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## OPINION ARTICLE

### The Working Environment as a Platform for the Promotion of Active Aging: An Italian Overview

Nicola Mucci<sup>1,\*</sup>, Eleonora Tommasi<sup>1</sup>, Gabriele Giorgi<sup>2</sup>, Giulio Taddei<sup>1</sup>, Veronica Traversini<sup>1</sup>, Massimo Fioriti<sup>1</sup> and Giulio Arcangeli<sup>1</sup>

<sup>1</sup>Department of Experimental and Clinical Medicine, University of Florence, 1 Largo Piero Palagi - 50139 Firenze, Italy

<sup>2</sup>Department of Human Sciences, European University of Rome, 190 Via degli Aldobrandeschi - 00163 Roma, Italy

**Abstract:** European data confirm a gradual and constant aging of the population. The reduction of risk factors for chronic diseases and the improvement of health care have increased life expectancy in general. In January 2018, Italy recorded a mean age of 45.2 years (two tenths more than 2017). “The 2018 Ageing Report”, an economic paper of the European Community, predicts that the European Union would go from having 3.3 working-age people for every person aged over 65 years to only two working-age persons. If this happens, welfare systems would no longer be able to cope up with health and pensions. It is important to offer people the tools to get old better. The World Health Organization defines active aging as the process of optimizing opportunities for health, participation and security to enhance quality of life as people age. The working environment is the perfect platform for the promotion of policies aimed at maintaining the psychophysical abilities of the elderly worker. The Finnish Institute of Occupational Health recently proposed the Work Ability Model to understand and manage wellbeing in the workplace. This scheme suggests a multilevel action to guarantee the elderly worker an optimal stay in the workplace. An active aging promotion program and an adequate risk-assessment can reduce injury risk, increase productivity and health benefits for elderly workers.

**Keywords:** Aged, aging, Health promotion, Healthy aging, Occupational health, Retirement, Risk assessment, Workplace.

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## 1. INTRODUCTION

The aging of the population has become a topic of great importance worldwide. The increase in life expectancy affects both social and medical assistance levels. This article aims to photograph the Italian and European demographic situation, illustrate the current legislation concerning the elderly in the workplace and offer ideas to improve the safety and protection of older workers. We have given an overview of the latest scientific literature on aging and the conclusion is that the topic is developing in recent years, and therefore, more clinical studies are needed with larger case studies.

## 2. THE ITALIAN AND EUROPEAN DEMOGRAPHIC SITUATION

The most recent ISTAT (the Italian National Institute of Statistics) data on the national demographic balance confirmed a gradual and constant trend in the aging of the Italian population. Births, deaths and migratory flows define the extent and composition of a population in its structural characteristics

such as gender and age. At 1st January 2018, Italy recorded an average age of 45.2 years, two tenths more than the same date in 2017 (corresponding to about two and a half months), and exactly two years more than in 2007. This increase in the average age is due to the continuous decline in births (2% reduction compared to 2016) and the increase in the elderly population (65 years and over) that in 2018, turned out to be 22.6% (over one percentage point more than in 2011). The working age population (15-64 years old) recorded a further contraction from just over 65% (2011) to 64.1% (2018). People of retirement age gained 2.4 percentage points more than in 2008 whereas people in an active condition have fallen by 1.6 and 0.7 percentage points. Consequently, intergenerational relations have gradually changed. The 2018 index of dependence of the elderly (ratio between the population aged 65 and over and the working population, multiplied by 100) is 56.1%, recording an increase of 4 percentage points on 2008. The working age people, which for decades remained anchored to two thirds of the total population, have gradually started to decline. In fact, while the population aged 15-39 falls from 31.5% to 27%, that aged 40-64, or the one that still includes the generations born in the baby-boom years, grows from 34.2% to 37.1%. The improvement of the quality of life, the reduction of risk factors for chronic diseases (smoking cessation and diet-behavioral po-

\* Address correspondence to this author at the Department of Experimental and Clinical Medicine, University of Florence, 1 Largo Piero Palagi-50139 Firenze, Italy; Tel: 055417769; Fax: 0557469400; Email: nicola.mucci@unifi.it

licies) and the progress of medical-hospital treatments have led to a progressive lowering of the risks of death promoting the aging of the population [1]. The credit industry deserves a particular attention due to the significant changes it has undergone over the last few years. In Italy, the main reason for the reorganization of the sector lies in the significant number of mergers and acquisitions. This has led to a significant reduction in the number of territorial branches and to the ever-increasing use of modern information technology for both data management and marketing actions. Older workers were those who most felt these changes: they, after many years, had to change their usual place of work (and the consequent dynamics) and to learn new instruments of work [2, 3].

### 3. THE INTEREST OF THE EUROPEAN COMMUNITY ON AGING: THE MAIN DOCUMENTS

The Italian demographic balance follows the European one. The demographic projections over the long term reveal that the European Union (EU) is 'turning increasingly grey' in the coming decades. The total population in the EU is projected to rise from 511 million in 2016 to 520 million in 2070, but the working-age population (15-64) will decrease significantly from 333 million in 2016 to 292 million in 2070 due to fertility, life expectancy and migration flow dynamics. Based on this data, the International Community is increasingly interested in the aging of the population. The European Commission has published the document "The 2018 Ageing Report" which predicts an increase in the old-age dependency ratio (percentage of people aged 65 or over compared to those aged 15-64) from 29.6% in 2016 to 51.2% in 2070. This implies that the European Union would go from having 3.3 working-age people for every person aged over 65 years to only two working-age persons [4]. This scenario would trouble the sustainability of current welfare systems and lead governments to raise taxes for health and pension funds. It is well known that ageing increases health problems. As people become older, their ability to sustain physical work reduces: cardiorespiratory function and muscle strength decrease by about 1-2% a year after 30 years. Reduced physical capacity is a problem mainly for occupations with a high physical workload. According to the European Health and Safety Agency (EU-OSHA), 30% of people between 50 and 64 years old need to modify their job task to prevent the risks of disability from work. The main health problems responsible for work absenteeism are musculoskeletal disorders (incorrect work postures, heavy objects manipulation or repetitive movements) and mental disorders (depression, burnout syndrome) [5]. European Union in the "Europe 2020 strategy for smart, sustainable and inclusive growth" proposed two objectives to solve this problem: raising the effective retirement age and increasing the percentage of people employed by the population in working age. EU-OSHA has promoted the "Healthy and safe working environments 2016-2017" campaign to make aging at work more sustainable. This document aims to prevent occupational health problems, provide good practices for older workers and encourage intergenerational communication [6]. The Eurofound concept paper "Sustainable work over the life course" also observed that demographic changes influence the establishment of appropriate management models in the workplace.

In particular, this paper has defined two dimensions of work sustainability: the characteristics of work (quality of work) and individual capability (skills at work). The quality of work can have a strong impact on individual health, on the development of skills and on the ability to combine work and private life. Similarly, the individual competences can change throughout the working life and compromise the ability to work. This model encourages the improvement of both quality and skill at work in order to avoid early retirement [7].

### 4. ACTIVE AGING: DEFINITION AND LAWS

The working environment is the perfect platform for the promotion of policies aimed at maintaining the psychophysical abilities of the elderly workers. In the document "Active ageing: a policy framework" the World Health Organization (WHO) defines active ageing as the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age [8]. There are several evidences concerning the epidemiological, biological and clinical aspects of active ageing. On the other hand, there are still lacking experiences about the scientific evaluation of the positive effects in terms of maintaining the active roles of older people in society and of optimization of the economic sustainability of the management system [9, 10]. In Italy active ageing is defined by Art. 28, paragraph 1, of Legislative Decree 81/2008 and subsequent amendments provide that the risk assessment "[...] must cover all risks to the safety and health of workers, including [...] those related to gender differences, age, origin from other countries and those related to the specific type of contract through which the work service is rendered [...]" "The legislation explicitly requires that risk assessment takes into account the large individual differences in functional skills and staff health [11]. The adaptation of work to an individual's skills should be a continuous and dynamic process and should not be a particular problem for production activities with an appropriate risk assessment [12]. In particular, risk assessment policies should be oriented to all workers, regardless of age, feel motivated to pursue their goals and those of the company [13, 14]. An innovative approach is to examine the psychological processes and healthy habits involved in the motivation and interaction with the company system [15 - 17]. Active ageing interventions can be included in the health promotion programs (provided for by article 25, paragraph 1, letter a, of Legislative Decree 81/2008 and subsequent amendments). The promotion of health in the workplace is a complementary measure to the more traditional health protection [18]. Its specific objective is to prevent or to modify harmful behaviors at risk for the most frequent chronic diseases (cardiovascular diseases, tumors, respiratory diseases, diabetes, etc.). It assumes a strategic value in the workplace, especially if it is linked to the reduction of additive or synergistic effects on the health of both occupational and lifestyle risks. The main targets of occupational health promotion initiatives in Europe mainly concern actions aimed at tobacco smoking, alcohol consumption, drugs consumption, physical inactivity and vaccinations [19, 20]. Therefore, the laws of health and safety at work play a crucial role in promoting active ageing.

## 5. THE WORK ABILITY MODEL

The Finnish Institute of Occupational Health (FIOH) recently proposed the Work Ability Model [21]. This template is a comprehensive and contemporary approach to understanding and managing wellbeing in the workplace. The work ability model can be represented using the ‘house’ diagram. The Finnish Model compares work ability to the roof of a house. There are four floors in the house that represent different influences, which together contribute to the roof’s ongoing integrity, the ability to work. The first floor is about health and functional capabilities. This floor focuses on lifestyle (physical health, psychological wellbeing and leisure activities). The worker must join health promotion campaigns to eat healthy, practice regular physical activity, have proper sleep hygiene and must not smoke. The second floor deals with the need of continuous updating of professional skills in the workplace. The company must organize training courses that take into account changes in the learning process of the senior worker. One of the pillars of active aging is to make the most personalized programs possible for the elderly worker. The third one is about values, attitudes and psychological motivation. All these features can be improved by an increase in managerial capabilities. This level shows how the worker can have both intrinsic and extrinsic benefits from an adequate working environment. The top floor, the one that directly supports the work ability, concerns with work community and leadership. This includes: the key role of the immediate supervisor and their competence and ability to facilitate resources, the need of respectful treatment in the workplace, and the possibility of designing, creating, supporting and maintaining workplaces in which workers of all abilities can use their skills to engage in productive, safe and meaningful work. The fourth floor represents all the dimensions of the work environment (physical, mental, social) and concerns the organization of work, the forms of employment, the working time, the working community and the work tasks, as well as the management. The FIOH work ability model emphasizes the need for a multilevel interest to guarantee the elderly worker an optimal stay in the workplace [22]. A cohort study conducted on 599 Brazilian hospital workers between 2009 and 2011 confirmed that the dimensions proposed for the Work Ability House model represent a good multidisciplinary approach and can be used in the management of work skills [23].

## 6. PILOT STUDIES ABOUT ACTIVE AGEING

The working environment is considered the best platform for the promotion of active aging. Several projects have focused on developing strategies to improve the adaptation of the elderly worker to the workplace and the intergenerational communication. Today jobs are characterized by a technological component, often unknown to older workers. In Spain, Active Participation Centers have been set up to provide learning sessions on the use of everyday electronic devices for older workers. The results of this case-control study on 200 workers have shown that increasing the knowledge of older workers for Information and Communication Technologies (ICT) improves the overall quality of life and relationships with younger colleagues [24]. Guell *et al.* focused on promoting physical activity as the prevention of early retirement from work. They

conducted semi-structured interviews with 27 participants aged between 65 and 80 and then divided them into three different classes of “athletic phenotype” (athletes, outside and inside, sedentary / solitary) depending on the habitual practice or not physical exercise. A personalized workshop was then set up to suggest strategies to improve the training level of each of the three classes [25]. The working environment is, therefore, an ideal platform to carry out initiatives that promote active aging; improving the technical knowledge or the physical health of the elderly worker.

## CONCLUSION

An appropriate active aging program provides a motivational stimulation among older workers. The result is an improvement of workers’ psychophysical wellbeing with the consequent reduction in absenteeism, accidents and limitations on work [26, 27]. Another long-term effect could be an increase in the number of workers who voluntarily choose to remain in service once they reach the retirement age. The availability and sensitivity of company management are very important for the preparation of an active aging promotion program. Furthermore, there are evidences suggesting that a well-planned and organized intervention leads to a return on investment [28, 29]. A review of 72 United States studies concluded that every dollar spent on a health promotion program generated an average savings of \$ 3.48 in health care for each worker and a reduction in absenteeism costs of 5.82 dollars. In total, every dollar spent produced an ROI (Return On Investment) of \$ 4.30 [30]. Giving older workers more free time or reducing their workload has increased the effective retirement age by around three years. A locksmith company has introduced a system called “Age Master” which offers days of extra leave for workers over the age of 58. The people involved in the pilot project worked about three years longer than the expected retirement age. An energy supply company has introduced an “80-90-100” program that allows workers to reduce their working hours by 20% with a 10% cut in pay, without loss of pension rights. About 25% of employees and workers took advantage of this opportunity. The effective retirement age has increased by around three years, reaching 64 years. These two examples confirm that it is possible to concretely define innovative models to raise the effective retirement age [5]. The European Innovation Partnership on Active and Healthy Ageing (EIP on AHA) focused on the importance to develop good practices to ensure all European citizens remain as healthy as possible as they become older. They have tested their project in Portugal involving 70 institutions. The intent was to create guidelines to prevent memory impairment and social isolation in urban and rural areas. This Community Case Study was called the Ageing@Coimbra. This reference site can inspire other countries to develop innovative good practices, building consortia at regional level for the benefit of elderly [31]. In recent years, the use of multidisciplinary and integrated methodologies in the management of health and safety in the workplace is emerging. In this sense, the search for the mutual adaptation of man and systems of production is one of the priority objectives. Companies must consider the age of workers in the design of tasks and workstations. An adequate assessment of age-related risks can

bring benefits in terms of reducing injury risk, increasing productivity and health benefits for workers. Older people can work longer when they can manage timings and work-tasks. The reorganization of the company systems according to bio-ergonomic ageing criteria is an incredible opportunity for the employer and the worker.

## LIST OF ABBREVIATIONS

<b>ISTAT</b>	= the Italian National Institute of Statistics
<b>EU</b>	= European Union
<b>EU-OSHA</b>	= European Health and Safety Agency
<b>WHO</b>	= World Health Organization
<b>FIOH</b>	= Finnish Institute of Occupational Health
<b>ICT</b>	= Information and Communication Technologies

## ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Not applicable.

## HUMAN AND ANIMAL RIGHTS

No animals/humans were used for studies that are the basis of this research.

## CONSENT FOR PUBLICATION

Not applicable.

## CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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Declared none.

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