-company trainers (N=11) were chosen to increase the diversity of the sample with regard to work tasks and conditions at work. Gender and age were further criteria for selection. Three age groups were created to identify possible differences in learning activities. The first group includes trainers aged up to

39 years. The second group consists of trainers aged 40 to 44. Both can be regarded as younger trainers (N=10). The third group contains trainers aged 45 and over (N=12). The age of all the respondents ranged from 29 to 61 years (M=45.09). Twelve of the respondents were female. Table 11.1 provides an overview of the sample.

Table 11.1. **Sample of trainers interviewed (numbered from R1 to R22)**

	Male		Female		N
	Younger	Older	Younger	Older	
In-company trainers	2 (R1, R2)	3 (R11, R12, R13)	2 (R3, R4)	4 (R14, R15, R16, R17)	11
Freelancers	2 (R5, R6)	3 (R18, R19, R20)	4 (R7, R8, R9, R10)	2 (R21, R22)	11
Total	4	6	6	6	22

Source: Authors.

11.4.2. Interviews and analyses

The interviews were conducted in spring 2011. Respondents were asked to answer questions concerning their work; for example: do you have the opportunity to make your own decisions at work or how do you maintain contact with clients and supervisors? They were then presented a scenario to which they were asked to react. According to Van Woerkom (2004), tasks and objectives at work can lead to focused learning with the aim of gaining information. It should be possible to resolve the scenario in different ways. Respondents' reactions to such a scenario indicate their behaviour and their knowledge. Eraut and Hirsh (2007) state that ill-structured problems lead to learning activities. Ill-structured problems contain incomplete information, and are ambiguous and subject to variation. Goals are shifting, ill-defined or competing. According to Orasanu and Connelly (1993), the decision-maker should be able to balance personal choice, organisational norms and goals. Requirements of a good scenario for measuring learning activities are that it should be so complex that learning activities are required to solve it, ill-structured and realistic in relation to the work context. A scenario was constructed based on these criteria.

To establish whether the scenario was realistic, two experts were asked to reflect on it. One trainer and one supervisor of a training institute were asked whether they considered the scenario to be realistic. Their recommendations were then used to refine the scenario.

These considerations resulted in the following scenario: 'Please imagine that a client arrives after joining your training event/workshop/course. He criticises the content and structure of the course.' The questions were: 'Have you ever been in that kind of situation? If so, what did you do?' In addition, the trainers were asked to describe similar situations that had occurred during their own everyday work. They had to judge the situation described in the scenario. It was obvious to them that this was a critical moment that required action by them. The trainers were asked to report how they would react to that scenario or how they had reacted in similar situations they had encountered. When they reported such activities, they were asked to describe why they acted in the way they did. The structure of the interviews and the use of a scenario were meant to help the respondents to remember actual work situations and reflect upon them.

Each interview took place at the trainer's workplace and lasted between 19 and 93 minutes. The interviews were recorded and transcribed. A qualitative content analysis was conducted (Mayring, 2004). The analyses were conducted with reference to a category system based on the above-mentioned definition of informal learning.

All references to learning activities, i.e. activities that were reported as a reaction to the scenario, were identified, paraphrased and clustered. For example:

- (a) reported answer: '[...] well, it's true that you get more points of view then [when asking colleagues] and you can compare these afterwards. And, of course, what is important is to arrive at a shared view within the group';
- (b) paraphrase: 'asking colleagues to arrive at a view shared within the group';
- (c) cluster: 'asking colleagues and supervisors'.

In addition to a qualitative content analysis, the frequencies of the reported activities were calculated to gain a first insight into differences between younger and older workers. Furthermore, individual, work and organisational factors were also coded. Whenever respondents mentioned one of these factors, they were asked to say more about it and to estimate the importance of this factor for their work.

The characteristics mentioned in the definition of informal learning led to the category system for learning activities shown in Table 11.2.

Table 11.2. **Category system for informal learning**

	Reactive		Deliberative	
	Individual	Social	Individual	Social
Cognitive	Activity is not observable, is spontaneous and is carried out without social interaction	Activity is not observable, is spontaneous and is carried out with social interaction	Activity is not observable, is planned, is carried out without social interaction	Activity is not observable, is planned, is carried out with social interaction
Physical	Activity is observable, spontaneous and carried out without social interaction	Activity is observable, spontaneous and carried out with social interaction	Activity is observable, planned, carried out without social interaction	Activity is observable, planned, carried out with social interaction

Source: Authors

This category system consists of the above-mentioned characteristics of learning activities: intention, type and setting. The context was not included. Individual, work and organisational factors are seen as determinants of learning activities. As a result, combinations of these characteristics and aspects result in eight possible learning activities. First, the type of activity is cognitive or physical, meaning observable actions (physical) or reflection which is not observable (cognitive). The second characteristic is intention. It can be reactive or deliberative. Reactive means an immediate action in the current critical situation, such as talking immediately to the supervisor. In contrast, deliberative implies that the respondent plans the process of solving the problem, for example when the trainer plans first to read a book and then to ask a colleague. Third, the learning activity is either individual or social. An individual activity represents a solitary action carried out by the trainer, such as reflecting on prior experiences. The interaction between trainer and participant is also defined as individual activity, because the feedback from the participant of the training is considered as a trigger for learning and is not seen as a shared learning process. Social activity represents the shared learning process between the trainer and other individuals, for example colleagues and supervisors. The combination of type, setting and intention

determines the learning activities and provides a description of the situation and its circumstances. This means that an activity can be described as cognitive, deliberative and individual, for example thinking of a similar situation and then deciding to read a journal to find out how to solve the problem. When the reported activities consisted of a combination of the categories, the answer was coded more than once. For example, when a participant reported having thought of a good strategy to solve the problem and then asking a colleague, the first part was coded as cognitive, the second as physical.

11.5. Findings

11.5.1. The scenario and similar problems

After the scenario was presented, respondents were asked whether they had ever been in that kind of situation. Of the 22 trainers, 21 stated that they had already experienced something similar. For example, (R17) 'In general, yes. We usually have very different participants, with different interests. Criticism of the content may arise for one of two reasons. First, participants may criticise the lack of specific content, or second, they may be more generally dissatisfied.' Only one trainer stated that she had never experienced a situation like that: (R21) 'Well, not really. Most of the time, the content and the participants are quite well matched.'

Additionally, trainers were asked about similar situations at work that were perceived as problematic, situations that had led to learning activities for the trainer him/herself. All trainers gave examples of such situations. In addition to negative feedback, trainers mentioned several problems:

- (a) problems with colleagues or supervisors, (R14) 'One of my co-trainers made a mistake concerning support for a student, and this student was angry about the whole course, including me';
- (b) problems with technical equipment, (R1) 'Some months ago, we had some difficulties with the microphone. During my co-trainer's contribution, it switched itself off for no apparent reason';
- (c) problems with social interaction, (R13) 'There was this one woman in particular. She had an argument with one of my co-trainers about the purpose of the training. In the end, I had to intervene and calm things down';
- (d) problems concerning communication and organisation, (R10) 'So I had to organise the whole event, and all of my know-it-all co-trainers chipped in with advice'.

Such critical incidents gave rise to learning activities which will be presented in the next section.

11.5.2. Learning activities of older trainers

In this section, the learning activities which older trainers reported for solving a problem at work are presented. In addition to the scenario presented, the respondents provided their own examples of problems at work and reported how they solved them. The statements of the older trainers (N=12) are listed in Table 11.3. The table includes the reported activities against each of the categories. For each learning activity, an example quote is provided.

Table 11.3. **Learning activities of older trainers (N=12), frequencies, and examples of reported quotes.**

Category of learning activity	Learning activities	Example quote	Frequency
Cognitive, deliberative, individual	Reflecting on critical situations or problems (10)	'Then I have to ask myself: what's wrong with the situation and where are the conflicts that have to be resolved?' (R18)	24
	Reflecting on possible solutions (8)	'In this case, I have to think about what to do next. Should I make a phone call, should I change the structure, or should I think of new strategies?' (R18)	
	Reflecting on information or prior knowledge (2)	'Well, of course, I think about other possibilities and how to get hold of information.' (R12)	
	Reflecting on own actions or own possibilities (2)	'I try to find out where the front line is. What can I do to improve my situation, what are my options?' (R20)	
	Reflecting on other people involved (2)	'Is he able to do this? Can he achieve the objectives? Is he patient enough? Is he stable enough?' (R22)	
Cognitive, deliberative, social	Reflecting on individuals who might contribute to the solution (2)	'I thought of colleagues who had told me about the way they had handled it; I thought of asking them.' (R14)	2

Category of learning activity	Learning activities	Example quote	Frequency
Cognitive, reactive, individual	Gaining insight into the situation (1)	'During the conversation, I realised that I couldn't deal with the approach of the management.' (R20)	1
Cognitive, reactive, social	–	–	–
Physical, deliberative, individual	Researching the critical situation (6)	'And then I bought the book and I taught myself how to run this programme.' (R11)	14
	Giving feedback to the person criticising (5)	'So I took some time and explained everything to the person criticising.' (R13)	
	Arranging a meeting with the person criticising (2)	'If this doesn't work, I'll invite the person to a one-to-one meeting to discuss all the circumstances.' (R15)	
	Designing a databank (1)	'So then I built my own databank, with my own key words.' (R11)	
Physical, deliberative, social	Discussing with colleagues and supervisors (12)	'After that, I consult colleagues, because there are always different points of view.' (R11)	28
	Discussing with an external person (expert) (8)	'Well, I'm involved in some networks, so I can ask experts if I need to.' (R16)	
	Searching for solutions with colleagues and supervisors (3)	'So this is a clear situation. I'll go to my team, and we'll find a solution.' (R12)	
	Discussing with participants in the training (2)	'And then we have to discuss whether it's my problem, or the participants' problem, or caused by the situation. Anyway, we have to discuss it in the group.' (R20)	
	Searching for solutions with participants of the training (2)	'After that, we search for a solution, all of us, and that means all the participants.' (R21)	
	Searching for solutions with colleagues and supervisors (1)	'We have an in-house lawyer; I went to him to get some advice.' (R15)	

Category of learning activity	Learning activities	Example quote	Frequency
Physical, reactive, individual	Discussing immediately with the person criticising (30)	'I talk immediately to the person in charge and tell him that it's not going to work.' (R20)	38
	Solving the problem immediately (6)	'Yes, I am the kind of person who immediately takes action in a situation like this. I approach the conflict directly and confront the person involved.' (R20)	
	Obtaining information immediately (1)	'I immediately started my investigation on this.' (R16)	
	Articulating possible solutions immediately (1)	'No, no – we approach the problem directly. I have hardly any time, he has hardly any time, and so we choose the direct approach.' (R11)	
Physical, reactive, social	Directly talking to colleagues and supervisors (3)	'This situation required immediate action, so I called my colleague in Munich.' (R11)	4
	Immediately talking to all the people involved (1)	'But we had to tell the boys immediately that their behaviour wasn't acceptable and would automatically lead to serious consequences.' (R18)	
Total		23	111

Source: Authors.

In total, 23 different learning activities were reported. Older trainers mentioned seven different cognitive learning activities and 16 different physical learning activities. It seems that older trainers reflect directly on the problem and its solutions.

The reported activities were analysed to determine whether all categories of informal learning were represented. Older trainers did not mention an example of a cognitive, reactive, social informal learning activity. Cognitive, reactive, individual activities were mentioned only once. The only example of this activity was to gain direct insight into the situation, (R20) 'During the conversation, I realised that I couldn't deal with the approach of the management.' Cognitive, deliberative, social aspects of informal learning were mentioned twice. These were paraphrased as reflecting about people who

could contribute to a solution to the problem. More examples of the fourth cognitive aspect are given: cognitive, deliberative, individual. Here, reflecting about critical situations or problems was mentioned.

11.5.3. Differences between the answers of older and younger trainers

In this section, the findings are presented which are relevant to the second research question 'What are the differences in responses between older and younger trainers?' An overview of activities mentioned (Table 11.4) precedes a description of the differences between the answers of older and younger trainers. In addition to the qualitative content analysis, the frequencies of the given answers are calculated. The frequencies are listed in brackets and show how often trainers mentioned a particular activity. The respondents mentioned 58 cognitive and 181 physical activities. In addition, 77 reactive and 162 deliberative activities were reported. Concerning setting, 152 individual and 87 social activities were mentioned. Cognitive activities that were mentioned most are 'reflecting on possible solutions' (21), 'reflecting on critical situations or problems' (12) and 'reflecting on information or prior knowledge' (7). Physical activities that were mentioned most are 'direct discussion with the person criticising' (40), 'discussion with colleagues and supervisors' (40) and 'research on the critical situation' (18). The reported activities are listed in Table 11.4.

All eight possible combinations of learning activities are mentioned. All trainers (N=22) mentioned physical, deliberative, individual as well as social activities. All of the younger trainers (N=10) mentioned cognitive activities, but two of the older trainers (N=12) did not. All of the older trainers mentioned reactive activities, while one of the younger trainers did not.

In a next step, the reported learning activities of the trainers were analysed in combination with age. The learning activities mentioned are listed in Table 11.5. Referring to the previously mentioned age categories (up to 39 years, between 40 and 44 years, and 45 years and older), apart from (a) cognitive, deliberative, social, (b) cognitive, reactive, individual and (c) cognitive, reactive, social learning activities, the others were mentioned in every age group. In Table 11.5, only the five most frequently mentioned activities are listed. As mentioned above, there were 12 older trainers and 10 younger trainers. Older trainers gave most examples concerning direct discussion with the person criticising (30 in total). The medium age group also gave most examples (7) of this activity. In contrast, younger trainers gave most examples (20) of discussing with colleagues and supervisors.

Table 11.4. **Reported learning activities of older and younger trainers (N=22)**

		Cognitive activity	Physical activity
Reactive intention	Individual setting	Thinking of differences between the people participating (1)	Discussing immediately with the person criticising (40)
		Thinking of critical situations (2)	Solving the problem immediately (9)
		Gaining insight into the situation (1)	Obtaining information immediately (3)
			Articulating possible solutions immediately (4)
	Social setting	Thinking of a discussion with colleagues who have experienced comparable situations (1)	Talking to colleagues and supervisors (7)
			Talking to all those involved (3)
Searching for solutions with all those involved (1)			
Deliberative intention	Individual setting	Reflecting on critical situations or problems (12)	Investigating the critical situation (18)
		Reflecting on possible solutions (21)	Arranging a meeting with the person criticising (3)
		Reflecting on information or prior knowledge (7)	Giving feedback to the person criticising (14)
		Reflecting on own actions or own options (3)	Developing a databank or compiling notes (5)
		Reflecting on people involved (2)	
	Social setting	Reflecting on discussions with colleagues about possible solutions (1)	Discussing with colleagues and supervisors (40)
		Thinking about the usefulness of a discussion (1)	Discussing with participants in the training (4)
		Reflecting on people who might be able to contribute to the solution (3)	Discussing with an external person (8)
			Searching for solutions with colleagues and supervisors (12)
			Searching for solutions with participants in the training (4)

Source: Authors.

Table 11.5. **Answers of older and younger trainers and number of activities mentioned**

Older (N=12)	Medium group (N=4)	Younger (N=6)
Discussing directly with the person criticising (30)	Discussing directly with the person criticising (7)	Discussing with colleagues and supervisors (20)
Discussing with colleagues and supervisors (12)	Giving feedback to the person criticising (6)	Searching for a solution with colleagues and supervisors (6)
Reflecting on critical situation/problem (10)	Solving the problem immediately (3)	Reflecting on critical situation/problem (5)
Reflecting on solution strategies (8)	Searching for a solution with colleagues and supervisors (3)	Reflecting on solution strategies (5)
Searching for information concerning the critical situation (6)	Reflecting on solution strategies (2)	Discussing with all those involved (5)

Source: Authors.

In addition to differences in frequencies, the content of the answers also differs between older and younger trainers. When presented with the scenario, the respondents explained how they would act or how they acted in comparable situations. Older trainers mentioned facing the problem directly in the situation, for example by talking to the person criticising or by initiating a solution immediately. When the situation was complex and needed reflection from multiple perspectives, they acted in that way. In contrast, younger trainers reported solving the problem by discussing it with others, mainly colleagues or supervisors. Furthermore, they tried to find a socially shared solution.

Examples of answers given by younger trainers are: (R7) 'So I met with my supervisor so as to get feedback from her. She told me that I would be able to manage the upcoming tasks. So she supported me in that way.' Another younger trainer's quote: (R7) 'After that [being criticised], we would discuss the situation within the team, to see what colleagues thought about it.'

With regard to the specific reasons for their activities, another pattern in the answers of older and younger trainers could be discerned. Older trainers often mentioned former experiences in similar situations as a reason for acting the way they did. They mentioned reacting immediately in the situation and trying to find a solution on their own. On the one hand, they seemed to be aware of certain difficulties in these critical situations, but, on the other, they mentioned

knowing what they could accomplish on their own. For example, (R11) 'Now I can assess a situation quite well. I know what to do to be successful.' In addition, they reported regarding themselves as the authority that acts independently in the situation, for example, (R17) 'I have to be the one with the authority at my workplace' or (R16) 'I'm responsible, so I have to deal with it – that's the only way.'

Younger trainers mentioned their need to communicate and share their decisions with colleagues and supervisors. For example, (R1) 'And, on the other hand, I like to inform my supervisor. If there are ambiguities or problems, I can discuss what might be done, what might be changed and how to plan the strategy.' Younger trainers more often mentioned feeling insecure about making their own decisions, for example (R7) 'Usually there is a little bit of uncertainty. My supervisor clears this up.' They also mentioned following the example of their older colleagues or supervisors. They seemed to rely on their experience and competence to solve problems. Another quote from a younger trainer (R1): 'Then I rely on the opinion of my supervisor to get a feel for what's possible.'

The three age groups reported different learning activities. The content of the answers also differed, but only between older and younger trainers. The answers of the medium group were similar to the responses of the younger trainers. Examples of learning activities were found for all of the theoretically assumed components of informal learning.

11.6. Learning activities of older trainers

Most trainers confirmed that the scenario presented to them was realistic. All of them, except one, reported that they had been confronted with negative feedback from participants in the course of their training sessions. In addition, the typology of learning activities proved to be adequate for the analyses of the interview data. Most learning activities reported by older trainers were physical activities. A possible explanation for this is that physical activities are easier to remember than cognitive processes. Physical activities can be more superficial, and it is harder to remember cognitive activities. Furthermore, physical learning activities may lead to cognitive activities, and it might be difficult for respondents to distinguish between the two. Reactive as well as deliberative learning activities were reported. In some cases, it was hard to determine whether an activity was planned or spontaneous. In the interviews, it seemed sometimes difficult for the respondents to decide whether their

answers were examples of planned or spontaneous learning activities. The result that this distinction is not easy to make has to be considered when a questionnaire is being prepared. The distinction between individual and social learning activities was easier. The theoretical typology of learning activities has proven to be useful for analysing the data. The framework was helpful in so far as it prevented us from overlooking a specific category of learning activities.

There are indications of age-related differences between younger and older trainers. Older trainers reported that they would carry out reactive activities as a reaction to problems at work. They did not plan further steps, but tried instead to find a solution immediately. When asked why they would act in this way, most of the older trainers reported that they had already had similar experiences. An explanation for this finding may be found in the increase in crystallised intelligence mentioned above (Cattell, 1963). Another interesting result is that older trainers said that they would carry out individual activities. In contrast, Fuller and Unwin (2002) found that older workers prefer social learning activities. In this study, older workers were asked how they acted to solve a given problem, and not what their preference was. This comparison of outcomes can be interpreted as a difference between preferences on the one hand and real working life on the other.

When asked why they acted individually, without social interaction, older trainers mentioned that it was not necessary to talk about their activities with others because they were sure about how to act. Younger trainers often mentioned carrying out activities with social interaction, and they reported that they felt better when they were able to talk about their plans. Older trainers referred to their activities as appropriate, useful and targeted. They often reported carrying out reactive, individual learning activities. A possible explanation for this is that they are aware of the effectiveness of their decisions and actions. This belief in capability can be described as self-efficacy (Bandura, 1977). Older trainers mentioned carrying out the activity based on earlier experiences. Their self-efficacy in work contexts was grounded in the experience that they had been able to manage previous, similar situations. They had already experienced their effectiveness and were aware of the advantages and limitations of their actions. Older trainers might have a higher level of self-efficacy than younger ones. This result is in contrast to existing research on older workers' self-efficacy. Maurer (2002) found that older workers had a lower level of self-efficacy than younger workers. The study was conducted among employees and focused on their attendance at formal training. This indicates that older people are not sure about their cognitive

ability to learn. There is clearly a difference between self-efficacy in relation to training and self-efficacy in relation to work. The high self-efficacy reflected in the answers recorded in this study can be explained by the previous experiences of the respondents. Older trainers reported that they had made many mistakes, but had learned to avoid them and that it was not important for them to be perfect. They knew that errors can occur and that these are part of everyday work.

Another interesting result is that older trainers had a critical opinion of public authorities and of supervisors (e.g. Schommer, 1990). In contrast, younger trainers rely heavily on supervisors. They reported using the knowledge and experience of supervisors to make sure that they made the right decisions.

Younger and older trainers seem to differ in their cognitive and physical behaviour. There are differences between the answers of trainers younger than 45 and those older than 45. This age boundary can also be found in other studies (Tikkanen, 2008; Billett and Van Woerkom, 2008).

11.7. Learning activities of older trainers

From this study, it can be concluded that work environments provide many opportunities for informal learning activities. Owing to the small sample size of older trainers, the results cannot be generalised. The focus of the study was on the learning activities of trainers and not on older workers in general. As a result, the frequencies of the reported activities are difficult to interpret. It can be assumed that the volume of learning activities mentioned depends on individual characteristics such as an ability to express oneself, and not only on age factors.

Apart from these limitations, this study provides information about triggers for learning activities, the characteristics of learning activities carried out at work and the differences between the age groups with regard to their reported learning activities. Furthermore, examples were collected of learning activities in the workplace. These can be used for developing survey items. In addition, the workplace as a learning environment includes work-related and organisational determinants that were assumed to be important by older trainers. Trainers mentioned, for example, work tasks or making their own decisions as important for their activities at work. In addition to context, the individual characteristics of older trainers are also crucial. In this respect, trainers mentioned experience and self-efficacy. These aspects will be considered when generating hypotheses for the next study. These hypotheses

will be tested using quantitative research. Trainers remarked that, in their view, the scenario presented was realistic. This helped trainers to reflect on their activities at work. Based on the experience of this research, it can be argued that specific cases as well as the respondents' personal experiences can be used to generate a theoretical model for quantitative research to measure learning activities at work.

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CHAPTER 12

Factors influencing intergenerational learning: towards a framework for organisations to ensure successful learning in older employees

Donald Ropes and Antonia Ypsilanti

The workforce in the EU is ageing, and this requires investment in older workers so that the organisations in which they work remain competitive and viable. One such investment takes the form of organising and facilitating intergenerational learning: learning between and among generations that can lead to lifelong learning, innovation and organisational development. However, successfully implementing intergenerational learning is complex and depends on various factors at different levels within the organisation. This multidisciplinary literature review encompasses work from the fields of cognitive psychology, occupational health, educational science, human resource development and organisational science and results in a framework that organisations can use to understand how they can create the conditions needed to ensure that the potential of their ageing workforce is tapped effectively and efficiently. Although not a comprehensive review, this chapter serves as a basis for further empirical research and gives practitioners an insight into solving a growing problem.

12.1. Introduction

The European workforce is ageing rapidly. This process of demographic change has consequences for both workers and the organisations that employ them. Workers will need to remain longer in service, and organisations will need to invest in programmes that can improve the effectiveness of older workers or suffer losses in viability and competitive advantage. At the same

time, demographics point to a shrinking of the available workforce, meaning there will be fewer new employees. Reports on the issue from the European Commission and EU Member States draw similar conclusions (Ministry of Internal Affairs, 2010; European Commission, 2009). The consequence is that these problems are acting together, and this makes it even more crucial for organisations to capitalise on their workforce effectively, especially with regard to older employees. We know that one way to do this might be to develop programmes based on intergenerational learning (IGL) (Spanning, 2008). IGL is a way for both young and older workers to share knowledge, learn and innovate together. In this sense, IGL is beneficial to both workers and the work organisation alike and can be implemented as an organisational development programme based on individual and group learning.

However, successfully implementing IGL in organisations is complex and depends on a variety of factors and conditions. For example, people learn for different reasons and in different ways as a result of (a) cognitive factors and processes such as speed of memory, (b) social factors such as learning history, (c) motivational factors such as intrinsic or extrinsic rewards and (d) some combination of the above. For example, younger people are guided more by extrinsic factors compared to older people, and this is related to sociocognitive and developmental/maturational aspects such as perceived contribution to society, self-fulfilment, etc. Implementing IGL – as a way of ensuring that older workers participate in the learning process – is also influenced by the organisational environment that influences employee learning, but we do not know for certain what is conducive to older employee learning or IGL.

This multidisciplinary literature review is a first attempt at devising a framework that organisations can use to understand how they can create the conditions needed to ensure that the potential of their ageing workforce is used effectively and efficiently. The review specifically concerns organisations employing a high percentage of knowledge workers and pertains to both the private and public sectors such as education, health care and the police.

The chapter is set up as follows: after conceptualising IGL, cohort theory is used to delineate the different generations currently active in the workforce. Subsequently, the characteristics of different generations currently employed in the workforce in relation to their learning and performance and the factors influencing the process are examined. We then look at IGL from an organisational standpoint, exploring questions such as: what is the impact of investing in IGL; what organisational structures generally encourage learning in older employees and IGL in particular; and how can an organisation deal with the differences in learning when designing and facilitating IGL?

12.2. Understanding intergenerational learning

Intergenerational learning (IGL) can be considered as various types of interaction among and between different generations where one or both parties learn (Ropes, 2011). In the social sector, there are many examples of programmes that link older people with younger ones in an attempt to recreate the extended family in which IGL occurred naturally (Gadsen and Hall, 1996). In education, IGL programmes can be found between students and elderly or older persons. In organisational science, references can also be found to mentoring and multigenerational work teams, which are similarly about linking older and newer employees. In each of these fields, IGL is implemented to achieve outcomes deemed desirable by the programme designers. Table 12.1 illustrates several aspects of IGL programmes: the three fields mentioned above, typical types of interaction, outcomes of the IGL process and the sources reporting these findings ⁽⁷⁴⁾.

12.2.1. The impact of IGL on organisations

To remain competitive, organisations must be able to change and adapt based on signals from the environment in which they function. In the private sector, this means that firms – at least those that are successful – are continually innovating and developing towards becoming better at what they do. In the public sector, people’s expectations change and budgets are often slashed, forcing organisations to learn and develop to remain efficient and to continue servicing the public in an effective way. We propose that investing in IGL is a way for organisations not only to ensure that skill gaps of employees are kept at a minimum but also to ensure organisational renewal and development by improving the internal processes that facilitate innovation and capacity for change. This has to do with the fact that the outcomes of IGL, as shown in Table 12.1, can have an impact on the organisation in various ways that are not readily apparent.

One very important outcome of IGL is an increased level of social capital (Hassell and Perrewe, 1995; Kerka, 2003; Newman and Hatton-Yeo, 2008). Studies show that higher levels of social capital within organisations improve knowledge exchange between employees (Inkpen and Tsang, 2005), and this,

⁽⁷⁴⁾ With regard to IGL in organisations, aspects of IGL in other fields also occur. For example: socialisation into the organisational culture, personal growth, reduced (negative) stereotypes and improved mutual understanding, feelings of inclusion and empowerment, personal gratification and expansion of networks.

in turn, improves the learning capability of the organisation. The ability to learn and change is important for innovation and efficient problem solving (European Social Fund, 2007). Furthermore, social capital has been shown to help break down generational barriers that negatively affect working climates (Holtom et al., 2006). In some situations, there are up to four different generations working together in one organisation, and problems can arise between them (Section 12.2.2.). Kunze et al. (2011) found that ageism, or negative feelings towards older generations, is a direct result of the demographic changes within organisations that have an adverse effect on organisational climates. This is especially true for those organisations with a more flat organisational structure, because, in these cases, younger employees may be managing older ones, leading to feelings of resentment. IGL might be able to help reduce these problems (Duvall and Zint, 2007).

Another outcome of IGL is linked to the idea that knowledge is applied in novel ways, which is a critical aspect of innovation and problem solving. Tempest (2003) theorised that, to spur effective innovation, younger employees need to interact with older ones because the different types of knowledge each person has are complementary to the process. Older, more experienced employees have 'deep' knowledge but lack the understanding of the current world situation in which to apply it (Sprenger, 2007). Tempest (2003) gives the example of the Internet bubble as an illustration: younger employees lacked the depth of knowledge of older, more experienced entrepreneurs and were thus unable to be successful. Ropes (2010) found this to be the case in his study on practice-based learning communities. Those communities with high age diversity were able to innovate more effectively than those with a more homogenous age make-up. Qualitative data confirmed that this was partially because of the different types of knowledge held by the generations. Bontekoning (2007) found that interactions between generations are an important way for organisations to 'change with the times' and help towards organisational renewal, much like Mannheim's (1963) position that social change is partially an outcome of generational interaction.

12.2.2. IGL as (informal) workplace learning

Workplace learning is often divided into two types: formal and informal. The former is usually seen as an institutionally planned process that has pre-determined learning goals, a start and a finish. For example, off-site training in a new software programme for word-processing could be considered as formal learning. Formal training programmes are often skill-focused and vocational in nature. Informal learning, on the other hand, is seen as being

Table 12.1. **Summary of IGL learning types, outcomes and sources**

	Interaction typified	Outcomes related to IGL	Sources
Sociology	Grandparent/child; formal programmes, informal natural settings.	<ul style="list-style-type: none"> • socialisation, including modelling of behaviours; • enhanced social skills and personal growth; • positive attitudes towards others; • reduced (negative) stereotypes and improved mutual understanding; • social inclusion; • personal gratification; • expansion of social network; • feelings of empowerment; • social renewal. 	<p>Gadsen and Hall (1996)</p> <p>Kerka (2003)</p> <p>Mannheim (1963)</p> <p>Newman and Hatton-Yeo (2008)</p>
Education	Elderly/youth; formal settings such as school programmes.	<p>Higher student achievement</p> <p>Improved academic knowledge</p> <p>Improved self-esteem and behaviour (in school)</p> <p>Higher life aspirations</p> <p>Better school attendance.</p>	<p>Duvall and Zint (2007)</p> <p>Kaplan (2001)</p>
Organisational science	<ul style="list-style-type: none"> • apprenticeships; one-on-one training situations; • group mentoring; group reflection and discussions; • constructive communication; understanding social position and relations in the organisation; • multigenerational teams; explicit formation of heterogeneous work teams; • learning platforms; e-based platforms where different generations exchange knowledge. 	<p>Reciprocal competence development</p> <p>Transfer of tacit knowledge</p> <p>Enhanced productivity of employees</p> <p>Time savings</p> <p>Applying knowledge in novel ways</p> <p>Increased social capital.</p> <p>Organisational renewal</p>	<p>Bontekoning (2007)</p> <p>European Social Fund (2007)</p> <p>Kupperschmidt (2000)</p> <p>Spannring (2008)</p> <p>Sprenger (2007)</p>

Source: Authors. IGL as (informal) workplace learning

naturally situated in the workplace and more focused on experiential learning, or learning meta-competences (e.g. critical reflection, learning to innovate and learning to learn) that contribute to an organisation's capacity for change and development (Ropes, 2010). Research on workplace learning shows that informal learning is the most common form of learning taking place in organisations (Ellinger, 2005). We position IGL as having characteristics of informal learning, which concurs with the few reports available on the subject (e.g. Spannring, 2008). However, most traditional conceptions of informal learning position it as an unplanned and unstructured event that happens sporadically. We would argue that such a perspective on informal learning is not helpful in our situation because it does not allow for the planning of interaction specifically aimed at promoting learning between the generations. More useful to our construct is Billet's idea (2002) that all learning – formal or informal – is dependent on the structures in which it happens, and, whether it is planned or unplanned, it is, in fact, learning. We return to this idea of structures later, but what is important for this chapter is to understand IGL as a social-collaborative way of learning that is situated within organisational structures, can take different forms centralised around work tasks, and may or may not be planned (Section 12.5.).

In the next section, cohort theory is used to delineate the four generations currently active in the workforce to gain a better understanding of their worldview, attitudes towards learning, work and life in general.

12.3. Generations in the workforce

As many as four different generations may be found in a work organisation at any given time. These are (Ropes, 2011a; 2011b):

- (a) the 'Still Generation', which were born between 1925 and 1945. This group are mostly retired, but nevertheless may still be active in some family-owned businesses;
- (b) baby boomers, born between 1946 and 1964. Referred to in this chapter as the ageing worker, baby boomers are often in more senior management positions in knowledge-based organisations;
- (c) Generation X employees, born between 1965 and 1980 and next in line to take over control in organisations from the baby boomers;
- (d) Generation Y (sometimes known as 'Millennials'), born between 1981 and 2001, have really only recently entered the workforce.

Table 12.2. **Generations and some of their characteristics**

Generation name/trait	Year of birth	Important social experiences	General Characteristics/values
Still Generation	1925-45	<ul style="list-style-type: none"> • Great Depression; • WW II. 	<ul style="list-style-type: none"> • conformist; • mature; • conscientious; • thrifty; • loyal.
Baby boomers	1946-64	<ul style="list-style-type: none"> • Kennedy and M.L. King; assassinations; • moon landing; • Vietnam War; • 1960s social revolution. 	<ul style="list-style-type: none"> • idealist; • optimistic; • creative; • tolerant; • value freedom; • self-fulfilment important.
Generation X	1965-80	<ul style="list-style-type: none"> • aids epidemic; • oil crisis; • Cold War; • CNN; • MTV. 	<ul style="list-style-type: none"> • individualistic; • sceptical; • non-conforming; • flexible; • controlling; • pragmatic; • informal.
Generation Y (Millenials)	1981-2001	<ul style="list-style-type: none"> • Internet; • fall of the Iron Curtain; • 9/11; terrorism; • new technologies; • information society. 	<ul style="list-style-type: none"> • confident; • demanding; • collectivistic; • moralistic.

Source: Authors.

Cohort theory is typically used as a way to delineate generations for the purposes of understanding and study. The theory behind it lies in the idea that generations of people constitute groups similarly located in time, which means that each group has experienced similar historical events that help shape worldviews particular to that group. In other words, cohort theory posits that people growing up at the same time have similar life experiences which, in turn, also shape their behaviour, their attitudes, their values and their opinions.

Attitude towards work/work-related values	Working style	Learning Characteristics
<ul style="list-style-type: none"> • obedient to management; • loyalty (to institution and customers); • security (stability); • 'work before everything'. 	<ul style="list-style-type: none"> • adaptive; • hard-working. 	<ul style="list-style-type: none"> • traditional, skill-based training; • low learning-goal orientation.
<ul style="list-style-type: none"> • lifetime employment; • high org. commitment; • workaholism; • criticism; • innovativeness; • advancement; • materialism. 	<ul style="list-style-type: none"> • being in charge; • team-orientation; • attentive to hierarchy. 	<ul style="list-style-type: none"> • low learning-goal orientation; • improving skill sets through off-the-job training; • traditional educational interventions.
<ul style="list-style-type: none"> • 'work is to be endured, not enjoyed'; • low org. commitment; • free agency; • entrepreneurship; • materialism; • life-work balance. 	<ul style="list-style-type: none"> • individualistic; • not attentive to hierarchy; • collaboration; • human relations. 	<ul style="list-style-type: none"> • high learning-goal orientation; • situated learning; • lifelong learning.
<ul style="list-style-type: none"> • passion; • work that has meaning; • security (not stability); • loyalty to work, not to organisation; • willingness to work; • life-work balance. 	<ul style="list-style-type: none"> • team-oriented; • flexibility and autonomy in task achievement; • integrated free/work times. 	<ul style="list-style-type: none"> • collaborative; • visual; • non-traditional; • experiential; • collective reflection; • self-development.

Studies have shown that generation is perhaps even more of an influence on values than age (Wey Smola and Sutton, 2002).

Consequently, cohort theory is useful for understanding IGL in organisations because it considers that different aspects of age and experience influence an employee's attitudes and behaviours in certain ways. Moreover, it seems that values, especially those formed during adolescence, have a lasting effect and remain stable throughout one's life. The same holds true for work values

(Meglino and Ravlin, 1998). Accordingly, cohort theory allows research to take a perspective that is useful for understanding why different generations exhibit different behaviours in an organisational context and how behaviour can be accounted for in IGL programmes. On the other hand, cohort theory is problematic, owing to the fact that intergroup experiences may differ greatly for various reasons such as socio-economic background, cultural aspects, country of birth and residence, etc. There is also some difficulty with the concept of age and how that relates to cohort theory. Furthermore, with regard to work organisations, cohort theory does not consider organisational tenure as a factor. These pitfalls are discussed in more detail below, but first we present the findings of a literature review that refers to cohorts as generations and specifically considers factors within an organisational context that contribute to learning and development (Ackerman, 1996; Baily, 2009; Bontekoning, 2007; Costello et al., 2004; Korchin and Basowitz, 1957; Kupperschmidt, 2000; McGuire et al., 2007; Nauta et al., 2005; Shaw and Fairhurst, 2008). The results of the review are presented in Table 12.2. Specifically illustrated are general characteristics important to this review that are exhibited by the various generations. In the following section, aspects of the table are discussed in more detail.

12.4. Generational differences and influencing factors on learning and work performance

Recent research suggests that cognitive ageing does not affect the working ability of older workers and that motivational and psychosocial variables play a key role in the successful work outcomes of older workers (e.g. Ypsilanti and Vivas, 2011). Accordingly, it has been suggested that the assumption of the generalised cognitive decline in older workers that affects work productivity is too simplistic. However, relatively little is known about the effects of work motivation in older workers (Boerlijst, 1998; Warr, 2001). Moreover, increasing work motivation and productivity in older workers may contribute to the enhancement of organisational outcomes both financially and socially.

There is great inter-individual and intra-individual variation as to which cognitive functions decline earlier during the lifespan. The distinction between crystallised and fluid intelligence is not a recent one (Horn and Cattell, 1966). There is strong evidence for an age-related decrease in fluid intelligence and increase in crystallised intelligence (e.g. Ackerman, 1996, 2000; Ackerman and Rolfhus, 1999; Beier and Ackerman, 2001, 2003).

Crystallised intelligence reflects general knowledge or domain-specific knowledge, while fluid intelligence is the ability to think logically and to solve novel problems. In the course of development, most individuals suffer from age-related changes in crystallised and fluid intelligence and adopt strategies to compensate for lost functions. There is evidence that the awareness of a decrease in fluid intelligence may encourage older employees to select jobs with set goals that optimise their existing abilities as a self-regulating mechanism (Kanfer and Ackerman, 2004). Older workers who recognise age-related limitations in their skills are more likely to move to jobs or tasks that place higher demands on crystallised rather than fluid intelligence (Baltes and Baltes, 1990).

Work mobility is also largely dependent on changes in occupational interests across the life span. To protect their self-image, middle-aged and older workers may change job preferences depending on the demands on crystallised and fluid intelligence. Therefore, an older worker may show preference for positions that require more managerial skills and supervisory abilities that place higher demands on crystallised intelligence rather than operational positions that require fluid intelligence. However, some occupations involving academics and lawyers exhibit less mobility across work positions since they rely heavily on crystallised intelligence that tends to increase with age. In essence, age-related decline in work performance is more evident in occupations that rely heavily on fluid intelligence, such as aircraft pilots, while work performance in occupations that rely heavily on crystallised intelligence remains relatively stable throughout an individual's working life. However, between these extremities lie occupations that require both fluid and crystallised intelligence. Accordingly, there is a continuum of demands on cognitive abilities that largely determine age-related changes in work performance, which, in turn, affect work motivation and job preference as a self-protecting mechanism. From a practical point of view, an organisation is more likely to increase work motivation in middle-aged and older workers when work preference changes are considered. However, other job variables, such as status, job challenge and peer interaction, are also important.

12.4.1. Work motivation

Recent evidence suggests that, during adult development, there is a reorganisation of priorities that significantly affects work motivation. In contrast to previously supported assumptions regarding cognitive ageing in older workers, this hypothesis attaches great importance to the qualitative changes in motivation that take place during middle adulthood (Kanfer and Ackerman, 2004).

In accordance with Erikson's (1964) stage theory of psychosocial development, age-related changes are marked by crises that individuals must resolve successfully to proceed to the next stage. Such crises involve not only self-fulfilment and achievement but also economic prosperity and social acknowledgement. In many models, such as Erikson's, successful resolution is associated with specific accomplishments during the life course. Unsuccessful resolution of such crises results in psychosocial stagnation that forces the individual to remain in the previous stage, prohibiting them from further development and possibly leading to demotivation.

In a similar manner, Maslow (1943, 1954) identified a hierarchy of needs as a function of adult development that progresses from basic low-level needs to self-actualisation that is most commonly achieved in later adulthood. Although self-actualisation is not associated with age per se, needs at the highest levels of the hierarchy tend to be accomplished later in life when generativity is at its peak. In similar vein, Erikson (1964) defined generativity as a stage during which middle-aged adults develop a need to contribute to their community, while those failing to do so experience feelings of stagnation and underachievement. Successful resolution of this stage will help individuals to move towards old age, with a general sense of satisfaction and with few regrets about their life accomplishments.

As such, generativity motives were described to address life accomplishments and goals that are collaborative in nature and require cooperation rather than individual achievement and competition (Kanfer and Ackerman, 2004). Therefore, a distinction was made between achievement motives that are related to educational and occupational goals and generativity motives that refer to collaborative goals (e.g. common societal achievements that improve the life of a society as a whole). Such motives may be particularly important in middle-aged workers who occupy positions that require the collaboration of staff and managerial skills (Ackerman et al., 2002).

The relative increase in general knowledge of older workers, coupled with changes in other cognitive abilities, such as memory and processing speed, alter the self-concept of the individual. In the course of development, humans strive to protect their self-image for survival and social purposes. Maurer (2001) suggested that the protection of the middle-aged self-image largely determines people's involvement in career development tasks and lifelong learning. This commonly involves the avoidance of activities that rely heavily on fluid intelligence and engagement in activities that demonstrate wisdom. This equation must include the effort-performance trade-off that predisposes the individual to select work activities that require less cognitive effort and

have higher performance outcomes. Indeed, younger adults may easily compensate for their lack of knowledge by making an effort to learn new tasks effectively, while older workers are more reluctant to learn new activities because the effort-performance curve is steeper.

Overall, the psychosocial development of middle-aged and older adults is an interplay between cognitive, motivational and self-concept variables that affect work performance and career development. Nonetheless, the reorganisation of motives (from achievement to generativity motives) seems to play a major role in work performance.

12.4.2. Intrinsic/extrinsic rewards

In addition to the reorganisation of motives in ageing workers, there are changes in the value of intrinsic and extrinsic rewards and job satisfaction. By intrinsic rewards, we mean the rewards that are derived from the satisfaction that an individual experiences during the process of reaching a goal rather than from the result of an activity (Beswick, 1971). By contrast, a reward is extrinsic when it is the consequence of effort to reach a specific goal or activity, such as pay. Extrinsic rewards tend to be predetermined or standardised and are usually delivered in the immediate future. Intrinsic rewards tend to be more satisfying in the long term rather than satisfying to the person during the process.

Some researchers suggest that, while the two types of reward can function together, intrinsic motivation is inhibited by using extrinsic rewards (Deci, 1975). For example, in the workplace, when someone receives money for doing something they would otherwise do out of personal interest, he/she is less likely to do the same activity without receiving payment in the future (Deci, 1975). The interplay between intrinsic and extrinsic rewards is a complex one. Typically, most employees find some level of intrinsic satisfaction in doing their work. However, there are individual and situational differences in the value of intrinsic and extrinsic rewards. Some people are equally motivated by both intrinsic and extrinsic rewards. These differences may be attributed to various factors, including educational and psychosocial variables (e.g. life models, personality, family values).

Kanfer and Ackerman (2004) reported that there are age-related differences in the value of extrinsic and intrinsic rewards, with older adults being more motivated by intrinsic rather than extrinsic rewards. Additionally, an organisation's behaviour towards other employees remains a strong predictor of the value that an individual might place on rewards (Andenike, 2011). For example, an organisation that rewards achievement motivation solely with

extrinsic rewards (e.g. pay, promotion) is unlikely to motivate generativity or intrinsic rewards among its employees.

Work satisfaction and performance are both affected by intrinsic and extrinsic motivation and rewards in a complex manner (Small and Venkatesh, 2000). Organisations are usually aware of this interplay, which has many implications for the use of extrinsic and intrinsic rewards in the workplace, but are not always aware of how to deal with them effectively. The existence of different generations of workers in the same organisation complicates matters even further. Indeed, striking a balance between satisfying the needs of different generations, each with different motives and different values for extrinsic and intrinsic rewards, is challenging.

Managers are often faced with the challenge of how different types of motives and rewards affect employee behaviour. Particularly important is the way in which work-related activities are rewarded for tasks that would otherwise have been undertaken purely out of self-interest. For example, medical doctors may be involved in research out of personal interest or because this is part of their duties. Such conflict in extrinsic and intrinsic motivation may affect the organisation's decisions about employee investment for future development. Indeed, the consequences of selecting appropriate rewards for work-related activities may be enormous to the organisation both in terms of productivity and of future investment. Consequently, the way extrinsic rewards affect intrinsic motivation has enormous implications for the management of organisations and the study of job performance.

12.4.3. Effort and intrinsic/extrinsic rewards

For younger workers, the level of effort is positively related to work performance and to intrinsic and extrinsic rewards such as salary, recognition, promotion and self-fulfilment (Kanfer and Ackerman, 2007; Kanfer, 1987). For older workers, particularly those who have reached the peak of their career, effort is not always stimulated by extrinsic rewards. In contrast, intrinsic rewards such as self-fulfilment and a sense of achievement potentially play a major role in work performance. Often, motivation is largely dependent on the level of effort that an older worker chooses to allocate to a work activity. Older workers 'choose' the amount of effort they put into work activities, particularly novel ones, and exhibit little interest in developing new skills. This suggests that they are less worried about failing to secure promotion compared to younger adults at the start of their career. However, evidence suggests that occupational achievement in older workers influences life satisfaction (Johnson, 2008). This fits well with the idea of reorganisation of goals and motives so that older adults

are more interested in generativity than achievement motives. The family environment also contributes to the importance of occupational achievement in older workers (Saltzstein et al., 2001).

The reorganisation of motives as a function of ageing as well as the relative reluctance of older workers to engage in novel work activities have consequences for both the organisation and the employee. Organisations can experience the ageing workforce as a burden that delays its development and entry into new technological and financial markets while, at the same time, older employees are threatened by job obsolescence that forces them to change careers to remain in the workforce (Warr, 2001). However, work motivation precedes work performance. Accordingly, counselling and guidance services are particularly relevant here. IGL might also be a way to mitigate these problems through tutoring between generations. If IGL functions as an informal means of information flow or work guidance from older to younger workers and vice versa in such a manner that both generations benefit from and complement each other, this will lead to an increase in work performance.

12.4.4. Intergenerational effects

In our analysis of motivational changes across the life span, it is evident that there are significant intergenerational differences. Wey Smola and Sutton (2002) investigated intergenerational differences in work values to determine whether the differences are the result of cognitive/maturational effects or intergenerational differences in experiences. In a cross-sectional study of two age cohorts (27-40 and 41-65), they found that Generation X exhibits lower levels of work commitment compared to previous generations and puts more effort into balancing work and family obligations. However, both age groups felt that work performance does not define an individual's value, and older workers reported a less idealised view of their work compared to younger workers that reflected their lifelong experience of disloyal employers (Wey Smola and Sutton, 2002). Therefore, there are intergenerational differences in the goals, values and experiences that may interact with cognitive and maturational changes and determine work motivation and performance. These differences stem from the different economic and political conditions of each generation ⁽⁷⁵⁾, particularly those relating to attitudes towards work commitment and retirement (Tolbize, 2008).

⁽⁷⁵⁾ According to Dencker et al. a generation is 'comprised of individuals who share years of birth as well as noteworthy historical and political events taking place during one's formative years and over the course of one's life. The common experiences of similarly aged individuals may act as a lens through which future events are interpreted in their environments' (Dencker et al., 2007, pp. 212-213).

Another significant intergenerational difference regards organisational commitment. While baby boomers exhibited extreme loyalty to their employers, generation X shows little loyalty to their employer, changing on average 7-10 organisations across their working life. This finding is supported by evidence that employees value their relationship with their co-workers more than their managers (Karp et al., 2002). Perhaps generation X has witnessed from previous generations that loyalty to the employer does not guarantee work security. Although there are differences in loyalty towards organisations across age-cohorts there is a common perception as to which factors are likely to keep an individual loyal to his/her organisation. Such factors include mostly extrinsic rewards like salary increase and benefits, promotion and opportunity to engage in lifelong learning (Deal, 2007).

12.4.5. Consequences for employees and organisations

The reorganisation of motives across the life span changes the working conditions of employees and organisations. For younger workers, increasing work motivation is a function of extrinsic incentives that include new work and learning opportunities. For middle-aged and older workers, increasing work motivation is a combination of intrinsic and extrinsic rewards and opportunities to engage in activities that rely on knowledge and experience. Such activities are likely to develop a sense of job wellbeing contingent on the developmental changes of their age.

Adjustments to goals and performance criteria should be made to enhance performance outcomes. Relevant performance criteria should be defined in terms of managerial and training effectiveness that places greater demand on crystallised intelligence than on performance outcomes that rely heavily on fluid intelligence. This will promote the protection of the self-concept of older workers and will create a sense of completeness and job satisfaction.

The impact of age-related changes in cognition alters work performance and job satisfaction. These intellectual changes must be balanced against the effort of older workers who are less likely to commit to achievement goals that will undermine their self-concept. Kanfer and Ackerman (2004) propose that an age-related decrease in fluid intelligence affects motivation as a function of the amount of effort required to sustain work performance. This hypothesised relationship is further affected by job demands and a perceived effort-performance trade-off. Middle-aged and older workers move from achievement motives to intrinsic motives, attaching particular importance to protecting their self-concept and wellbeing.

Thus far, this review has focused on the change of psychosocial variables

of older workers under the assumption that older workers have longer tenure in an organisation. However, the hiring of older workers is an important issue in the current socio-economic situation in the EU. Recently, Heywood et al. (2010) examined the relationship between compensation, training and hiring of older workers in Germany. Previous studies indicated that managers place value on the increase in crystallised intelligence only with increased tenure within a company and not when they are thinking of hiring older workers. Their results indicated that compensation is a reason for not hiring older workers. However, companies are more likely to hire younger adults and retain them as older workers rather than hire older workers. For this reason as well, understanding how to invest in older workers so that they remain effective is an important issue.

12.4.6. Moving forward

In our analysis of the psychosocial factors that affect work performance and learning between generations, several variables have been pinpointed. Our attempt to establish a framework for the interaction of these variables is based on the assumption that there is interplay between biological, psychological and social factors that determine the successful coexistence of different generations in the same organisation. Such factors include developmental changes in intelligence across the lifespan, expectations and values that alter the perception of one's self-concept. In turn, these influence motivation and, ultimately, the value of intrinsic and extrinsic rewards. The addition of the relative perception of effort and job satisfaction seems to imply a non-circular direction in these factors that are caused by the biological and psychosocial changes of the individual across the life span and result in the termination of productivity at work.

It would be particularly useful for an organisation to be able to determine the current location of an individual in this model. By so doing, the organisation would be more likely to increase work motivation, performance and the desire to learn. Consider the example of a 40-year-old male employee working in a public organisation with 10-year tenure. To determine how to improve his effectiveness, we should be aware of the psychosocial changes that are linked to his age. If we are to adopt a stage model, this male would be entering the stage of generativity; accordingly, his life expectations would be centred around his family and career. Intellectually, the individual is still functioning very well, in terms of both crystallised and fluid intelligence, and places great value on the effort-reward outcomes that determine job satisfaction. In this rather simplistic example, the organisation is called on to decide whether this

individual is likely to be productive in a different work position (other than the production line) involving a managerial aspect that would increase his work motivation. In this way, this employee would be able to learn from the previous generation and help teach the next, as well as vice-versa. We propose a personalised approach in the determination of the needs and abilities of workers, with frequent re-assessments that would consider the changes of the individual across the lifespan. Stage models are not universally adopted by psychologists (e.g. Bidell and Fischer, 1994), but a discussion on this topic is beyond the scope of the present study. Indeed, there is some debate among social scientists as to whether the age boundaries of each stage reflect the whole population or whether other factors such as personality, life models, family values and education determine the developmental transitions across the life span. For present purposes, we need to understand that the points discussed above directly influence how IGL can be facilitated effectively in organisations. On the one hand, organisational structures need to be in place to ensure that older workers are approached in specific ways that will help them adapt to changing work situations. On the other hand, the speed at which organisations need to change and develop to remain viable means that any sort of organisational development trajectory based on learning will need to be designed with the needs of older workers – and, of course, younger ones as well – in mind.

12.5. Organisational structures, settings and designing IGL

Billet (2002) argues that all learning in organisations is dependent on existing structures which determine how people do their jobs.

Learning experiences in the workplace are shaped by structural factors associated with work practices. These regulate and are reproduced by the division of labour and the distribution of opportunities for participation in and learning about work. This structuring, and its contestation, is no more evident than in the assessment of or learning about work tasks that are highly valued or remunerated. This structuring underpins the need to identify ways of intervening in workplaces to assist in the equitable distribution of learning experiences (Billet, 2002).

While most literature on workplace learning emphasises the learning processes specifically from the point of view of the individual's experiences (Ashton, 2004), thus ignoring or underestimating important contextual factors,

there are some studies that consider workplace learning as a situated phenomenon that needs to be understood as such (Ellinger, 2005). For example, Ashton (2004) devised a model based on empirical work that illustrates the interplay between organisational structures, organisational culture and learning. Central to the model is the idea that the organisation ensures that there are opportunities to practise what has been learned. Interacting and influencing the ability to practise are linked to the following important structures: (a) how the organisation facilitates the distribution of knowledge and information, for example, team meetings, information-sharing methods; (b) rewards for learning, for example, pay rises, promotion; (c) support for learning, for example feedback, training in supporting learning. What Ashton does not discuss is the general organisational climate in which these structures were found. Organisational climate considers matters other than simply culture. For example, Skule (2004) identified seven conditions for promoting informal learning that can be more or less considered to be climate-related: a high degree of exposure to changes, a high degree of exposure to demands, managerial responsibilities, extensive professional contacts, superior feedback, rewarding of proficiency and management support of learning. Driver (2002) showed that management plays a critical role in developing a strong learning climate, and Sambrook (2006) found that, by not explicitly supporting learning, managers seriously inhibit the learning process.

Ellinger (2005) identified four emergent themes in her extensive qualitative study on positive organisational factors influencing informal learning that underpin the studies discussed above. Linked to the themes found in the data were sub-themes relating specifically to the behaviour of managers. For example, one emergent theme was 'learning, committed leadership and management'. The sub-themes of this were 'managers and leaders who create informal learning opportunities' or 'managers and leaders who instil the importance of sharing knowledge and developing other informal learning opportunities'.

IGL has been conceptualised in this review as a form of informal learning, and as such is different from more formal training. We then argued that a positive organisational learning climate is important to facilitate all types of informal learning, including IGL. However, for IGL to be successfully implemented, organisations also need to ensure a culture that is open to diversity. Negative stereotypes about different generations are a common problem in organisations and can lead to frustration when implementing IGL. In Ashton's model, for example, ensuring that all employees – not just the younger ones – are part of the information loop would play an important role,

as would allowing older employees to rotate jobs and take on new tasks. Unfortunately, older employees are often left out of organisational structures associated with informal learning. Again, managers play an important role in creating and maintaining an open culture.

12.5.1. Designing effective IGL environments

From the previous discussion, we can conclude that, for organisations to implement forms of IGL successfully, factors surrounding the employees and the structures in which they operate need to be considered. Literature has shown that older employees learn differently from younger ones and for different reasons. It has also shown that organisations need to have formal and informal structures for promoting learning of any type and that, with regard to IGL, age discrimination might be an added dimension that needs to be considered. In this section, we develop the idea of learning environments theoretically conducive to IGL using a model from Nieuwenhuis and van Woerkom (2007), based on what they refer to as goal rationalities.

Nieuwenhuis and van Woerkom (2007) draw attention to the fact that there is conflicting empirical evidence concerning learning opportunities at the workplace. While some studies show the workplace to be an effective learning environment, others show the opposite. This may be because the workplaces and professions studied were different, but it also might be because the attitude taken while evaluating them was different. The authors propose that evaluating workplace learning potential should be done using four different rationalities for learning to understand effectiveness properly. They argue that most studies approach learning at work from only one goal rationality, what they refer to as 'preparatory rationality' in which learning has a function related to preparing for work. This is a type of learning associated with formal schooling, or formal training in organisations. The other rationalities are grounded in the idea of informal learning and are intrinsic to the work environment, thus important to the present study. Table 12.3 provides a summary of the four goal rationalities, a description of each, the institution involved in the process and the goals for the learning process (Nieuwenhuis and van Woerkom, 2007).

The concept of goal rationalities is useful when we consider how IGL environments might be effectively designed and successfully implemented. If we graft IGL on to the goal rationalities and combine it with information taken from the literature referred to above about motivation and rewards, we arrive at the following framework for the design of IGL.

Table 12.3. Goal rationalities, description, institution involved and goal for learning

Rationality	Description	Institution involved	Goal/criterion for learning
Preparation	Learning as preparation for work	Education	Qualification
Optimisation	Learning for effective task execution	Work organisation	Optimising productivity
Transformation	Learning for innovation	Economy	Competitiveness and organisational vitality
Personal development	Learning for personal goals	Individuals	Personal development

Source: Nieuwenhuis and van Woerkom (2007).

Learning environments focus on optimisation. Optimisation as a goal rationality is closely linked to the idea of (reverse) mentoring in the sense that improved employee competence in task execution is probably the most important outcome (Scandura, 1992). In this case, the younger worker, who needs to become more competent, benefits from the older worker's expertise. The opposite holds true for reverse mentoring – for example where a younger employee is linked to an older employee to improve his/her technical expertise. At the same time, older employees would be engaged in situations where their expertise and knowledge are used effectively. In mentoring situations, the crystallised intelligence of the older worker is thus used to its full potential. Aryee et al. (1996) found that motivation to participate in mentoring is a combination of intrinsic and extrinsic dimensions, personal traits such as altruism and the need to share knowledge, etc. inside both formal and informal organisational structures that promote these types of learning relationships.

Learning environments focus on transformation. Transformation is a goal rationality connected with innovative learning environments. From this goal rationality perspective, IGL is driven by an organisational need to change and develop and often takes the form of multigenerational innovative teams and communities of practice. Here, team-level learning is directly linked to knowledge-building and innovation, which, in turn, are linked to organisational learning (Crossen et al., 1999). In transformative learning environments,

different types of knowledge are important to the innovative processes (Ropes, 2010; Tempest, 2003). This includes 'deep' knowledge that older employees hold as well as 'broad' knowledge usually held by younger employees (Tempest, 2003). In addition, older workers are able to apply both fluid and crystallised types of intelligence for the benefit of the organisation. The former type of intelligence is important for the development of new perspectives on existing situations – crucial to innovation – and the latter type is needed to ensure the effective operationalisation of new concepts – crucial to successful development and implementation of the innovations themselves. Intrinsic motivation to participate in these types of environments lies in the idea that older workers feel a need to be engaged with the organisation in ways that promote its growth and development (Barnes-Farrell, 2006). This concurs with Erikson's (1964) concept of the generativity stage discussed above. Furthermore, older workers seem to be more motivated to take part in organisational learning activities that are collaborative in nature because they require cooperation rather than competition (Kanfer and Ackerman, 2004).

Learning environments focus on personal development. In an organisational setting, the impulse to learn often comes from pressures placed on the employee to perform better (an optimisation goal rationality) or to contribute to the development of the organisation (a transformation goal rationality) in situations such as IGL. However, the desire to learn might also be stimulated for other, more personal reasons such as the desire for happiness, an attempt to function better in one's personal life or the possibility of a change in one's career. Here again, the idea of generativity as a motivating factor is important because the focus of one's learning changes and is directly related to the different generations' view on the life-work balance and the various levels of organisational commitment. For older workers, the desire to learn for personal development shows a continuing concern for self-development and self-directed learning. These traits are important for the wellbeing of the employee but have also been shown to be important characteristics of effective employees (Caffarella, 1993).

12.6. Concluding remarks

In this study, we took the position that IGL is one way that organisations can invest wisely in older workers to ensure that they continue to learn throughout their working life. We proposed that several factors are important for organising IGL and explored this concept through a multidisciplinary review

of the literature. What we found is that, for IGL programmes to be effectively designed, there needs to be a clear understanding of three interconnected levels in organisations. This is the basis for the framework that organisations can use to understand what factors are important for ensuring older employee learning through IGL. The first level concerns the individual and factors associated with a world-view, personal and work-related values, type of intelligence and different types of motivations. This we see combining in the different goal rationalities for learning. At group level, it is important to structure interactions between generations in ways that complement the different types of knowledge and relate to how that knowledge is used (i.e. intelligence). Finally, at the level of the greater collective, we found that it is important for organisations to invest in both formal (reward) structures as well as informal ones (a positive learning culture), as the latter is more likely to engage all workers – not just older ones – in lifelong learning.

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List of abbreviations

IGL	intergenerational learning
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Policy implications: making the most of learning later in life – Where do we go from here?

Antje Barabasch, Alexandra Dehmel and Jasper van Loo

This final chapter provides an overview of current lifelong learning policies in Europe, examines the evidence presented in this publication and outlines several implications. The evidence points towards the importance of showing the benefits of learning, of developing demographic literacy in organisations and of expanding the evidence base on the value of learning using interdisciplinary research. Future policies and actions that target these areas can benefit Europe in the years ahead. Three key policy implications that are derived from the evidence presented in this publication are outlined.

Introduction

Ageing is a dominant trend in Europe. With the baby boom generation reaching statutory retirement age in large numbers, it becomes increasingly visible and starts to have real impacts on society and labour markets. However, ageing cannot be seen as an isolated trend. It should be considered alongside other trends such as globalisation, skills upgrading, the greening of societies, higher participation of women in the labour market, the flexibilisation of workplaces, the increasing need for ICT literacy in society, an increasing life expectancy, new developments in learning and an increasing importance of entrepreneurship skills (van Loo, 2011). These developments influence what skills will be needed, determine promising growth and innovation opportunities and ultimately shape the form and nature of future economies and societies. Population ageing implies that ageing people will play an important role in these developments, since many more workers will reach what is currently the retirement age but will have to work longer than previous generations. This has clear implications for lifelong learning.

The body of information set out in this publication can support future policies and actions in several ways. It can give direction as to what are the most promising investment opportunities, but it can also – in a wider sense – provide direction on how to create the conditions that foster learning in an ageing workforce.

Lifelong learning and ageing policies in Europe

Already at the start of the millennium, the European Commission's Communication *Making a European area of lifelong learning a reality* (European Commission, 2001) and the *Council Resolution on lifelong learning* (Council of the EU, 2002) highlighted the contribution of lifelong learning not only to competitiveness and employability but also to social inclusion, active citizenship and personal development. Adult learning was considered to be a vital component of lifelong learning in an ageing society and an instrument for meeting skills needs and overcoming labour shortages in certain sectors while, at the same time, addressing the need for people to acquire new skills in domains such as ICT, health or finance.

The European Commission recognised the need to lift the barriers to and address the imbalances in participation in learning to achieve more equitable outcomes in the adult learning communications *Adult learning: It is never too late to learn* and *Action Plan on Adult Learning: It is always a good time to learn* (European Commission, 2006; 2007a). The Action Plan called on all Member States to create an efficient adult learning system, and key messages included increasing equitable participation possibilities for adults, concentrating on the quality of learning approaches for adults, recognising non-formal and informal learning, investing in the education of older people and stepping up data collection on adult learning.

With a growing life expectancy, older workers in Europe should be encouraged to remain in the labour market longer. Recently, the European Commission has highlighted that job quality and job satisfaction are key factors for sustainability of work and retaining older workers in the labour market (European Commission, 2007b). The *Council conclusions on active ageing* (Council of the EU, 2010) emphasise that the future competitiveness and prosperity of Europe rely heavily on its ability to put its labour resources to active use. Promoting inclusion, supporting labour-market integration, encouraging active citizenship and fostering learning are important factors for meeting the challenges of an ageing society and making full use of its

potential. Initiatives such as those within the 2012 European year for active ageing and solidarity between generations strongly promote these aims.

A Resolution adopted by the Education Council in 2011 sets out a renewed European agenda for adult learning (Council of the EU, 2011). The Resolution establishes specific priorities for the adult learning sector as part of the overall ET-2020 strategy for European cooperation in education and training. It continues the work set in motion by the Action Plan on Adult Learning 2008-10 to increase adult participation in learning. The Resolution stresses the importance of learning later in life to promote active, autonomous and healthy ageing. Member States are encouraged to focus on 'enhancing learning opportunities for older adults in the context of active ageing, including volunteering and the promotion of innovative forms of intergenerational learning and initiatives to exploit the knowledge, skills and competences of older people for the benefit of society as a whole' (Council of the EU, 2011).

Overall, EU lifelong learning policy – as an integral and central part of the Europe 2020 strategy for smart, sustainable and cohesive growth – has been a powerful catalyst for dealing with population ageing and its implications. Learning over the life course has become a prominent feature of EU policy in the past decade, and the lifelong learning programme has supported countries and organisations in their attempts to promote lifelong learning.

Despite the fact that lifelong learning is high on the political agenda (European Commission, 2006; 2007a; 2011; Council of the EU, 2008; 2011), participation rates are still rather low – especially for the age group 50-64 years. The global economic crisis has intensified the need to reduce unemployment as well as to increase productivity, economic growth and social inclusion. In times of economic difficulties, there is a risk that the challenges of ageing receive less attention as a consequence of more immediate problems, such as high youth unemployment. Ageing, however, remains an important topic on the agenda, and both EU and national policy-makers see the need to support active ageing, as recovery might be difficult if it is hampered by skill shortages in key economic sectors.

What can we learn from the evidence?

A first conclusion relates to the importance of identifying individual benefits, barriers and facilitating factors. There is a need to go beyond simple analysis which looks at benefits from only one perspective. A better understanding of this is crucial to developing the right incentives that encourage people to take part in training. When the needs and learning preferences of ageing workers are not sufficiently taken into account, it is not surprising that they appear to be less motivated to participate in learning. Ageing employees prefer different training contents and age-appropriate forms of learning, and the reason why they often find training less effective is that these preferences are not given sufficient weight. The evidence also points towards the importance of recognising barriers and facilitating factors. Offering ageing people effective incentives to take part in learning, such as, for instance, financial stimuli or time allowances, requires in-depth knowledge and an understanding of the work-related and personal factors that inhibit or encourage learning.

Evidence shows that ageing workers do not always see the true job-related and personal benefits of investing in their knowledge, skills and competences. Making people aware of those benefits, which can relate to their current job but also more widely to career progression and employability or to other benefits such as self-fulfilment, is important and can be crucial to increase ageing workers' participation in training and learning. Making ageing people aware of the benefits of learning can be done in various ways, ranging from government-initiated media campaigns to arrangements in enterprises that aim to get the most out of training by providing workers with clear career paths and good promotion opportunities. Such initiatives should be consistent with different types of training initiatives, recognise the complexity of individual training decisions and consider the interaction between employers and employees. This means that tailored learning and training options should be available for people of different ages and career stages that balance individual benefits with the returns to training for the enterprise. A climate that is conducive to learning can be an important catalyst. National governments can address age discrimination in training by implementing age-discrimination legislation. At the sectoral level, social partners can help to make learning and training more attractive. Country-specific conditions and regulations in terms of retirement age, labour market situation, etc. also determine the labour-market participation of older age cohorts.

A second conclusion relates more explicitly to the role of employers. Evidence suggests that, although employers are aware of the realities and

potential negative impacts of population ageing, age-aware human resources and training policies still need to be developed in many organisations. Human resource policy often targets younger staff members, while the amount of attention paid to ageing workers is fairly limited. One important reason behind this is probably a lack of adequate competence: demographic literacy is underdeveloped in many European enterprises. Organisations must gather, assess, manage and apply demographic information and knowledge so that they may strategically plan, adapt and design appropriate policies. The examples presented in this publication clearly show that (a) stakeholder involvement, for instance by means of collective bargaining arrangements that pay explicit attention to the situation of ageing workers, can promote demographic literacy, and that (b) successful companies take a life-cycle approach to active ageing policies and measures without restricting them to the older age cohorts. This means that age management policies should not start when a worker reaches the age of 50 or 55 but should rather consider and address the needs of employees from the time they are recruited until the time they retire. A life-cycle approach also implies an important role for guidance and counselling. Successful guidance entails various career development and management strategies, such as further training and learning, changing to a different occupation/job or becoming mentors to younger colleagues (Cedefop, 2011).

The third conclusion relates to the challenges of understanding ageing, its implications and the ways to address it. Several chapters in this publication have highlighted that issues related to the value of investing in ageing workers, such as differences between younger and older learners, the crucial role of informal learning and intergenerational learning in the workplace, can be understood only when information from different disciplines is combined. Labour market and economic research can provide information about the benefits of investing in skills and analyse incentives. Information gleaned from psychology can help us to understand better how people make decisions regarding investment in their skills and how employees and employers interact in the work context. Personnel management and human resource development provide an insight into how human capital investment can be viewed from the firm's perspective. It is important to keep in mind that a sound understanding of how learning, working and ageing are interconnected cannot be developed in isolation. Research and analysis on learning later in life need to have close links to the realities of modern work organisations and workplaces.

Where do we go from here?

The analyses in this publication show that, in many cases, investing in ageing workers is worthwhile and benefits both the workers themselves and their employers. However, the present reality is that, as workers get older, participation in lifelong learning declines. Lifelong learning policies at EU and Member State level are important measures to step up investment in learning among ageing workers, but the decision to take part in learning is, ultimately, taken jointly by the workers themselves and their employers.

The combination of population ageing and skills obsolescence, which is a prominent feature of dynamic jobs and labour markets, implies that investing in ageing workers' skills is becoming a necessity. Over the next few decades, there will be little scope to address skill needs by replacing older workers with younger ones. What are the main implications for lifelong learning and active ageing policies? The evidence presented in this publication points towards three key policy implications.

First, policies and actions can stimulate learning not only by providing incentives but also by addressing barriers and by strengthening factors that support learning. Barriers can refer to a multitude of factors that prevent individuals or enterprises from investing in learning. They can relate to motivational issues and financial, time or other constraints. One important barrier that could be more explicitly considered in lifelong learning policies concerns the failure to identify clearly the benefits of learning. In many cases, showing the benefits of learning to individuals and enterprises can help ensure participation and continued motivation for learning. Initiatives and actions that combine innovative incentive structures with tailored and attractive information for individuals can make lifelong learning policies much more effective.

A second policy implication relates to lifelong learning policies that target enterprises; these could be made more effective if more attention was paid to the development of demographic literacy in firms to enable them to take action and develop or expand age-aware human resource systems on the basis of solid evidence. One way to do this would be to increase the scope for learning from best practice. Showing enterprises the value of managing age as a strategic variable just like any other resource in the organisation can help to disseminate age-aware human resource practices throughout Europe.

Another role for policy is to continue stimulating research on ageing that takes a multi- and interdisciplinary perspective and that has strong ties to practitioners in the human resources field. Such research efforts not only provide the evidence base that is needed to make all stakeholders aware of

the benefits of investing in an ageing workforce but can also, in a wider sense, provide the input for developing innovative active ageing policies that benefit ageing societies. Such policies should help ageing people see new ways of shaping and extending their own career. They could stimulate ageing people to use their experience in new ways, for instance by taking on new roles as a mentor or coach or by supporting entrepreneurship. It is important to keep in mind that stimulating an 'active ageing attitude' at grassroots level is not only beneficial to those directly concerned but can also be a source of growth and innovation.

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Working and ageing

The benefits of investing in an ageing workforce

Slowly but steadily, in Europe, the attitude towards population ageing is changing. Early reports saw it as a demographic time bomb that would have negative consequences for economies and societies. More recently, the opportunities that population ageing brings with it have been emphasised, and the emerging silver economy is increasingly seen as a driver of future growth and prosperity. Lifelong learning is a crucial condition for active ageing and working longer. The year 2012, the European year for active ageing and solidarity between generations, supports lifelong learning and active ageing. This publication contributes to the debate by providing new insights based on the latest results from research and best practices in Europe and the Member States. It considers the benefits of and barriers to investing in learning later in life, presents emerging models of age-management in organisations and sectors, and examines international and interdisciplinary perspectives on working, ageing and learning. The evidence points towards the importance of showing the benefits of learning, developing demographic literacy in organisations and expanding the evidence base on the value of learning later in life using interdisciplinary research.

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