

ARTICLES

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SUSTAINABLE AGING IN CAREERS: DEVELOPMENT OF AN INTEGRATIVE FRAMEWORK AND CONCEPTUAL PROPOSITION

Envelhecimento sustentável na carreira: Desenvolvimento de um framework integrativo e proposição conceitual

Envejecimiento sostenible en la carrera: Desarrollo de un marco integrativo y propuesta conceptual

Anna Paula Visentini¹ | annavisentini@gmail.com | ORCID: 0000-0003-0473-6333

Camila Vieira Müller² | mullervcamila@hotmail.com | ORCID: 0000-0002-2458-443X

Marcia Cristiane Vaclavik¹ | marcia.vaclavik@ufrgs.br | ORCID: 0000-0003-4209-1054

Angela Beatriz Busato Scheffer¹ | angela.scheffer@ufrgs.br | ORCID: 0000-0002-3486-8807

*Corresponding author

¹Universidade Federal do Rio Grande do Sul, Programa de Pós-graduação em Administração, Porto Alegre, RS, Brazil

²Atitus Educação, Programa de Pós-graduação em Administração, Passo Fundo, RS, Brazil

ABSTRACT

The article presents a systematic literature review (SLR) integrating the concepts of career sustainability and aging at work, contributing theoretically with the conceptualization of “sustainable aging in careers.” The SLR was conducted using Web of Science and Scopus, supported by Rayyan[®] and Iramuteq[®], combining bibliometric and qualitative analyses. Three thematic classes were identified: mobility, professional longevity, and successful aging. Based on the results, the study proposes an integrative framework, offering contributions aligned with the UN Sustainable Development Goals (SDGs 3, 4, and 8), and suggests directions for future research.

Keywords: aging, career, sustainability, sustainable career, work.

RESUMO

O artigo apresenta uma revisão sistemática da literatura (RSL) para integrar as noções de sustentabilidade da carreira e envelhecimento no trabalho, contribuindo teoricamente com a conceituação de “envelhecimento sustentável na carreira”. A RSL foi realizada nas bases Web of Science e Scopus, com apoio dos softwares Rayyan[®] e Iramuteq[®], combinando análises bibliométricas e qualitativas. Foram identificadas três classes temáticas: mobilidade, longevidade profissional e envelhecimento bem-sucedido. Com base nos resultados, o estudo propõe um framework integrativo, com contribuições alinhadas aos objetivos do desenvolvimento sustentável (ODS 3, 4 e 8) da ONU, além de sugerir direções para pesquisas futuras.

Palavras-chave: envelhecimento, carreira, sustentabilidade, carreira sustentável, trabalho.

RESUMEN

El artículo presenta una revisión sistemática de la literatura (RSL) que integra las nociones de sostenibilidad de la carrera y envejecimiento en el trabajo, aportando teóricamente con la conceptualización del “envejecimiento sostenible en la carrera”. La RSL se realizó en las bases Web of Science y Scopus, con apoyo de los softwares Rayyan[®] e Iramuteq[®], combinando análisis bibliométricos y cualitativos. Se identificaron tres clases temáticas: movilidad, longevidad profesional y envejecimiento exitoso. Con base en los resultados, se propone un marco integrador, con aportes alineados a los ODS 3, 4 y 8 de la ONU, y se sugieren líneas futuras de investigación.

Palabras clave: envejecimiento, carrera, sostenibilidad, carrera sostenible, trabajo.

INTRODUCTION

Population aging, driven by increased life expectancy and reduced birth rates, is a global phenomenon that is rapidly advancing in developing countries, such as Brazil (United Nations Population Fund [UNFPA], 2023). This scenario is at the confluence of challenges, such as increased job insecurity (Van der Heijden et al., 2024) and insufficient access to decent work for the most vulnerable groups (Luke & McIlveen, 2024). In this context, it is almost inevitable that many professionals will extend their time in the labor market, which highlights the need to further explore sustainable career paths. Studies with older workers often cover professionals aged 40–45 years (Bowman et al., 2017; Hamiot, 2019; Hennekam, 2016; Martin et al., 2014; Scholarios & Van der Heijden, 2021; Van der Heijden et al., 2024).

When seeking to understand the trajectories of these workers, we find significant structural barriers related to aging at work. Research indicates that persistent stereotypes associate older workers with a lack of innovation and technology skills (Alcover et al., 2021), reduced performance, health, and motivation for learning (van Dam et al., 2017), as well as some reluctance of companies to offer training to this group (Fleischmann & Koster, 2018). Furthermore, ageism manifests itself in discriminatory norms and beliefs within organizational cultures, influencing recruitment and selection practices (Dello Russo et al., 2020; Oude Mulders et al., 2018). This has been resulting in high unemployment rates among older professionals (Bowman et al., 2017), which negatively impacts perceived employability (Dello Russo et al., 2020; Kadefors & Hanse, 2012), reintegration into the labor market and the sustainability of their work trajectories.

Despite the importance of these issues, workforce aging is underexplored in the career literature (Baruch & Sullivan, 2022). Current studies focus on the early stages of career trajectories and on the individual level of workers within organizations (Baruch & Sullivan, 2022). While traditional career models consider retirement as the end of career trajectories, current contexts require a perspective that encompasses continuity over time. Thus, aging is no longer a milestone associated with retirement as it becomes a process which is accentuated during extended working lives.

The perspective of career sustainability has emerged from critical issues in European society, including the implications of workforce aging (Alcover et al., 2021; De Vos et al., 2016). A sustainable career involves the development of employability, which is defined as the chance of getting a job (Forrier et al., 2015), and workability, which is the ability to continue working in a healthy and productive way, while balancing professional and personal demands (Lawrence et al., 2015; De Vos et al., 2016). Therefore, career studies have advanced, especially with regard to the perspective of work trajectories continuity through time and the consideration of the intersection of contexts.

Although there are efforts to adopt an integrative perspective that connects research themes focused on sustainable careers and aging at work, studies are still dispersed and lack conceptual interconnection. For example, there has been emphasis on the growing impact of health on the aging process (Van der Heijden et al., 2021), the role of stakeholders in older workers' career

decision-making (Hallpike et al., 2025) and the importance of considering individual, organizational and societal aspects of career extension (Salminen et al., 2022). The latter has been recurrent in career studies on the need for greater individual and context integration (Akkermans & Kubasch, 2017; Baruch & Sullivan, 2022; Van der Heijden et al., 2020).

Furthermore, studies on sustainable careers tend to emphasize proactive behaviors for self-management of work trajectories (Tims & Akkermans, 2020). However, the notion of aging goes beyond the individual dimension, as it is also a cultural and social phenomenon (Beauvoir, 2018), reinforcing the existence of research gaps regarding these issues. Therefore, this context justifies a systematic review that integrates studies on such themes to better understand what we will call here “sustainable aging in careers”, a concept not yet explored in the literature, according to our current knowledge. When addressing this matter, the following question arises: How can we advance the understanding of the notion of sustainable aging in careers? To this end, a systematic literature review was performed by aiming at integrating the notions of career sustainability and aging at work, advancing the conceptualization of sustainable aging in careers.

The sustainable career perspective was adopted as a conceptual basis (De Vos et al., 2020; Van der Heijden et al., 2020) and is defined as “sequences of career experiences reflected through a variety of patterns of continuity over time, thereby crossing several social spaces, characterized by individual agency, herewith providing meaning to the individual” (Van der Heijden & De Vos, 2015, p. 7). In this perspective, both adaptability (an individual process of adjusting to changes) and proactivity (capacity for action and control of trajectories) are important facilitators of sustainability (De Vos et al., 2020).

However, temporal and contextual influences limit these conditions, which suggests employability and workability are relative when considering older workers. The career sustainability perspective is based on the shared responsibility of different actors to protect and promote human and professional development, considering factors related to health, happiness, and productivity as indicators (De Vos et al., 2020; Müller & Scheffer, 2022). In this study, these assumptions are a starting point to understand the role of different contexts in the sustainable aging of the workforce.

Based on the review of 109 articles, we developed an integrative framework addressing the multidimensional factors (micro, meso, and macro) that enable a broad understanding of what we call in this article sustainable aging in careers. This analysis systematically expands the current understanding of career sustainability of older workers, bringing greater conceptual depth to the field. Furthermore, this article contributes to the literature by transcending the individual-centered perspective and offering a broader approach that considers the contextual interactions in this phenomenon.

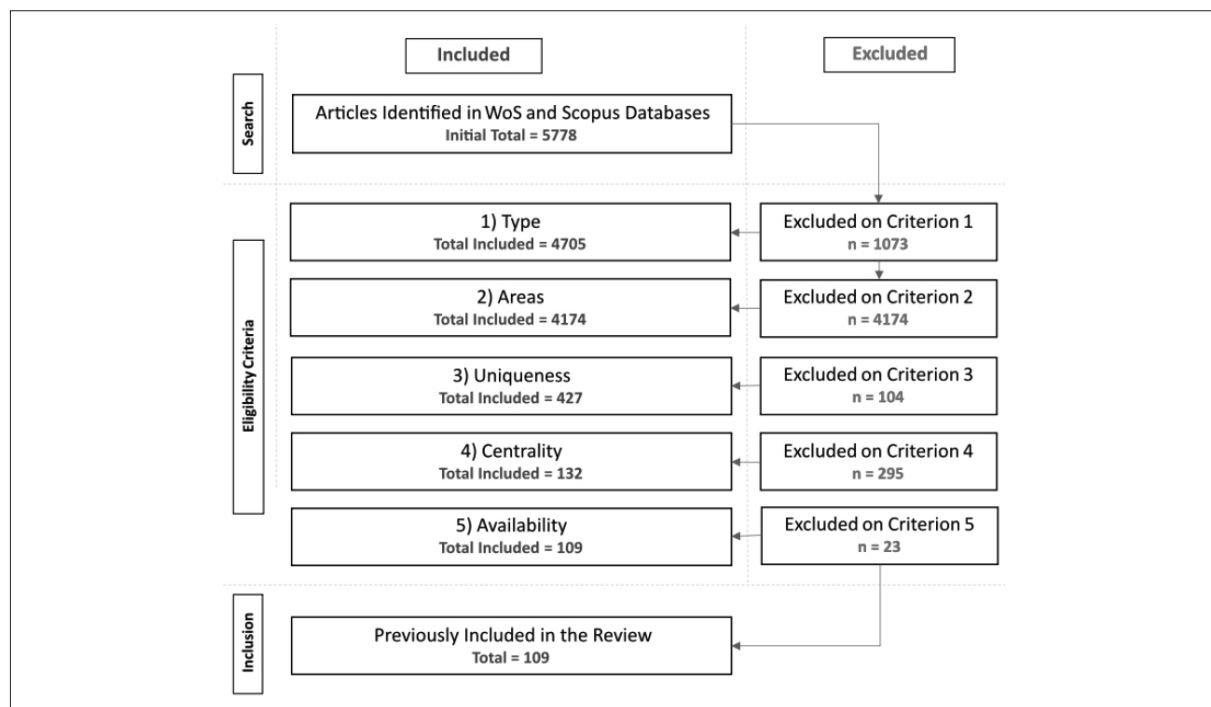
The next chapter describes the systematic review method, followed by a brief overview of the development of the field of study. The findings are discussed qualitatively in three themes: mobility, professional longevity and successful aging. The article concludes with the proposal of an integrative framework and conceptual contributions of sustainable aging in careers, as well as gaps and future research possibilities.

METHOD

To achieve this research's objective, a systematic literature review in the ISI Web of Science (WoS) and Scopus databases was conducted. These databases are widely recognized as the main repositories and citation indexes for scientific literature, with comprehensive coverage across various scientific domains (Mongeon & Paul-Hus, 2016). Over the course of three phases, presented below, Rayyan[®] software (web version), Excel[®] (version 2021), VOSviewer[®] (version 1.6.19) and Iramuteq[®] (version 0.7 alpha 2) were used to ensure methodological rigor.

Phase 1 – Selection of articles. The search terms were based on seminal studies on sustainable careers (De Vos et al., 2020; Lawrence et al., 2015) and aging at work (Kooij et al., 2020; Van der Heijden et al., 2008). Searches were conducted in July 2023, through the title, abstract and keywords fields, without time restrictions, using the following search key: (“career sustainability” OR “sustainable career*” OR workability OR employability) AND (age OR aging OR “middle age*” OR midlife OR ageism OR “old* work*” OR “late career” OR “middle adulthood” OR “second half career” OR “mid*career” OR “second career half” OR “aging workforce” OR “older employees” OR “aging workers”). The symbol (*) was used to search for related terms based on the same root.

Figure 1. Flow Diagram Based on the PRISMA Methodology



Based on the Prisma (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) statement (Rethlefsen & Page, 2022), we structured a protocol with selection, inclusion and exclusion criteria defined in advance (Figure 1). The criteria were: 1) type: include only peer-reviewed articles; 2) area: include articles from the areas of management and psychology (WoS:

Psychology, Applied Psychology, Management, Sociology, Business; and Scopus database: Business, Management and Accounting, Psychology); 3) uniqueness: exclude duplicate items; 4) centrality: include only articles that deal centrally with aging and career; 5) availability: exclude articles that are not available for download or that are not in English, Portuguese or Spanish.

Initially, 5,778 articles were found. After applying eligibility criteria 1, 2, and 3, the number of documents was reduced to 427. These records were exported to Rayyan[®] software, a tool for collaborative systematic reviews, which enabled and ensured rigor in the screening process. Each researcher performed the analysis independently and anonymously. They categorized the 427 articles, by deciding whether to include, exclude, or mark them as uncertain, especially regarding the centrality of the subject. To resolve discrepancies, team members held meetings. In this process, articles that did not meet the criterion “availability” were identified, resulting in 109 articles forming the basis of this systematic review.

Phase 2 – Bibliometric analysis. To deepen the field’s view, the distribution of articles by year and by journal was analyzed with the help of Excel[®] software, and the network of authors was analyzed with the help of VOSviewer[®].

Phase 3 – Qualitative analysis. In this stage, the Iramuteq[®] software was used to perform statistical analyses of textual data, which helps to reduce interpretative biases and guides researchers’ analytical procedures (Macke et al., 2018). Iramuteq[®] divided the textual corpus into structures called Elementary Context Units (ECU), performed chi-square tests to confirm the classification of these units (Illia et al., 2014) and generated classes (clusters) that support the qualitative analysis process. Each cluster contains a group of related words based on their statistical significance. To use the software, a textual corpus with the abstracts of the 109 articles was built, as abstracts contain condensed and standardized research information, which is useful for mapping a field of study in large samples (Fink, 2014). The researchers understood, interpreted and labeled the clusters generated by Iramuteq[®] based on the centrality of their themes. For the in-depth analysis of each cluster, all articles were read in full, supporting the discussion presented below.

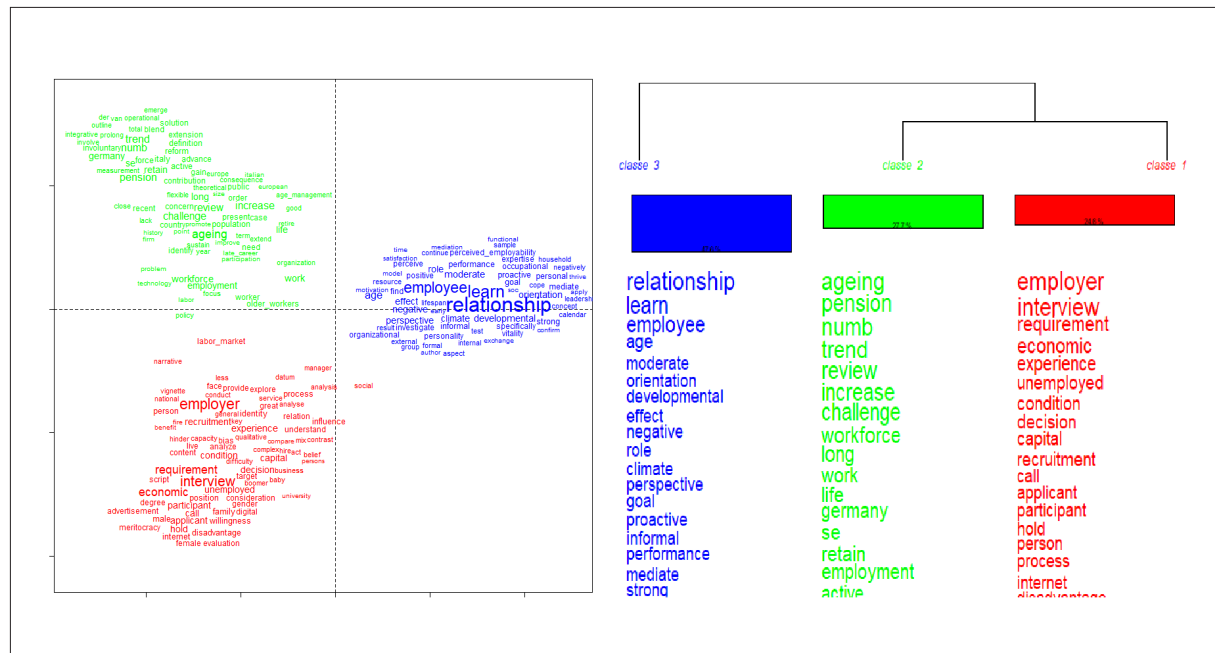
RESULTS

The 109 selected articles were published between 1981 and 2022, indicating three distinct phases (Figure 2): incubation phase, between 1981 and 2010 (12 articles, accounting for 11% of the total); growth phase, between 2011 and 2015 (21 articles, 19% of the total); and consolidation phase, between 2016 and 2023 (76 articles, 70% of the total).

Nine journals account for 47% of the publications, mainly on the journal *Frontiers in Psychology* (15 publications). The other journals are *Ageing and Society* (9), *Journal of Vocational Behavior* (6), *The International Journal of Human Resource Management* (5), *Work, Aging and Retirement* (4), *Work, Employment and Society* (4), *Career Development International* (3), *International Journal of Human Resource Management* (3) and *International Journal of Manpower* (3). The remaining 57 articles are spread across 50 different journals.

The Iramuteq analysis resulted in three clusters (Figure 4) that account for 86.65% of the total ECUs analyzed. Based on the descriptors of each cluster, each category was labeled, aiming to indicate the direction of the articles and support the discussion in this work.

Figure 4. Iramuteq Outputs and Thematic Analysis Clusters

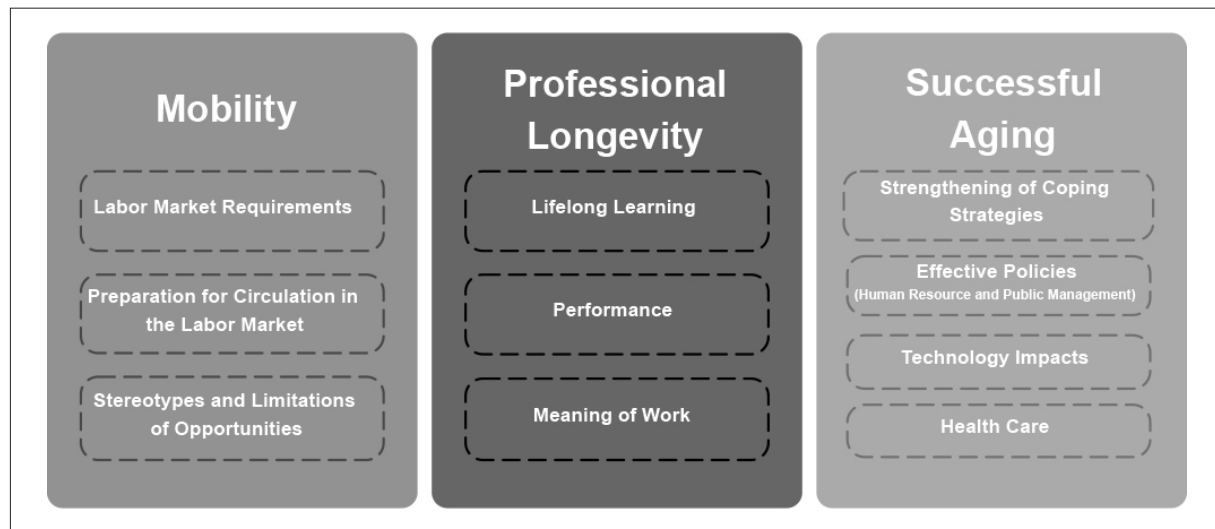


The three categories are used to analyze different aspects of career sustainability and aging in the literature, offering different interpretations of the phenomenon. They are:

Mobility (class 1 in Figure 4, 24.6% of ECUs): addresses the movement of older workers in the labor market, especially challenges such as obtaining employment, professional reintegration and preparation for circulation. The studies emphasize the employability perspective and indicate age stereotypes as limitations, based mainly on human capital theory (Becker, 1975).

Professional longevity (class 3, 47.7% of ECUs): explores the longevity of older workers in organizations, focusing on learning in the workplace and performance facilitators, such as people management policies and meaning of work. Many studies use selection, optimization and compensation models (Baltes & Baltes, 1990) and the socio-emotional selectivity theory (Carstensen, 1995).

Successful aging (class 2, 27.7% of ECUs): highlights the phenomenon of population aging and its impact on the labor market, addressing challenges for organizations and society. Topics include coping strategies, the need for public policies and people management, the impacts of technology, and the importance of health care.

Figure 5. Themes and Subthemes of the Classes

ANALYSIS AND DISCUSSION: CENTRAL THEMES IN THE LITERATURE ON CAREER SUSTAINABILITY AND AGING IN THE LABOR MARKET

The key themes and subthemes identified in the three classes of the review will be explored below. These analyses highlight essential elements for this discussion as well as gaps in the research and opportunities for future investigations, which are addressed in the following section. Although the classes have distinct perspectives, they are interrelated and complementary, according to the integrative framework (Figure 6).

Class 1. Mobility: movement, maintenance and reintegration of older workers into the labor market

Among the challenges to obtaining employment/reintegration into the workforce, unemployed older workers report that aspects valued by employers, such as gender, age, social and family status, previous experience and length of unemployment, are beyond their control and cannot be changed to meet labor market requirements (Sánchez-Martín & Izquierdo Rus, 2020). This perception is even more noticeable among people with disabilities (Riach & Loretto, 2009) and older women (Sánchez-Martín & Izquierdo Rus, 2020). As a result, there is a tendency to accept jobs under adverse conditions (Climent-Rodríguez et al., 2019), which is associated with increased health problems, higher risk of unemployment (Stiller et al., 2023) and lower chances of remaining in the labor market (Lu et al., 2023).

The selection of older workers is often based on stereotypes related to their interpersonal skills, such as communication and collaboration, which can limit their employment opportunities

(Selm & Heijkant, 2021). When hiring, managers tend to prioritize older candidates who are already employed, over those who are unemployed (Mulders et al., 2018). Considering the rapid changes in the labor market, aspects such as availability for geographic mobility, proficiency in technologies and languages, proactivity and willingness to change have become more valued by employers (Martín & Rus, 2020). The ability to keep skills up-to-date and the willingness to (re)learn are also crucial to remaining in the market (Kadefors & Hanse, 2012). However, these aspects can be challenging for older workers, as they require constant adaptation (Martín & Rus, 2020).

Regarding preparation for employment, studies highlight the inertia in human resources (HR) management when it comes to preparing older workers to extend their careers (Hamiot, 2019). Although there are investments to keep them employed in organizations, not much is done to develop skills that make them more competitive in the labor market (Fleischmann et al., 2015). In this context, training programs tend not to focus on the development of older workers (Fleischmann & Koster, 2018) as they concentrate on specific occupational skills (Simpson et al., 2002). Research indicates that continuous development is key to maintaining employability over time; however, organizations often adopt the view that opportunities are equal for everyone and that responsibility for professional development is individual (Martin et al., 2014).

Various types of concerns about unemployment were found in the studies analyzed. Research indicates that anxiety about aging is more associated with reduced opportunities and capacity than with physical and cognitive decline (Handley & den Outer, 2021). In addition, there is a perceived devaluation of older workers, with managers preferring “new blood” over experience, despite the investment in human capital (Handley & den Outer, 2021). Job loss among older workers tends to provoke more intense and prolonged grief compared to younger workers, who have higher mobility in the labor market (Climent-Rodríguez et al., 2019).

These findings question the employability discourse based on human capital. Professionals who sought formal education in adulthood feel at a disadvantage, believing that they started too late (Siivonen & Isopahkala-Bouret, 2016). Regarding body identity, Bowman et al. (2017) indicate that men feel pressure to appear physically capable, while women relate appearance to sexual attractiveness, which create stigmas that lead to the fear of being seen as “rusty” or “invisible”. This perception transforms the view of maturity, from a state of “being ready” to one of constantly being unfinished, given the constant need to learn and demonstrate potential (Siivonen & Isopahkala-Bouret, 2016).

Class 2. Professional longevity: lifelong learning, performance and meaning of work

The premise that lifelong learning is essential for the performance of older workers in organizations is key in the studies in this category and is connected with the discussion of employability (Froehlich et al., 2014; Van der Heijden et al., 2015). Both formal and informal learning positively influence employability and should be encouraged by employers (Froehlich et al., 2014). This view is also in line with the foundations of human capital theory, which

associates the promotion of employability with investment in professional qualifications (Becker, 1975).

Furthermore, there is the discussion about the relationship between learning and performance of older workers, often associating cognitive decline with reduced results (Roßnagel et al., 2009). However, studies point that a positive learning climate (Roßnagel et al., 2009), workers' motivation (Froehlich et al., 2014; Froehlich et al., 2016; Setti et al., 2015), positive personal beliefs about performance (de Grip et al., 2020; Hennekam, 2016), a lifelong learning mindset (Eppler-Hattab, 2022), goal orientation (Froehlich et al., 2020) and organizational incentives for human development (Setti et al., 2015) are mitigating factors and contribute to better learning performance and career extension.

Learning experiences should be continually promoted for all workers, considering the variability of needs across different age groups and positions (Van der Heijde et al., 2018). This is in line with the perspective of career sustainability, which encompasses all stages of the professional trajectory (De Vos et al., 2016). The motivation to face challenges and learn new skills tends to decrease with age, while the interest in using existing skills increases, which reinforces the importance of learning for adaptability and skills development for future career transitions (Brown et al., 2012; Van der Heijden et al., 2015).

Studies also highlight the importance of facilitators for older workers' performance. In the organizational context, people management policies are relevant, such as managerial support (Kroon, 2019; Scholarios & Van der Heijden, 2021), personalized work arrangements (flexible hours and location) (Oostrom et al., 2016), job crafting (Karlsen et al., 2022), competitive salary and financial rewards (Tordera et al., 2020), participation in decision-making (Veth et al., 2017), satisfaction in interpersonal relationships (De Vos et al., 2017), mentoring and advising (Dello Russo et al., 2020), transformational leadership (Böttcher et al., 2018) and bridge employment (Veth et al., 2018).

At the individual level, the meaning of work is a facilitator for employability. Workers who find their work meaningful, challenging and valued tend to report higher levels of employability (van Dam et al., 2017). The meaning given to work directly influences decisions about retirement, which can delay or anticipate them, depending on the degree of satisfaction (Davies et al., 2017). Health is also highlighted as a crucial factor in employability, especially for older workers. Individuals who consider themselves healthy feel more employable (Le Blanc et al., 2019), and health proves to be a vital aspect in the careers of workers over 75 years old (Patrickson, 2016). Therefore, it is important for supervisors to address health matters in their interactions with such workers (Kroon, 2019).

Class 3. Successful aging at work: individual strategies and organizational, relational, and structural conditions

The concept of successful aging at work is the maintenance of health, motivation, and work capacity over time, highlighting the influence of contextual factors on individual aging

processes and coping strategies (Kooij et al., 2020). These factors can make adaptation to age-related changes easier, which reduces the need for more complex strategies (Wilckens et al., 2021). Thus, the literature suggests a multidimensional approach to aging which considers individual and temporal variability and is not limited to the reduction of cognitive and physical abilities (Schalk et al., 2010).

Studies indicate that the macroenvironment, including economic, cultural, and market dynamics, significantly impacts the employment rates of older workers (Dietz & Walwei, 2011; Walwei & Deller, 2021). Pension reforms and public subsidy policies, as well as the actions of trade unions, multinationals and governments, play a crucial role in promoting the hiring and retention of these workers (Lössbroek et al., 2019). Society, along with organizations, has a share of the responsibility to maintain the employability of older workers through effective people management policies (Ilmarinen, 2001; Pak et al., 2019). This commitment is essential in a scenario where profit-focused management often devalues these workers, considering them expensive and less productive (Vandenberghe et al., 2013).

European countries have implemented legal reforms that modify the minimum retirement age, by linking it to increased life expectancy. In this context, employers advocate the need for flexible options, especially for physically demanding jobs (van Dalen et al., 2019). A more heterogeneous pension system with differentiated pensions is suggested, since extending one's career is not feasible for all workers (van Dalen et al., 2019; Trentini, 2021).

Studies analyze the motivations to work until or beyond retirement age, highlighting the importance of continuous learning to improve work ability (Brusch & Büsch, 2013). It is recommended that HR professionals understand the different end-of-career aspirations of older workers. Some may benefit from flexible work arrangements, while others may remain motivated by career advancement opportunities (Salminen et al., 2022). In this sense, public policies that consider population aging are crucial for the sustainable extension of careers, ranging from pension reforms to alternatives for those who are unable to maintain good physical fitness (Egdell et al., 2023).

Older professionals face challenges as the labor market evolves due to advances in digital technologies. The emergence of hybrid work models impacts employability, decisions about whether to extend a career or retire, and the adoption of bridge jobs (Van Yperen & Wörtler, 2017). The introduction of artificial intelligence, robotics, and automation can also increase job insecurity for these workers, due to negative stereotypes about their technological skills (Alcover et al., 2021).

Job insecurity, characterized by concerns about keeping one's employment, can result in chronic stress and psychological distress (Burgard & Seelye, 2017). Research indicates that such insecurity reduces job satisfaction, and perceived employability does not reduce this impact among older workers (Yeves et al., 2019). On the other hand, technology can assist in promoting health in the workplace, with the use of wearable devices that monitor health, supporting active aging (Grünloh et al., 2022). The occupational health of older workers requires a balance between protection against hazards and the stigmatization of their capabilities (Brooke et al., 2013).

However, it is vital to consider ethical issues, such as privacy, autonomy and trust in the use of sensitive data, so as not to harm more vulnerable workers (Grünloh et al., 2022).

Integrative framework

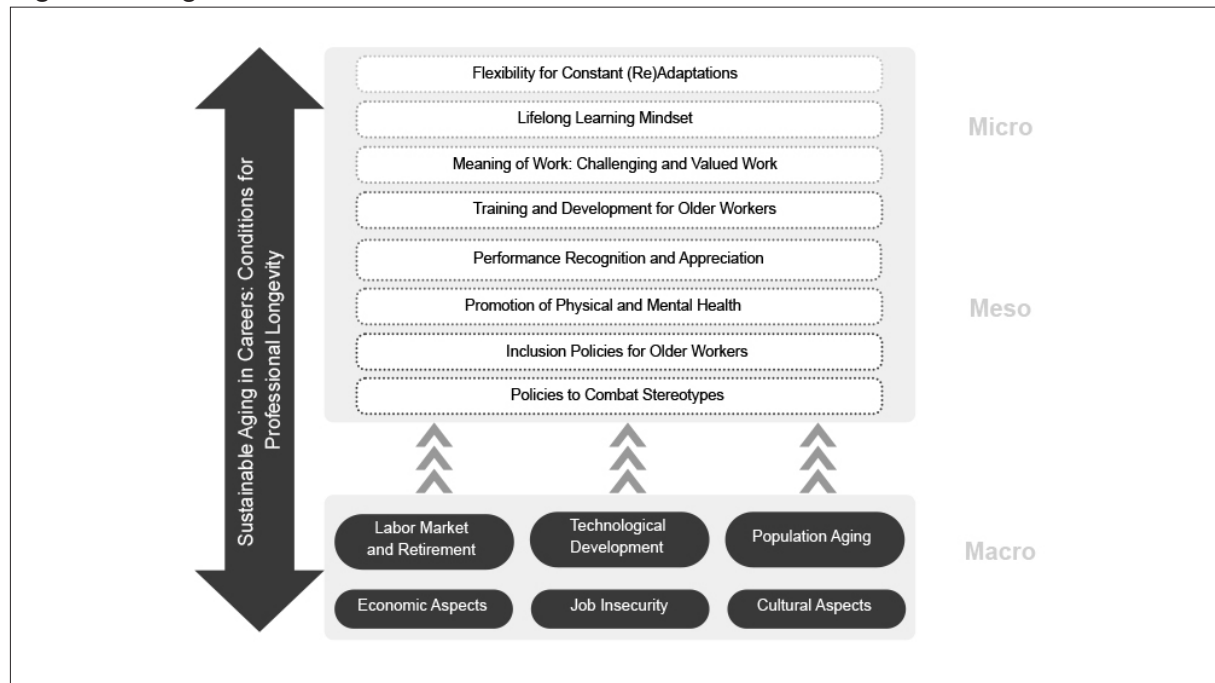
Based on the analysis and discussion (Figure 5), we proposed an integrative framework (Figure 6), which organizes the themes in a structure of analysis at the micro (individual), meso (occupational, including the sphere of organizations) and macro (socio-historical context, including the political, economic and social dimensions). This framework aims to offer a comprehensive and systematic view of the facilitators of sustainable aging in careers.

The macro level includes contextual factors that influence both organizational environments (meso) and older individuals (micro). Population aging, in several nations, has been a trigger for significant changes in the organizational and social spheres. Economic factors related to labor markets, including local, regional and national specificities, impact legal matters, such as retirement and social security reforms (De Vos et al., 2016). Cultural aspects also play an important role, reinforcing ageist stereotypes that create barriers to the mobility and retention of older workers in the labor market. Additionally, technological advances bring additional challenges to an aging workforce, increasing insecurity and decisions about retirement, requiring constant adaptation, especially when considering pension reforms resulting from increased life expectancy.

Thus, the findings suggest that sustainable career aging requires deliberate actions by different actors to foster environments that support both the careers and the personal dispositions of older workers. At the meso level, inclusion policies and practices, training that fosters internal and external mobility and employability, promotion of physical and mental health, and recognition and appreciation of performance are crucial to overcome barriers related to aging. In addition, personal disposition for continuous learning and flexibility for (re)adaptation must be underpinned in organizational and social systems that facilitate the sustainability of careers.

Hence, the concept of sustainable career aging proposed in this article is the set of conditions that favor the retention, movement and reintegration of older workers into the labor market, promoting their professional longevity. These conditions include micro, meso and macro elements. Therefore, this concept reflects the combination of the individual capacity to deal proactively and adaptively with work demands — while maintaining health, meaning, and performance at work — and the existence of organizational, relational, and structural conditions that provide opportunities for continuous learning, combating stereotypes, and implementing inclusive policies, especially from middle age onwards.

Although rooted in individual experience, sustainable career aging is a multidimensional and relational process, involving physical, psychological and symbolic movements that interact with organizational and social contexts. Therefore, the notion of professional longevity within this concept is not limited to the extension of working time; it is linked to the building of meaningful trajectories that ensure health and productivity throughout work experiences, contributing to the sustainability of careers in the context of population aging.

Figure 6. Integrative Framework

Contributions and future research possibilities

Based on the analysis of the three clusters, this article contributes by integrating the themes of mobility, professional longevity and successful aging at work in a multilevel framework that arranges the facilitators of sustainable career aging into three levels of analysis: micro, meso and macro. This approach highlights the importance of interactions between these levels to overcome the barriers faced by older workers, providing a comprehensive view of the conditions necessary to foster professional longevity.

Theoretically, this article also contributes by introducing the concept of “sustainable career aging”, by offering a new perspective to understand the extension of work trajectories from a sustainability perspective. The research method used in the article is another relevant contribution. The application of the Rayyan® and Iramuteq® software ensured methodological rigor and may serve as a basis for other systematic reviews. However, the methodological choices have limitations, including the focus on databases predominantly from the global north and the selection criteria used, which may restrict the diversity of the research analyzed.

As a practical contribution, in the organizational context, the framework and cluster analysis offer a clear organization for people management guidelines aimed at older workers, such as: a) encouraging formal and informal learning to promote continuous updating of skills; b) developing initiatives such as job crafting, mentoring and health care actions, which promote well-being and more sustainable performance in the long term; c) adopting policies

that address the different needs of older workers, including flexible hours, remote work and workplace adaptations.

Practical contributions at the macro level include reinforcing the need for public policies that combat age stereotypes and promote employability in a more heterogeneous manner, considering the specificities of different sectors and regions. It also highlights the need to offer support for career transitions at more advanced stages, ensuring that older workers have access to new job opportunities that ensure health, meaning and performance.

The three categories analyzed (Figure 5) provide a solid basis for the development of propositions that can be analyzed empirically, through qualitative and quantitative studies, including the development of specific scales for mobility, professional longevity, successful aging, and the influence of antecedents and moderating effects. This framework also contributes to broadening the debate on career sustainability in different scenarios of population aging. It is important to explore its application in contexts that have not been investigated yet, for example: a) sectors with different physical and cognitive demands, such as health, technology and agriculture, where work demands vary significantly; b) sectors with high and low levels of informality, in contexts with different degrees of regulation and labor protection; and c) different geographic regions and the cultural norms about aging that shape workers' experiences. Here are premises that indicate gaps and paths for future research:

Mobility in the labor market: although the literature highlights the challenges faced by older workers' reintegration and circulation in the labor market (Kadefors & Hanse, 2012), as well as reduced physical mobility due to personal and family demands (Sánchez Martín & Izquierdo Rus, 2020), there is a lack of research on the subjective movements that influence older workers' perception of mobility, and how symbolic transitions can influence career sustainability.

Professional longevity: studies associate professional longevity with lifelong learning and individual performance (Froehlich et al., 2020; Martin et al., 2014). However, there is a gap in understanding how older workers maintain performance in contexts of ageism and organizational change. There is room to review and reassess the indicators used to measure the performance of older workers by considering a more sustainable perspective.

Successful aging at work: although the literature recognizes the importance of individual strategies, organizational conditions, and public policies, studies still focus predominantly on the organizational context (Alcover et al., 2021). It is necessary to expand research to include different types of work situations, such as self-employment, informal work, and/or work in networks, which can influence the experiences of older workers. The International Labor Organization (ILO, 2024) expresses concern about the scenario that includes both informality and aging of the workforce, since such workers commonly do not have legal protections.

To advance the field, these premises can be investigated based on: a) the perspectives of older workers on their trajectories; b) organizational strategies to foster the development and inclusion of these professionals; and c) the impacts of public policies and cultural changes that affect sustainable aging in different contexts, seeking to advance the three levels of analysis.

We propose testing the interactions in the framework through an integrative quantitative model using structural equation modeling. This model would make it possible to investigate how individual antecedents (adaptability, lifelong learning mindset, and meaning of work), organizational antecedents (support for training, recruitment and selection policies, and strategies to facilitate performance), and contextual antecedents (public policies to combat stereotypes and pension reforms) interact to influence professional longevity and mobility. We also suggest a bibliometric analysis to understand the evolution of the field, exploring the centrality of the previously mentioned journals, their editorial lines regarding the theme of career sustainability and aging at work, and the historical or theoretical factors that drove scientific production in the different phases of the field's development.

FINAL CONSIDERATIONS

This article reviewed the literature on career sustainability and aging and identified key themes, gaps, and opportunities for future research. The findings highlight aging as an essential factor for a continuous work trajectory in a sustainable manner, even though it is often stigmatized or neglected. Given this scenario, the study points to paths to address the challenges of the aging workforce, which is a growing issue for organizations and society.

Aligned with the UN Sustainable Development Goals (SDGs), the article reinforces the need for integrated actions among individuals, organizations, and public policies to promote sustainable careers and professional longevity. Lifelong learning (SDG 4) enables older workers to have continuous opportunities for updating and support for transitions in the labor market. Furthermore, the promotion of decent work (SDG 8) emphasizes the importance of ensuring fair conditions for extending careers, preventing precariousness and ageism. Focus on promoting health and well-being (SDG 3) is also important, considering that work occupies a large part of adult life. Organizations are called to take an active role in creating environments that foster physical and mental well-being, favoring sustainable aging in careers.

Finally, by expanding the debate on career sustainability, this study contributes to a more integrated understanding of careers as dynamic processes, which are shaped by interactions between individuals, organizations and sociocultural context over time.

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CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

AUTHOR CONTRIBUTION

Anna Paula Visentini: Conceptualization; Data curation; Formal Analysis; Investigation; Methodology; Project administration; Resources; Software; Supervision; Validation; Visualization; Writing – original draft; Writing – review & editing.

Camila Vieira Müller: Conceptualization; Data curation; Formal Analysis; Investigation; Methodology; Project administration; Resources; Software; Supervision; Validation; Visualization; Writing – original draft; Writing – review & editing.

Marcia Cristiane Vaclavik: Conceptualization; Data curation; Formal Analysis; Investigation; Methodology; Project administration; Resources; Software; Supervision; Validation; Visualization; Writing – original draft; Writing – review & editing.

Angela Beatriz Busato Scheffer: Conceptualization; Data curation; Formal Analysis; Investigation; Methodology; Project administration; Resources; Software; Supervision; Validation; Visualization; Writing – original draft; Writing – review & editing.