LIFELONG EDUCATION AND WELL-BEING: PROMOTING ACTIVE AGING IN THE TRANSITION FROM WORK TO RETIREMENT

FORMAZIONE PERMANENTE E BENESSERE: PROMUOVERE L'INVECCHIAMENTO ATTIVO NELLA TRANSIZIONE DAL LAVORO ALLA PENSIONE

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ABSTRACT

The AGER project aims to explore successful retirement transitions among upper secondary school teachers, with the goal of promoting physical well-being, self-efficacy, and existential redesign. The research, which will employ both quantitative and qualitative methods, will analyze functional aspects and lifestyle patterns, focusing on LifeComp competences and the role of the professional context in their development. The hypothesis is that integrating these elements can support effective transitions and Active Aging.

Il progetto AGER intende esplorare le transizioni di successo verso la pensione tra i docenti della scuola secondaria di secondo grado, volendo promuovere benessere fisico, autoefficacia e una riprogettazione esistenziale. La ricerca, che sarà condotta attraverso metodi quantitativi e qualitativi, analizzerà gli aspetti funzionali e gli stili di vita, con un focus sulle competenze LifeComp e sul ruolo del contesto professionale nel loro sviluppo. L'ipotesi è che l'integrazione di questi elementi possa sostenere transizioni efficaci e un invecchiamento attivo.

KEYWORDS
Retirement; Active Aging; Lifestyles; Physical Fitness; Competences
Pensionamento; Invecchiamento Attivo; Stili di vita; Fitness Motoria; Competenze

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Introduction

The transition toward an increasingly aging population — a key feature of contemporary global society — represents a major challenge for research, which is called upon to engage with complex future scenarios. Since the beginning of the current century, the concept of Active Aging (WHO, 2002) has gained growing importance, becoming a focal point for numerous disciplines involved in developing strategies to counteract the potential negative impacts of demographic change, particularly in areas such as the economy and healthcare. This perspective, which could be described as "remedial" in nature, fits within a broader cultural narrative that often portrays old age through stereotypical lenses (Musaio, 2014). Within this framework, an image of aging marked by decline and deficit — though occasionally contrasted with that of wisdom — has come to dominate the social representation of this life stage, inevitably generating negative effects even in the educational sphere. Utopia, which should always inform the pedagogical gaze, directs reflection toward a concept capable of transforming this prevailing narrative: the category of longevity (Togni, 2022). Through this lens, the focus shifts to the individual resources of each person, regardless of age, fostering in everyone — with renewed vitality — a continuous re-design of their life path. On these foundations has been developed the RPNI research project, "*Continuing Education and Prevention for Active Aging. Fostering success stories in the transition from work to retirement*", which will be presented later. The project has emerged from the convergence of two disciplinary approaches — a pedagogical one, represented by the University of ….., and a medical one, with the University of ….. Its goal is to explore the transition from work to retirement, considered a crucial moment in the life course. In this context, the competences related to the LifeComp Model (Sala et al., 2020), lifestyles, and physical fitness are to be analyzed as determining factors for the success of this transition, as well as promoters of Active Aging and quality longevity.

1. Caring for retirement: The pedagogical perspective in the study of transitions

Transition is an inherent feature of human life: every biographical trajectory — whether professional, familial, educational, or of another kind — is marked by multiple changes and by phases that define a passage from a "before" to an "after" (Green, 2010). The literature has developed numerous models to understand such moments, highlighting their significance and potential impact on a person's life.

A recurring theme, as noted by authors such as Bridges (1980) and Hopson (1976), is that of "loss": in assuming a new role — even one that is desired or highly anticipated — and in moving toward a new environment or condition, one is often required to part with a portion of the self, a part that may play a crucial role in shaping one's identity. In light of this potential discrepancy, which can generate uncertainty and difficulty, scholarly and practical attention has often focused on strategies aimed at ensuring a degree of continuity within discontinuity, emphasizing the identification of factors — whether intrinsic or extrinsic — that can support the transition toward a new beginning (Schlossberg, 1981).

Adult Education and Pedagogy have also progressively moved in this direction. Life transitions have increasingly been recognized for their formative and educational nature, as they guide individuals through a process of transformation and the construction of new forms of the self. At the same time, they raise important questions about the most favorable conditions under which individuals can integrate change into their personal narratives and orient themselves toward the future (Boffo, 2019).

In this perspective, the importance of a pedagogical care of transition clearly emerges (Boffo, 2018, 2022). Such awareness should become widespread across various life contexts, including — undeniably — the professional sphere. It is precisely within the work environment that one experiences one of the most significant transitions in the life course, often perceived as a symbolic threshold toward the final phase of life: retirement (Golan, 1981). Exiting the world of work becomes a pivotal moment for reflection that seeks to create connections between the theme of transition and that of longevity. From this point, new biographical chapters may unfold: they might take the form of a gradual turning inward, in anticipation of an inevitable ending, or present themselves as unique opportunities for a new future design, fueled by the desire to become something, and someone, other than oneself (Togni & Boffo, 2024).

To reinforce this possibility, the LifeComp Model (Sala et al., 2020) proves to be particularly enlightening, serving as a key reference point for the development of professional and personal training capable of addressing the challenges of the life course. The model consists of nine cross-cutting competences (hereinafter referred to as LifeComp competences), considered essential for future citizens, who will be required to navigate multiple transitional moments and adapt to the fluidity of space and time in every context. From the ability to regulate emotional responses in the face of difficulties, to the ability to build meaningful and supportive relationships, and ultimately to fine-tuning various strategies for continuing education, this framework acquires pedagogical relevance for managing the

transition from work to retirement and promoting Active Aging. In this regard, it is crucial that the individuals involved, professional environments, and, at the macro level, policy makers, are fully aware of these needs.

The perspective on the horizon can go beyond the intervention at the moment and in times of emergency, contributing to the establishment of a culture of self-care (Cambi, 2010). This culture must be present in every context and nurtured by various educational agencies, whether formal, non-formal, or informal, so that each individual, starting from childhood, can build their own longevity. Greater awareness in this sense can effectively exercise a generative action within the person, helping them to undertake trajectories that can counteract the disability often associated with the aging process. At the same time, it can enhance their role in shaping their future projection, by activating those processes that allow them to substantiate the free decision regarding the kind of adult and older person they wish to become.

In this regard, the LifeComp Model promotes this culture, fostering the adoption of healthy and sustainable lifestyles and behaviors, including through attention to physical activity, which, in turn, contributes to improving health in a holistic sense.

2. The Role of Physical Activity and Lifestyle in Senescence: A Key to Active Longevity

Senescence is a physiological process linked to morphological and functional changes of the human body due to aging (Kandel, 2020). Under normal conditions, however, senescence does not significantly impair quality of life, but inactivity is responsible for an acceleration of the process that can quickly affect the efficiency and safety of daily activities and greatly reduce physical fitness (Cunningham et al., 2020). The World Health Organization (WHO) guidelines suggest a combination of aerobic and muscle-building activities to maximize fitness outcomes in all three categories. In the specific case of the older people, at least 150 minutes of moderate activity (3 - 5.9 MET) or 75 minutes of vigorous activity (> 6 MET), or a combination of both (Bull et al., 2020), for at least two days per week are recommended, to promote the improvement of strength and balance. Active and healthy aging depends on appropriate lifestyle choices and regular physical activity, improving both physical and mental health during the transition to retirement (Marzo et al., 2023; Lak et al., 2020). Exercise reduces mortality risk and enhances quality of life, while a sedentary lifestyle is linked to metabolic disorders and physical decline (Posadzki et al., 2020; Akksilp et al., 2023; Boberska et al., 2018;

Panahi & Tremblay, 2018). Monitoring motor abilities is essential for maintaining independence, with tools like motor tests and questionnaires helping to identify movement difficulties and assess postural coordination (Asunta et al., 2019; Cancer et al., 2020). The FFB-Mot questionnaire is considered effective in predicting motor fitness in adults, enabling targeted interventions to improve mobility while promoting longevity and reducing the risk of disability in later life (Woll et al., 2023). Beyond physical activity, also adopting healthy habits such as a balanced diet, together with engaging in social interactions and continuing education, fosters psychological resilience and slows biological aging (Hautekiet et al., 2022; Rebar et al., 2015). To verify these dynamics in real-world contexts, the AGER project will focus on the transition from work to retirement, exploring the relationship between lifestyles, professional experience, and Active Aging.

3. Presentation of research project

With the goal of identifying the LifeComp competences and lifestyles that foster a successful transition out of the workforce—and, consequently, promote Active Aging—the RPNI 2022 Project, *"Continuing Education and Prevention for Active Aging. Promoting success stories in the transition from work to retirement"* (AGER), intends to reconstruct the biographical and professional trajectories of secondary school teachers who are either approaching (within five years) or have recently undergone (within the past five years) the shift from work to retirement. The study will involve a sample of 90 teachers. Participants will be recruited through announcements posted on bulletin boards of the departments of the universities participating in the project, in secondary schools across both cities, and via word-of-mouth. In addition, the research units will contact partner institutions to further circulate the invitation.

In order to highlight how an educational and pedagogical approach to this transition should support the development of LifeComp competences and the adoption of healthy lifestyles, the AGER project sets out to respond to the following questions:

- What correlations exist between health status shortly after/before retirement (5 years) and the biographical path of acquiring correct lifestyles?
- What biographical-professional path can be traced in this sample?
- What real and perceived impact can there be among continuing education, effective transition from work to retirement, and propensity for Active Aging?

- What strategies can be implemented at the organizational level to mobilize LifeComp competences that support personal decision-making toward optimal lifestyles, potentially enhancing longevity and reducing the risk of disability in late adulthood?
- What correlations exist between lifestyles, work activity, and functional and cognitive performance of the older adults?

The project, which will be carried out in the coming months, is structured in two phases. In the first phase, all participants will complete a quantitative questionnaire designed to assess psycho-physical health status, lifestyle habits, and LifeComp competences. This will be accompanied by a battery of motor tests evaluating cardiorespiratory fitness (6-Minute Walk Test), muscular strength (hand grip test), joint mobility (V-sit and reach), balance (Flamingo test), and body composition. In the second phase, a subset of 30 participants will be randomly selected by drawing email addresses from the consent forms collected during the first phase. Those selected will be invited to take part in a semi-structured autobiographical interview aimed at reconstructing their professional trajectory and retirement transition experience. This approach allows for an in-depth investigation of the relationship between work context, the development of LifeComp competences, and the lifestyle choices adopted. At the same time, the medical unit will conduct additional assessments on the same subsample, including tests of maximal strength, strength control using an ergometer and load cell, and high-density electromyography (HDEMG) signal analysis. These tests are intended to assess motor efficiency and kinesthetic control, offering valuable insights into neuromuscular adaptation and physical functionality in aging populations. By integrating quantitative and qualitative methodologies, the AGER project aims to develop concrete recommendations for optimizing the transition to retirement, fostering Active Aging, and encouraging professional environments that support healthy lifestyle choices. This multidimensional approach contributes to an inclusive vision of aging, one that emphasizes autonomy, engagement, and lifelong well-being. The research team also believes that combining tools from the human sciences and motor sciences is particularly effective not only in assessing levels of motor fitness in relation to lifestyle, but also in fostering reflection on how such habits are shaped through education, especially within the workplace context. At the same time, this integrated approach seeks to explore whether the presence of LifeComp competences can effectively support the adoption of healthier and

more active lifestyles, and how this virtuous cycle may in turn promote active longevity (Togni & Boffo, 2024). Below are the survey tools:

- 6-Minute Walking Test. Walking is the most practiced physical activity in the world, by people of every age or sex, with different aims: it can be used to move for daily life errands, to train or just to enjoy the leisure time and could be carried out as light, moderate or even vigorous intensity (Hall et al., 2013). Furthermore, walking is usually undertaken outside allowing both to exercise and to spend time in the green areas of the cities, as well in active mobility for leisure, errands, and other duties (Borgogni, 2017; Cudicio et al., 2020) also, with positive effect on mental health. Evidence highlights that people who normally walk outdoors improve happiness and self-esteem and reduce anxiety and depression (Kelly et al., 2018) and this is crucial in populations more exposed to mental health diseases such as older adults. The 6-minute walking test is commonly used to assess sub-maximal physical capacity, measuring the distance that an individual can walk for six minutes at as self-selected pace. During the test, participants walk back and forth along a 20-metre corridor and can stop and start walking again. The distance travelled is related to parameters such as maximum oxygen consumption (VO2 max), which is a key indicator of aerobic capacity. 6MWT is considered a more affordable alternative to cardiopulmonary stress tests, while maintaining good diagnostic accuracy for assessing functional capacity in patients with heart failure or other chronic conditions. In addition, the test is often accompanied by stress perception scales, such as the Borg scale, to assess the intensity perceived during exercise (Büsching & Schmid, 2025; Cavero-Redondo et al., 2024).
- Handgrip Test. Muscle strength is a fundamental component of general health and well-being. It represents the ability of a muscle or group to generate strength against resistance. Hand grip strength is considered an important indicator of overall health, as low values are associated with increased risk of mortality, frailty and chronic disease such as type 2 diabetes and cardiovascular disease (Vaishya et al., 2024). In addition, the test is useful for monitoring sarcopenia, a condition characterized by loss of muscle and age-related strength (Szaflik et al., 2025). The test is performed with the participant seated, elbow bent 90 degrees and forearm in neutral position. The participant tightens the dynamometer with the maximum possible force, and the values are used as the final result (Bechtol, 1954).

- V-Sit and Reach Test. The V-Sit and Reach Test is a widely used assessment of muscle flexibility, particularly focused on the lower back and hamstring muscles. This test is known for its simplicity and ease of implementation, and is an effective method to monitor muscle flexibility, especially in healthy and active populations. The test protocol is for the participants to sit with legs extended and slightly spread apart, keeping the malleoli at a distance possible along a measuring tape placed on the ground. This test is widely used in several fitness assessment test batteries, such as FITNESSGRAM and EUROFIT, due to its practically and ability to provide important data on mobility and flexibility. In addition, studies show that good muscle flexibility is associated with a reduced risk of injury and an improved quality of life, especially in the older population (de la Motte et al., 2019). Flexibility is also a crucial factor in preventing musculoskeletal disorders and promoting a healthy lifestyle, making the V-Sit and Reach Test a valuable diagnostic and preventive tool. However, it is important to consider some limitations. The length of the participant's limbs and torso can influence the results, making standardization of procedures necessary to ensure comparability between individuals (Simoneau, 1998). In addition, the test may not be fully representative of the overall flexibility of the body, being mainly focused on the lower part.
- Body Impedance Assessment. Bioimpedance is a non-invasive and widely used technique to analyze body composition. Based on bioelectric impedance analysis, this methodology measures the resistance and reactance of the body to the passage of a low-intensity electrical current. The collected data allows to estimate key parameters such as lean mass, fat mass and total body water, providing useful information for the assessment of nutritional status and general health (Kyle, 2004). Furthermore, it is particularly useful in clinical and research settings to monitor changes in body composition in response to dietary interventions, exercise programs or medical treatments. This technique is reliable and reproducible, making it a valuable tool for assessing muscle health and basal metabolism (Janssen et al., 2000). A significant advantage of bio-impedance is its simplicity and speed. The test takes only a few minutes and can be performed under various conditions, provided that the subject is adequately hydrated and at rest. However, it is important to consider that factors such as hydration and body temperature can influence the results, making standardization of procedures necessary to ensure measurement accuracy (Lukaski et al., 1986).

- Flamingo Test. Quality of life is closely linked to the ability to perform daily activities efficiently and safely. Balance and strength play a fundamental role in the efficiency and safety of movements, and their training counteracts the negative effects of aging (Fragala et al., 2019; Lesinski et al., 2015). Older people need an adapted approach that promotes lifelong learning and continuing education (Narushima et al., 2018). The Flamingo Test is a simple and reliable method to assess static balance and overall body stability. This test is part of the EUROFIT test battery, designed to measure various aspects of physical fitness, including the ability to balance on one leg. During the test, the participant must balance on one foot, while the other is bent at the knee and the heel is close to the gluteal. The duration of position retention and the number of balance losses are recorded to provide an indication of muscle strength and stability. This test is particularly useful for identifying balance problems and monitoring risk of falls, especially in the senior. Studies have shown that the ability to maintain balance decreases with age, making this test a valuable tool for assessing musculoskeletal health and physical function (Panjan & Sarabon, 2010). A significant advantage of the Flamingo Test is its simplicity and low cost, making it accessible for large-scale studies. However, it is important to consider that factors such as muscle strength and concentration can affect the results.
- Quantitative questionnaire. The quantitative questionnaire was constructed ad hoc starting from the review of the literature on lifestyles and from the LifeComp Model. It consists of two parts: the first is designed to identify the participant's current work status (whether they are active or retired, and for how long), and the second focuses on their awareness of how their work experience has contributed to the development of LifeComp competences and their lifestyle On the latter, defined by Cockerham as «the collective patterns of health-related behavior, based on choices made by people, according to the options available depending on their life possibilities» (Cockerham, 2005, p.55), particular attention is paid as it provides the research with quantitative data regarding the possibilities of the teacher figure to make behavioral choices that allow Active Aging.
- EMG activity of the tibialis anterior muscle. Age-related changes in vestibular, visual, proprioceptive and neuromuscular systems compromise balance and cause weakness, increasing risk of falls in the older people (Kerrigan et al., 1998; Shaffer & Harrison, 2007; Stelmach et al., 1990; Tang & Woollacott, 1998). Falls are a major public health problem, affecting 30-

60% of the senior citizen, with 50% of those who fall experiencing multiple events each year (Perracini & Ramos, 2002; Reyes-Ortiz et al., 2005). Weakness of the lower limbs is a very common age-related condition and is considered one of the main causes of fall (Aagaard et al., 2010; Hughes et al., 2001). The loss of muscle strength associated with aging has been attributed to the progressive reduction in both size and number of muscle fibers (Aagaard et al., 2010; Edström et al., 2007; Vandervoort, 2002). Furthermore, the risk of falling in the advanced in years has been related, together with other factors, to a reduction in the rate of development of strength (Cogliati et al., 2020; Ferrucci et al., 1997; Pizzigalli et al., 2011). Fall prevention can be supported through several strategies, including the use of advanced technologies such as electromyography (EMG) to assess tibial anterior muscle activation (Panjan & Sarabon, 2010). The anterior tibial muscle electromyographic test allows you to analyze the electrical activity during the dorsiflexion of the foot, a movement crucial for maintaining stability while walking.

- Semi-structured interview. The semi-structured interview will be conducted from an autobiographical-narrative perspective, which serves as a methodological cornerstone of the research project due to its multiple functions. On the one hand, it is widely recognized that the opportunity to tell one's own story holds deep educational, formative, and curative value, allowing interviewees to reflect on their past experiences, generating new meaning and direction (Demetrio, 1996; Cambi, 2002). On the other hand, the autobiographical approach offers significant benefits from a research standpoint, as it allows for a deeper understanding of complex everyday situations and reveals the more hidden meanings of human experience (Atkinson, 2002; Rabelo, 2011). Through the interview, it will thus be possible to explore the participants' professional trajectories, their gradual approach to retirement, and, where applicable, the transition from work to retirement. The research will focus on the influence of the professional environment in shaping lifestyle and developing LifeComp competences, with the aim of exploring how these elements can contribute to promoting Active Aging.

Conclusions

The AGER project is a key initiative for promoting Active Aging and the transition from work to retirement. Through a systematic and multidimensional approach, the study aims to highlight the crucial influence of targeted interventions on the physical, mental, and social well-being of older adults. The integration of qualitative and quantitative methodologies could allow a deep understanding of the dynamics involved, with the aim of developing guidelines and strategies applicable in training, institutional, and work environments. Additionally, the focus on continuing education and the enhancement of LifeComp competences reflects an innovative and sustainable vision to address the challenges of demographic change. Therefore, AGER intends to be a study capable of offering ideas and solutions useful not only for the direct beneficiaries but also for society as a whole, contributing to a more equitable and inclusive future.

Author contributions

Manuel Mazzei authored the paragraphs: *"Introduction"*; *"The Role of Physical Activity and Lifestyle in Senescence: A Key To Active Longevity"; "Presentation of research project"* and *"Conclusions".*
Debora Recupido authored the paragraphs: *"Introduction"; "Caring for retirement: The pedagogical perspective in the study of transitions"; "Presentation of research project"* and *"Conclusions".*
Francesco Casotti authored the paragraphs: *"Introduction"; "Caring for retirement: The pedagogical perspective in the study of transitions"* and *"Conclusions".*

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