Intentions to retire among older people in Europe: A cohort perspective in Kosovo

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Abstract

Background: The ageing phenomenon, which is mainly due to birth declines and increased life expectancy, has had a considerable impact on economies and societies in Europe. In particular, ageing has brought challenges to European labour markets, by increasing the age dependency ratio in impacted economies. As a result, there is a clear need for the longer retention of older people in the labour market.

Thesis aim: The main aim of this thesis was to investigate intentions to retire among older people (i.e., those aged 55 years and above) in Europe in relation to demographic, individual, social and work-related factors.

Methodology: The research presented in the thesis used a mixed methods design comprising qualitative and quantitative methods, each conducted in two data cohorts, collected in 2016 and 2021. In this way it was possible to investigate the changing patterns in retirement intentions and related factors over a five-year period. The qualitative studies comprised semi-structured interviews conducted with 37 older participants from Kosovo in 2016 and 2021 to identify themes which were considered to be important to the work activity of older people. In contrast, the quantitative studies were designed to systematically investigate intentions to retire across Europe in relation to individual, social and work-related factors, as identified in the qualitative studies. The quantitative data were collected in 2016 and in 2021 as part of the Survey of Health, Ageing and Retirement in Europe (SHARE) project, based in a sample of 19,542 older participants, collected in 28 European countries and Israel.

Results: Findings from qualitative thematic analyses of data collected from semi-structured interviews identified a range of individual, social and work-related factors, which were reported to have a positive and negative influence on the work activity of older people. These factors were classified as facilitators (e.g. positive feedback, rewards/work recognition, satisfaction with work, etc.) and barriers (e.g. work stress, health issues, work pressure, etc.) of older

people's work activity. Furthermore, key strategies that older people use in their successful working were identified relating to individual behaviour and working methods towards keeping themselves fit for work and based on the interactions that older people have with others at work. The results from quantitative studies were derived by employing logistic regression, which revealed positive relations between several individual and work related factors and non-early intentions to retire including higher job satisfaction, better self-perceived health, higher quality of life and wellbeing, lower workload, and lower support from others. Females and those with a higher educational level tended to retire later, beyond their retirement age.

Conclusions: The research presented in this thesis identified several factors that were found to have an important role in the retirement intentions of older people and their longer retention in labour market. This has important implications for state and organizational policy adaptions to provide more flexible employment possibilities for older people beyond their formal retirement time. This thesis therefore adds to the current body of knowledge in further understanding the active ageing phenomenon through older people's intentions to (un)retire, in a larger socio-economic context both in Kosovo as well as across Europe.

Presentations and Publications of thesis research work

- Gallopeni, B., Vivas, A.B., & Nicolson, R. I. (2022). Predictors / antecedents of intentions to retirement among older people: A longitudinal panel perspective in Europe. International Conference on New Achievements in Science, Technology and Arts" – ICNA-STA. 17th-18th April 2022, Peja, Kosovo. https://researchcult.net/conference/conferce-4/

- Gallopeni, B., Vivas, A.B., & Nicolson, R. I. (2020). Identifying factors that influence work-related performance in individuals over 55 years (2016 cohort data). International Scientific Conference: Theory to Practice as a Cognitive, Educational and Social Challenge. 17th -18th September 2020, Mitrovica, Kosovo. https://t2p-conference.org/

- Gallopeni, B., Vivas, A.B., & Nicolson, R. I. (2020). Identifying factors that influence work-related performance in individuals over 55 years (2016 cohort data). Postgraduate Research Conference. 21-22 July 2022, Department of Psychology, University of Sheffield.

- Gallopeni, B., Nicolson, R.I., & Ypsilanti, A. (2015). Identifying factors that influence work-related performance in individuals over 55 years. Presented at the 6th International Symposium for Health Sciences 2015, Prishtina, Kosovo.

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Annual South East European Doctoral Student Conference (DSC 2015). Thessaloniki, Greece.

- Gallopeni, B., Nicolson, R.I., & Ypsilanti, A. (2014). Investigating executive control and attention in relation to workload in younger and older employees. In Proceedings of the 9th Annual South East European Doctoral Student Conference (DSC 2014). Thessaloniki, Greece.

Table of contents

List of Tables

List of Figures

Declaration

I, the author, confirm that the Thesis is my own work. I am aware of the University's Guidance on the Use of Unfair Means (www.sheffield.ac.uk/ssid/unfair-means). This work has not previously been presented for an award at this, or any other, university.

1 CHAPTER 1 – Introduction and Literature Review

1.1 Introduction

Global societies are changing rapidly, and one of the major changes in the last decades has been the demographic change into older societies. This change is primarily due to increased life expectancy due to advances in medicine and health care, and declining birth rates (OECD 2006). It has been expected that by 2050 the percentage of the population considered of an older age will more than double (United Nations, 2022). Because ageing phenomenon has brought an excessive impact to socio-economic trends worldwide, particularly in developed countries, this topic has stimulated a lot of interest not only among the policy making actors, but likewise among researchers themselves. The implications of ageing in many areas of life has made researchers to view the ageing phenomenon from macro, meso and micro level perspectives (Rocco and Thijssen, 2006). The macro-level perspective included implications of ageing into economic and societal areas, as well as focused on measures taken by the national and international governments and agencies to deal with age-related challenges the societies are facing. The meso-level perspective dealt with issues related to organizations, such as policies of organizations, as well as managerial and human resources practices applied in the organizations that would influence employed older people. Finally, the micro-level perspective focuses on individual factors that could potentially pose a challenge towards older people. Other researches have viewed ageing phenomenon under the framework of lifespan development which view ageing related demography change and workforce implications, health and wellbeing of workforce in ageing societies, mobility of older workers, and issuer related to cultural and institutions/organizations aspects (Rudolph, Marcus, and Zacher, 2018). The first mentioned approach has been followed in the sections below to discuss the ageing phenomenon, by examining relevant research literature.

1.1.1 Socio-economic implications of ageing

The effects of aging societies clearly influence macro-economic development of those societies in many directions. Projected data (Australian Bureau of Statistics, 2008) from most impacted countries with ageing phenomenon (Japan, South Korea, Australia, China, USA, Singapore, India, UK, Canada, New Zealand, Vietnam, and Indonesia) show that age median by 2050 shall be 45.1 years (age range from 38.6 to 54.9), shifting for 9.3 years older in four decades (median age from 2010: 35.8; age range from 25 to 44.6). Similarly, projected data show increased figures of median of age in EU-27, reaching 48.8 years by year 2100, (Eurostat, 2020). In Kosovo, as a younger European country pertaining also demographic figures (Friedrich Ebert Foundation, 2012), according to Kosovo Agency of Statistics' (KAS) population projections with medium variant, the share of older people 55 years old and above from the total population is 34% by 2050, which is 18% higher than the share of this age group in 2017, which was 16% from the total population, thus representing rapid increase of ageing population. This demographic change in developed and developing is associated with important challenges to quality of life, society and the economy (CEDEFOP, 2010). Moreover, the World Economic Forum (WEF, 2013) using an expert survey from government, industry, civil society and academia, lists in the Global Risks Report the unsustainability of population growth, mismanagement of aging population (meaning societal challenges related to older populations), and labour market imbalances in terms of workforce, among the key economic and societal risks in the coming decades. Furthermore, ageing has created increased demands for a range of welfare services, such as services related to health, housing, homecare, and support in physical and psychological areas, as well as for recreational services amongst older people (Stone, 2006), thus becoming a multifaceted challenge for many countries (Nolan and Barrett, 2019). From the policy perspective, research has listed various factors that influence older people to remain in or withdraw from the labour market. For example, the Organization for Economic Cooperation and Development (OECD, 2006) articulates different "push" and "pull" factors for

older people to withdraw from or continue to stay in the labour market. In terms of *push* factors, at the individual and organisational levels, this includes the degree to which an individual's skill mismatch the technology needs and structural changes in the organization, the organisation's (negative) perceptions about older people's capacities, and difficulties imposed on adjustment of employment because of employment protection rules. On the other hand, the *pull* factors include mostly pension schemes and other "formal or informal early retirement schemes", that is the beneficial opportunities that are brought with pension and retirement schemes. More specifically, previous research has suggested a diversity of aspects that influence longer labour market retention among older people such as financial interest (HSBC, 2005), being mentally stimulated, having to do something valuable and meaningful, connecting with others, and further fulfilment (Vodopivec, and Dolenc, 2007). Additionally, literature suggestions towards retaining older people in the labour market call for policy actions that would deal with measures related to higher paid pensions, flexible work arrangements, providing better skills and lifelong learning opportunities, supporting better health, provide contributions and support from employers and organizations, and making delayed pension mandatory (Vodopivec and Dolenc, 2007; Smeaton and McKay, 2003; Alcover, Topa, and Fernández, 2014). All these suggestions were tempting to promote a paradigm shift from 'pro-retirement' perspective to 'pro-working' stimulating measures (Wang & Shultz, 2010), thus requiring an emergent attention to support policy actions for increasing workforce longevity (OECD, 2011). Consequently, many of the developed countries have adopted or intend to adopt retirement policies that favour extension of regular work beyond retirement age (D'Addio et al, 2010). These policies encompass incentive measures for older people, such as pension increases (Chomik and Whitehouse, 2010), more benefits for late retirement and disfavouring early retirement (D'Addio et al, 2010). All these policy efforts have been proposed to maximize the utilization of older people's capacity in the labour market, as well as addressing the need to

tackle the unbalancing age dependency ratio (Ilmarinen, 2001), which phenomenon appears when the young workforce participants decrease in number and is overbalanced by the older employees. This poses increasing costs for pension and welfare for the countries facing this phenomenon.

Nevertheless, to close up, regardless of robust research work so far focused on studying the implications of ageing in the society and economy, policy makers lack more in-depth evidence from research on supporting longer term policy actions to promote a more enhanced active ageing.

1.1.2 Ageing implications among organizations

As a complex phenomenon, ageing impacts not only societies and economies as discussed above, but it does affect also organizations in various forms, particularly in terms of workforce gaps and productivity. The measures suggested to be taken by the governments as discussed in the above section, which actually are taking place in several countries, pose direct implications for employer organizations to adapt them into internal regulations related particularly to human resource policies. Nevertheless, research literature suggests that employer organizations have expected these changes differently, seeing on positive side and negative sides of having older people in their organization's personnel.

For example, findings from a survey with employer organizations and human resource managers in US (McIntosh, 2001) suggested that employers have valued the contribution of older people in relation to being flexible towards change, and updating skills and learning and challenging new job tasks. Furthermore, the study reported that employers estimated same time and capability requirements for training in new concepts for older employees as for younger employees. Similarly, research conducted in Australia suggests an increased interest among employer organizations regarding patterns of management of employed older people, which relate to culture of workplace, needs for job (re)design, provide individual development,

support on organizational measures related to promoting health and wellbeing, as well as measures related to finances and career planning (Taylor, Roland, and Zhou, 2017).

In addition, recent studies in Europe (Principi et al., 2020) examined the behaviour of employers towards older workers in more than 4600 organizations derived in cross-economic sectors and in both public and private organizations coming from six European countries such as Sweden, Denmark, Netherlands, Germany, Poland and Italy. The study suggested that investing in extended working life of older people shows more likelihood to reduce the organizations' costs, something that employers looked forward to. Such decisions were favoured in better addressing the challenges they faced in new recruitments of labour force. However, that was more emphasized in the private sector, while in public sector the employer preferences towards recruitment of younger employees were more strong, with the study speculations because of age stereotype that public organizations could face on providing their services (Principi et al., 2020, p. 11). Furthermore, it is not just imperative that employers' behaviour should be more positive in extending older peoples working life, it also the need to invest on the relevant competences that support such activity, which competences were evidenced to be both on technical and soft skills (Wiktorowicz, 2018).

Conversely, other studies suggest unreadiness among employers to invest on older workers in their organizations (Schmitz, 2015), thus posing a serious organizational barrier for retention of older people in the labour market. Furthermore, literature suggests that older people face challenges in workplace, which are related to different work and organizational factors, such as discrimination of older people at the work place, as well as lack of support for development in the organization (Jones et al., 2017). Age discrimination was widely researched by scholars of work and organizational psychology, and other similar areas. In fact, researchers and policy-makers agree that age discrimination has become recently a new most present European concern as an issue for equality, besides race and sex discrimination (AgeUK, 2011).

The propagation of discrimination against aging seems to rely apparently on the considerable presence of stereotypes about older people. Age stereotypes are defined as beliefs and expectations about workers based on their age (Hamilton & Sherman, 1994). Moreover, age stereotypes have been mainly measured empirically through the concept of stereotype threat, which according to Steele & Aronson (1995) is understood as the risk of confirmation of negative stereotypes about a social group someone belongs to. Consequently, meta-analytic and review studies suggested that older people's performance (particularly cognitive performance represented by memory and executive functions) is negatively affected by age-based stereotype threat (Lamont, Swift, and Abrams, 2015). Furthermore, studies throughout Europe focused on measurement of perceptions and ratings of older people capability, which lead to conclusion of different positive and negative stereotypes. In general, regardless of efforts undertaken by countries tending to promote employment of older people beyond retirement, there is not much will among employers to maintain old workers employed after they retire. This could imply the fact that employers perceive older people as burden and neglecting them investing in human capital of their organizations (AgeUK, 2011; van Dalen, Henkens, Henderikse, and Schippers, 2010). In addition, another study involving ratings from college students resulted with perceptions for older worker as less adaptive in regard to their younger counterparts (Dearmond et al., 2006). This perception was viewed with regard to older people's learning and to being interpersonally, culturally, and physically adaptive. Moreover, another meta-analysis conducted by Finkelstein, Burke, and Raju (1995), reports similar findings, that is older people are perceived from their younger counterparts as less qualified and with less potential to further development. In addition, a recent qualitative and cross-cultural study conducted in UK and Bulgaria (Taneva, Arnold & Nicolson, 2015) with older workers and human resource managers as interviewees, identified a number of positive and negative stereotypes for older workers as compared to their younger counterparts. Some of identified positive stereotypes mainly

attribute older workers as having calmer approach to work, being more loyal to organization, being more consistent and reliable and resilient, better organized, better networking, more capable to make harder decisions, and so on. While, negative stereotypes for older workers included: less adaptive and flexible, less open to innovativeness, struggling to new technologies, with poorer health, etc. Similarly, qualitative reviews of research conducted in US also show that employing old people have its own advantages and disadvantages. For example, older people are seen as more reliable, with better ethics, and better equipped with skills. In contrary, older people are also seen among employers as more resistant to change, less suitable for trainings, as well as resistant and less willing to adapt to new technologies (Lahey, 2005; Posthuma and Campion, 2009). These trends recently seem to look more positively in the advantage of old people, as latest studies in UK show that organizations have decreasingly less negative perceptions for old people (Macleod et al., 2010), which situation could have come as a consequence of enforcement of the legislation against age discrimination.

In conclusion, employer organizations are divided on supporting extended work life of older people in their organizations. Regardless of reduced costs that they estimate in retention older adults' working life, they fear for facing the age stereotypes in regard to providing their services to clients, therefore getting a negative pay off in that regard. Nonetheless, investing in older relevant skills to support work life extension is estimated a crucial aspect in organizations.

1.1.3 Ageing implications on individual level

Before ageing affects societies, economies and organizations, it affects primarily individuals. Individuals are affected by ageing in several dimensions, such as in their health (physical and mental), economic activity (incomes), work and mobility, and in interaction with others (affecting their social network) as well as in their behaviour in various other activities.

Individuals undergo changes in different periods of their life. For example, the lifespan development theory postulates that individual changes are present throughout the lifespan. That

is particularly more evident with health deterioration among the older people. At the beginning of the present century, World Health Organization (WHO, 2002), lists health deterioration as the first main challenge impacting active ageing. They argued for an increase of non-communicable as well as neuropsychiatric diseases among older peoples on the years to come, thus calling for policy actions towards increasing caring programs on such diseases. The non-communicable diseases mainly listed cardiovascular diseases and cancer, as well as depression, were noted to have an increase on the morbidity and disability of older people, therefore negatively impacting as such the potential of active ageing per se among the affected older people. More specifically, ageing has impacted also neuropsychological aspects, known also as cognitive changes. In this regard, it is argued that many of cognitive functions deteriorate with aging (for a review see Salthouse, 2009; Ypsilanti & Vivas, 2012). Several of these cognitive functions include: working and long term memory, information processing speed, spatial visualization, inhibitory control, and coordination ability (Cerella, Poon & Williams, 1980; Hasher & Zacks, 1988; Mayr et al., 1993, 1996 & 2001). It is now evidenced that the basis of the deterioration of these functions is in the neuropsychology, respectively on the changes that happen in the prefrontal cortex (West, 1996; Raz, 2000) vis-a-vis ageing.

1.1.4 Conclusions

As there is continuous demographic change worldwide, it is apparent that having older people in the labour market is increasingly becoming more and more necessary. It implies for immediate measures to be undertaken for promoting active aging policies in tackling the increasing labour market imbalance ratio. Policy making actors, such as European Commission (2010), have called for strategic actions to promote active ageing against the increasing shrinking workforce and negative impact that it has on economic growth. Similarly, the United Nations organizations appeal towards tackling the active ageing phenomenon at multilevel perspective, by stating that "*It is time for a new paradigm, one that views older people as active*

participants in an age-integrated society and as active contributors as well as beneficiaries of development" (WHO, 2002, p. 43). Thus, promoting active ageing among older people makes them more capable in utilizing intellectual capabilities of sharing information and experience, as well as promoting good work values such as work commitment, loyalty, and proactivity in accomplishing work tasks (Ilmarinen, 2012).

As a response to these concerns, systematic research plays a major role in investigating the active ageing phenomenon, in order to understand in depth implications that this phenomenon has in the life of older people, as well as for employer organizations, as well as for societies in general. In this direction, this thesis aims to provide contribution, thus attempting to add new insights in the present body of research knowledge, with emphasis in the European context.

1.2   Literature Review on active ageing

1.2.1   Definition of ageing

The issue of aging definition has been widely discussed, reaching not a common understanding among researchers and policy-makers. For example, the United Nations agree in the definition of old age as 60+ individuals (WHO, 2002). However, in many developed countries old age represents individuals around the age of pension. Retirement age has been historically variating, since its first appearance in Germany as proposed by the Germany's Chancellor Otto von Bismarck in 1889 (Shultz, and Wang, 2011). At that time retirement age was proposed at 70, which consecutively changed over time. Around present time, the retirement age varies across the countries. For example, the AgeUK study (AgeUK, 2011), which analysed data from the European Social Survey (ESS) in 2008, stimulated a discussion about the perception of old age across EU countries. According to this study, the average pension age among EU 28 members was shown to be 62 years old. In Kosovo, according to labor law (adapted in 2010), the retirement age is strictly set at the age of 65, making it

obligatory to retire for employees in the public sector regardless that there might be will of retired individuals and respective organizations to continue work engagement after 65. Some exclusions remain for example in the universities, where retired academic staff can continue teaching as paid work until the age of 70, but not as full time. Nonetheless, because of continuous changing of the demographic trends as well as cultural considerations of aging (SIOP: a working document, accessed: 27-12-2015), the definition of what encompasses the old age seems to continually change.

1.2.2 Active ageing definition

The active aging concept has been defined from different perspectives, including policy makers, reviewers, and empirical research scholars. In fact, active ageing derived more as an approach from the policy makers to tackle the ageing phenomenon that the developed world has been captured into. From the literature it is observed that United Nations and European Commission were the main global policy making organizations who were primarily dealing with this phenomenon. For example, active aging was endorsed as the primary goal of health and social programs for older people at the Madrid population summit at the beginning of the twenty-first century (WHO, 2002). The World Health Organization (WHO, 2002, p. 12), defines active ageing as "*the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age*". This is rather a broad concept which entails the activity of older people towards healthy life style opportunities and access to aging friendly healthcare services, having flexibility in remaining actively in labour market in paid non-paid/voluntary engagement, as well as being able to adjust their needs to social security system benefits. It also encompasses active "*participation to social, economic, cultural, spiritual, and civic issues*" (p. 12). This approach elaborated by WHO more sees active aging as a functional articulation driving policy development in the coming decades both in developed and developing countries facing an increased aging society phenomenon. The key focus of the

strategies to promote active aging is to minimize the disability state of older people as they grow older (WHO, 2002), as well as to minimize the costs of managing the older population (WEF, 2015). Similarly, European Commission (EC) defines active ageing as "*optimising opportunities for workers of all ages to work in good quality, productive and healthy conditions until legal retirement age, based on mutual commitment and motivation of employers and workers*" (EC, 2017, p.4). This is as likely as defined by WHO, however further emphasizes the need for mutual relations between the older individuals and employer organizations and role that employer organizations should have in promoting active ageing. Furthermore, European Commission and the United Nations Economic Commission for Europe (EC/UNECE, 2015) under the framework of Active Ageing Index (AAI) views active ageing in four key components: employment and labour market; participation in society; independent, healthy and secure living; and capacity and enabling environment for active ageing. Although active ageing is provided as conceptual framework by WHO and EC, it still lacks a consequent theoretical framework, which would constitute both an explanation theory as well as measurement framework of the phenomenon.

1.2.3 Theories of active ageing

Active ageing is not still a global constant construct, and is likely to differ across contexts and cultures, which can also be used to guide specific community and individual-based interventions (Paul, Ribeiro, and Teixeira, 2012). Moreover, active ageing has been investigated theoretically under the spectre of various theories, such as Lifespan development theory, Life course perspective / approach, Bridge employment, Theory of changed behaviour, and Intentions to retire. Nevertheless, looking more from a labour market perspective, an old individual may be affected by many factors in different dimensions, such as demographic, individual (including health), health social, financial, and organizational factors (Earl, &

Archibald, 2014). The following sections provide an overview of these theories on the active ageing explanation.

1.2.3.1   Life course perspective / approach

Although they may be perceived as synonymous concepts, it is argued that life course perspective and life span theory are distinctive in several dimensions (Fuller-Iglesias, Smith, & Antonucci, 2009). Life course perspective is argued to be a theoretical framework that focuses more on macro level, on groups and societal viewing of issues influencing development, which further bases it on the historical periods and different societal categorizations of the development (Elder, Johnson, and Crosnoe, 2003). It makes more the responsibility of adapting institutional approaches towards tackling development of people over various periods of time. While on the other hand, life span theory more focuses on the individual level, and examines individual changes over various periods of time in the given contexts (for a review see Fuller-Iglesias, Smith, & Antonucci, 2009).

The active ageing conceptual framework introduced by WHO (2022) is based on the life course perspective theoretical approach. In this regard, researchers attempted to provide a measurement model for the WHO conceptual framework, which resulted to be not well explaining it theoretically (Paul, Ribeiro, and Teixeira, 2012). These authors further framed this conceptual framework as an attempt to validate it, composed into six determinants, such as personal factors, behaviour determinants, determinants of social environment, determinants of social and health services, determinants of physical environment, and economic determinants (2012, p. 4). The model was theoretically tested in a culturally homogenous sample of 1322 Portuguese participants. Results of this statistical testing using Confirmatory Factor Analysis showed confirmation of six main factors: health component, psychological component, cognitive performance component, biological component, social relationship component, and personality component. These analyses resulted into 54.6% explanation of construct variance,

leaving a considerable part unexplained. The health and psychological related components had a major role into this explanation. Nevertheless, this research work had its own major limitations, as the WHO model derived from a more global scale perspective, while its testing through the described research in this section was done in a single European country, that may have based on characteristics coming from that socio-economic and cultural context.

1.2.3.2   Life span development theory

Individual changes occur throughout one's life. These changes were well postulated under the framework of lifespan development theory, which poses an important place in the literature of active ageing. It explains the development of individual in the interaction with social, cultural and historical contexts (Baltes, 1987), and the changes the individual undergoes as a consequence of facing such interactions. The lifespan approach has been considered as an ideal framework for examining contemporary and global issues in work, aging, and retirement (Lerner, Fisher, & Weinberg, 2000; Earl, & Archibald, 2014; Rudolph, 2016), and its interactional factors. According to Baltes (1987), the lifespan theory is explained through a few main postulates, which are related to portraying one's development, with the added implications of ageing at work (Rudolph, 2016). First, development is a lifelong process, with the ageing implications throughout one's career. Second, development is seen as multidirectional, and understanding aging at work requires considering the underlying equality in productive developmental processes, both within and across persons. Third, development incurs gains and losses, and this determines successful ageing when gains compensate losses. Fourth, it poses a modifiable development, with implications of ageing at work related to the within person variability over a dynamic process over the time in the working context. Fifth, development is contextualized, with the ageing at work being determined by contextual factors outside work environment. Sixth, development is embedded historically, determined by conditions related to culture and history one belongs to. Finally, development is multidisciplinary, with the premises

to understand the ageing at work from multidisciplinary perspectives (health, psychology, sociology, etc.). This theoretical conceptualization provides rather a comprehensive explanation of lifelong changes and implications, nonetheless, it has been placed on the attention of the research regarding active ageing explanation.

Baltes and Baltes (1990) speculate that the lifespan development theory in the active ageing can be implemented through the Selection, Optimization and Compensation (SOC), as a three-component strategic concept which are interrelated to each other. A meta-theoretical viewpoint on development over the lifetime, SOC is attributed as a life management strategy, and largely focuses on elderly people (60 years of age and older) and methods used to preserve the fundamental functions of everyday activities. The concept uses the term "selection" to describe the method people employ as they become older to prioritize and bring attention to their goals. Whereas optimization is concerned with maximizing the resources that humans already have (e.g., concentrating more on crystalized vs fluid intellect as older people age), compensation is concerned with bringing in extra resources (e.g., using hearing aids to compensate for age-related degradation in auditory capacity). Although the model was primarily used to study gerontological concerns related to advanced aging, it has recently been used to study a wide range of organizational challenges.

SOC has been theoretically tested through extensive research in the past two decades, in relation to other individual and work processes. In this regard, studies show that SOC is favourably correlated with key success factors for older workers, namely competency maintenance and performance (Riedel, Müller, & Ebener, 2015; Bajor & Baltes, 2003), becoming more positive to expect work future opportunities (Zacher & Frese, 2011), are able to maintain a better work-life balance (Young, Baltes, & Pratt, 2007), and handling loss of resources related to health impairments (Demerouti, Bakker, & Leiter, 2014). It is noted that SOC strategies have been shown to be very valuable for used by the older people in their work,

although research showed weak association between SOC and ageing, derived from meta-analysis of cross-sectional studies over the past two decades (Moghimi, Zacher, Scheibe, Yperen, 2016).

1.2.3.3   Successful ageing

Research literature has explained active ageing also in regard to ageing quality, known as successful ageing. It was first introduced by Rowe and Kahn (1997), which implies prolonging years in healthy, psychological and social functioning throughout lifespan. Successful ageing is noted also synonymous with other similar concepts such as productive ageing, healthy ageing, and active ageing (Fernandez-Ballesteros, 2019). Nonetheless, under this thesis it is treated as one of theoretical frameworks of active ageing.

Recent reviews portray health functioning of older people in the sense of physiological, cognitive and physical functioning (Urtamo, Jyväkorpi, and Strandberg, 2019). In regard to the health component, the successful ageing is related to longevity, in the sense of the lack of illnesses among older people (Rowe and Kahn, 1997), as well as better cognitive functioning (Hartley et al., 2018). This was seen under the spectre of biomedical lens, including also physical functioning. Psychological component was explained with two factors, the one related to psychological adaptations in life also in the sense of emotional functioning, while the other factor is about active engagement in life, mainly in social activities. Nonetheless, biomedical approach of explanation of successful ageing was considered as sceptical in well explaining the successful ageing, as research speculations go so far as to conclude that among the oldest olds and centenarians almost all of them face at least a kind of chronical disease and have issues with functioning around that age (Cho, Martin, & Poon, 2012; Andersen-Ranberg, Schroll, & Jeune, 2001).

Regardless of efforts to bring a conceptual framework of successful ageing, it was realized from away that successful aging would be challenging to operationalize (Bülow, and

28

Söderqvist, 2014). The fact that the measuring instruments established in gerontology and other similar fields were designed to evaluate degrees of deviance from an unimpaired norm rather than measure and discriminate between persons without significant impairment, was considered as methodological challenge (Strawbridge et al., 1996; Garfein & Herzog, 1995). Furthermore, successful ageing was considered as an outcome aspect of ageing process (Dillaway, and Byrnes, 2009), which implies that successful ageing should be examined in regard to its precedents influencing it. Nevertheless, the existing conceptualizations and areas of study under the successful aging paradigm have been criticized by scholars of various disciplines, such as gerontology, anthropology, sociology, and much more (Kaufman, Shim, & Russ, 2004; Rudman, 2006; Kahana, Kahana, & Kercher 2003), in relation to various factors that ageing is affected. Besides all that, successful ageing discourse was considered as an approach to influence policy making agenda over the ageing phenomenon, as well as changing the perception about ageing in general (Schultz, 2001). It is further speculated that successful ageing needs to take a less narrow definition of its concept, trying also to better understand the ageing people and the context where they function (Dillaway, and Byrnes, 2009).

1.2.3.4   Bridge employment & intentions to retire

The engagement of older people at work beyond their regular working age is a concept that has raised attention among policy makers, organizations on the one side, as well as researchers on the other side, which phenomena in the research literature is known as bridge employment. The meaning of bridge employment has been agreed to relate to work engagements that come after a career or full-time employment but before a person completely leaves the labour market or retires from employment (Shultz 2003a; Cahill, Giandrea, and Quinn, 2013). Based on how older people may find themselves involved in the bridge employment activity, this concept has been viewed as *career-consistent*, and *non-career* type of employment (Wang, Zhan, Liu, & Shultz, 2008; Gobeski and Beehr 2009). According to

Raymo et al. (2004) the career-consistent bridge employment refers to the continuation of work in the same area of the career either in the same or a different organization. Whereas, the non-career bridge employment is about pertaining work engagement in other work areas, mainly in flexible forms of employment and with lower salary compensations, and was considered as the most prevalent form of bridge employment (Feldman, 1994). Research on bridge employment phenomenon has increased interest among researchers in the last decades, since this concept appeared to become an important aspect of decision-making for policy makers (Wang and Shultz, 2010). The majority of research on bridge employment has mainly been focused on areas of antecedents and predictors of bridge employment, categorized as individual, job or organization, as well as societal predictors (Beehr and Bennett, 2007). On the other side, research literature brings diverse approaches measuring active ageing, which indicate that active ageing measurement is still a challenge. It is likely obvious that there is not a coherent approach in the literature to measure active aging. Since retirement intentions place a major role in the active ageing literature, researchers have provided a few forms of measurement pertaining active ageing. More specifically, research literature show that retirement intentions are measured through meaning of work concept, theory of planned behaviours, and measuring directly intentions to retire. In the following sections is provided an overview of each approach.

1.2.3.4.1 Theory of planned behaviour

The theory of planned behaviour was primarily used as a theoretical approach to tentatively predict real behaviour of individuals that might happen in certain points in time (Ajzen, 1991). In fact, it examines the intended behaviour as a proxy determined behaviour, meaning that the more intently one desires to participate in a certain behaviour, the more probable it is to do so. According to Ajzen (1991), the there are three determinants of behaviour intentions, such as the perceived behavioural control, the attitude, and the subjective norm. Under this theoretical framework, attitudes are defined as broad favourable or negative

assessments of behaviour. Subjective norms draw on the perceived social pressure from significant persons to engage in a certain behaviour. The last component, the perceived behavioural control was defined as, *''... the person's belief as to how easy or difficult performance of the behaviour is likely to be''* (Ajzen and Madden, 1986, p. 457).

The theory of planned behaviour has minimally been used to examine the active ageing phenomenon, particularly examining retirement intentions among older people, as a form of predicting later retirement behaviour. Results from an empirical study in an Italian sample of students examining intentions to contribute to a pension fund (Bongini, and Cucinelli, 2018) show significant predicting values of the variables of the theory of planed behaviour, explaining a considerable portion of the total variance of the outcome variable, that was intention to invest in a pension fund. Nonetheless, this study was testing the theory on a young population. In the research literature there was not found particular research where this theory was applied in older population. This could be due to the fact that the application of the theory of planned behaviour has received criticism for failing to demonstrate a better explanation of variance of the investigated intentions in various fields of its application (Sniehotta, Presseau & Araújo-Soares, 2014).

1.2.3.4.2 The meaning of work

Almost every individual spends a considerable part of their life working. As such work itself becomes an important life aspect for individuals. In previous research conducted for this purpose, work was ranked as the second (after family) most important aspect in the life of older people (MOWIRT, 1987; England, 1991; Harpaz, 1999; Ruiz-Quintanilla & Wilpert, 1991; Harding & Hikspoors, 1995). In viewing the importance of work as well as what people meant by work and working, a considerable portion of research used the Meaning of Work model (MOW), first introduced by England (1991), then further developed via a research project (known with acronym as MOWIRT) by International Research Team (IRT:, 1987), as a

conceptual framework for explaining the understanding of work by individuals. In the previous research literature, the meaning of work theoretical concept has been used to explain the variation of intentions of older people to continue work later in life or to early accede to retirement. The MOWRIT study, which was valued as a rigorous empirical research to examine how people understand work and its importance to their lives (Brief, 1991: p. 176), was designed as cross-national, conducted in eight countries (USA, Great Britain, Belgium, Germany, Yugoslavia, Netherlands, Israel and Japan), including interdisciplinary respondents from different occupation and employment statuses, such as employed, non-employed, self-employed and retired. The dimensions of cross-nationality and interdisciplinarity were included in MOWIRT research for the purpose of understanding and comparing how individuals from different countries and economic sectors viewed work and what work meant in different cultures and work sectors. The MOW conceptual framework views meaning of work as a composition of five main constructs: work centrality as a life role, societal norms regarding work, valued work outcomes, importance of work goals, and work-role identification (Harpaz, 2002, p. 641). Work centrality has been defined as 'the degree of general importance that working has in the life of an individual at any given point at a time' (MOWIRT, 1987, p. 81). This conceptualization of work centrality has been supported by a number of empirical studies mainly in developed countries (see Harpaz, 2002, for a summary of empirical research), and was later enhanced in a more comprehensive theoretical framework leading to retirement intentions (Shacklock & Brunetto, 2011).

1.2.3.4.3 *Intentions to retire*

Some research focuses on the concept of meaning of work as a way to understand active ageing potentials (MOWIRT, 1987; England, 1991; Harpaz, 1999; Ruiz-Quintanilla & Wilpert, 1991; Harding & Hikspoors, 1995). Other research work considers the concept of bridge employment, which means the engagement of older individuals as part of workforce (as part or

full time, paid or voluntary engagement) in the times of their retirement (Wang, Zhan, Liu, & Shultz, 2008). Furthermore, bridge employment is measured via examination of intentions for retirement among older people some time before their retirement age (Earl, & Archibald, 2014). Notably, a lot of research work has focused in the measurement of intentions to retirement, as an outcome variable (Shen, & McBride, 2004; Rosen et al., 2011; Shacklock & Brunetto, 2011; Radford, Shacklock & Meissner, 2015; and many more) in the examination of active ageing.

During the last two decades, cross-sectional studies, with theoretical basis from MOW research, have examined a considerable list of factors in relation to retirement intentions. Shacklock (2008) in a qualitative study conducted in Australia, as an attempt to extent the Meaning of Work Model, suggested a list of factors that have influence on retirement intentions among older people, which include health of self and family, finances, attachment to work, importance of working to the individual, perception of personal autonomy at work, interpersonal relationships at work, flexible work arrangements, interests outside of work, and management and organizational factors, such as supervision, bureaucracy and work environment. Follow-up quantitative study by Shacklock & Brunetto (2011) employing regression analysis (from a sample of 379 respondents aged 50-74 years old, age mean = 55.29) shows that factors sharing the most of variance were found to be importance of work (10.8%) and interpersonal relationship (7%), followed by factors with lower level of shared variance such as interests outside the work (3,1%), management and organization (meaning amount of bureaucracy) (2,5%), and attachment to work (1,6%). These factors account for about one quarter of the total variance, leaving most variance in older people's intention to retire early unexplained. Some explanation of this situation has been given from some other studies conducted in Europe, mostly using European-wide panel data from SHARE (Survey on Health, Aging and Retirement in Europe). For example, Blanchet & Debrand (2005), using data from first wave of SHARE study collected in 2004, suggest that satisfaction with the job and good

health are key most important indicators to retention of older workers in labour market. This shows that older people's decisions to early retirement are supported by lower levels of satisfaction with the job and worse health conditions. Other studies confirm some of mentioned findings as well as suggest other factors that may influence decisions to retire, such as finances (Wijeratne et al., 2017; Jackson, et al., 2006; Phillipson, 2004), attachment to work (Barnes et al., 2004), job/career satisfaction (Anderson et al., 2002; Ekert and DeViney, 1993), work motivation (Patrickson and Ranzijn, 2004), and retirement anxiety (Wijeratne et al., 2017).

Moreover, latest studies suggest gender differences in intentions to retire among older people. For instance, observations from panel research employing regression analysis (Ordinary least squares regression) from SHARE data indicate that male participants reported higher retirement age than their female counterparts (Axelrad & Luski, 2021), adding to that also plans for higher spending during pension time, as well as participants who were self-employed. Alternately, female participants, participants with employment status as civil servants, those who have reported poorer health conditions, as well as participants with lower level of education were found to show lower level of retirement age.

Most of the research work on active ageing has focused on the examination of the factors that influence intentions to retirement, but mostly have been conducted in a cross-sectional perspective, in many cases in homogeneous social and cultural contexts. However, researchers emphasize a continuous need for longitudinal research about examining determinants of active aging (Hansson et al., 1997; Earl, & Archibald, H., 2014) in a more systematic approach over certain periods of time, in more heterogeneous social and cultural contexts in order to enhance higher dimension of generalization of findings. Furthermore, while reviews about active ageing focus on implications for new policy measures (Foster & Walker, 2014), empirical research about active aging more focuses on the determinants of active aging, mainly from individual, health, social, and work/organizational perspectives. The aim of this thesis research work is to

further understand the factors that influence active aging, through examining retirement intentions among older people, taking the arguments from research perspective.

1.2.3.4.4 Motivational and stress factors affecting intentions to retire

Among the important factors that influence the working dynamics of people in general, and older people in particular, are motivational and stress factors. These have been investigated in the working environment and how they may affect their intentions to retire.

1.2.3.4.4.1 Motivational factors and intentions to retire

In the explanation of motivational factors at work, one prominent theory providing important contributions in this regard is the Herzberg's (1959) Two-Factor Theory, also known as the Motivation-Hygiene Theory. The theory suggests that there are two sets of factors that influence employee motivation and satisfaction in the workplace: hygiene factors and motivators. Hygiene factors are related to the work environment and include elements such as salary, company policies, working conditions, interpersonal relationships, and job security. According to Herzberg, these factors do not directly lead to motivation, but their absence can cause dissatisfaction among employees. When hygiene factors are met, they prevent dissatisfaction but do not necessarily lead to satisfaction or motivation. Motivators, on the other hand, are factors that contribute to job satisfaction and intrinsic motivation. They include elements such as achievement, recognition, challenging work, responsibility, growth opportunities, and the sense of personal accomplishment. Herzberg's theory suggests that organizations need to focus on both hygiene factors and motivators to create a motivating work environment. By ensuring that hygiene factors are adequately addressed to prevent dissatisfaction and by incorporating motivators to enhance job satisfaction and intrinsic motivation, organizations can create a positive and engaging work environment.

While research directly examining the relationship between motivational factors and intentions to retire among older people is limited, particularly on direct investigation of hygiene and motivation factors according to Herzberg theory, understanding the influence of motivational factors on retirement decisions can provide insights into individuals' choices regarding retirement. Motivational factors can play a significant role in shaping retirement intentions among older people. These factors encompass aspects such as job satisfaction, engagement, and a sense of purpose or fulfilment in one's work. When individuals experience high levels of motivation and satisfaction in their job, they may be less inclined to retire because their work provides them with a sense of meaning and accomplishment. They derive intrinsic rewards from their professional pursuits and may see their work as a source of personal fulfilment (Gustman & Steinmeier, 2004).

Older individuals who are motivated by their work may also have a strong work ethic and a desire to contribute to their organization or society. They may find joy and satisfaction in their roles, maintaining a sense of purpose and engagement. These motivational factors can act as incentives to continue working and delay retirement, as individuals derive a sense of identity, self-worth, and social connections from their work (Slagter et al., 2011). Moreover, motivational factors can also be related to individuals' personal goals and aspirations. Some older individuals may have a strong desire to accomplish specific milestones or attain career-related achievements before considering retirement. Their motivation to achieve these goals can influence their intentions to continue working beyond traditional retirement ages (Wang & Shultz, 2010). However, it is important to note that the decision to retire is complex and influenced by various factors beyond motivational factors alone. Financial considerations, health status, family obligations, and external circumstances also play crucial roles in retirement decisions.

A broader perspective in regard to motivational factors in the workplace and active ageing in multicultural contexts is provided by the Cultural Dimensions Theory, developed by the social psychologist Geert Hofstede (1980). The theory identifies six key dimensions that reflect different aspects of cultural values and behaviours, briefly explained below.

(1) Power Distance Index (PDI): This dimension measures the extent to which less powerful members of a society accept and expect power to be distributed unequally. High PDI indicates a hierarchical society where power is concentrated in a few individuals or institutions, while low PDI reflects a more egalitarian distribution of power.

(2) Individualism versus Collectivism (IDV): This dimension assesses the degree of interdependence between individuals in a society. Individualistic cultures prioritize personal goals, individual rights, and autonomy, whereas collectivist cultures emphasize group harmony, cooperation, and loyalty to the group.

(3) Masculinity versus Femininity (MAS): This dimension reflects the degree to which a society values assertiveness, competition, and achievement (masculinity) or nurturance, cooperation, and quality of life (femininity). Masculine cultures value material success and assertive behaviour, while feminine cultures prioritize quality of life, relationships, and caring for others.

(4) Uncertainty Avoidance Index (UAI): This dimension measures a society's tolerance for ambiguity, uncertainty, and risk. High UAI indicates a preference for stability, strict rules, and a need for certainty, while low UAI reflects a higher acceptance of ambiguity, openness to change, and a willingness to take risks.

(5) Long-Term Orientation versus Short-Term Orientation (LTO): This dimension captures a society's time orientation and focus on immediate versus long-term gratification. Cultures with a long-term orientation value persistence, thrift, and respect for tradition, while

short-term oriented cultures prioritize quick results, gratification, and adapting to changing circumstances.

(6) Indulgence versus Restraint (IND): This dimension describes the extent to which a society allows gratification of basic human desires and enjoyment of life. Indulgent cultures place a greater emphasis on leisure, personal freedom, and self-expression, while restrained cultures have stricter social norms, control over gratification, and a focus on suppressing gratification.

When exploring the relationship between Hofstede's cultural dimensions and active ageing, it is important to consider how cultural values and practices influence the perception and experience of ageing within different societies. Cultural dimensions such as power distance, individualism, masculinity, uncertainty avoidance, long-term orientation, and indulgence may have implications for the ways in which ageing is understood and approached in various cultures. Furthermore, the relationship between Hofstede's cultural dimensions and retirement intentions suggests that cultural values and societal norms can influence individuals' attitudes and decisions regarding retirement. Cultural dimensions such as individualism-collectivism, power distance, and uncertainty avoidance may shape perceptions of retirement, work ethic, and expectations related to retirement age and financial preparations (Moen & Robison, 1999; Radl & Hoonakker, 2013).

1.2.3.4.4.2 Stress factors and intentions to retire

Work stress affects almost every individual at work, and in particular older people. Robert Karasek in the 1970s developed a theoretical model, demand-control model, also known as the job strain model, to explain the relationship between work characteristics and stress. The model suggests that the combination of high job demands and low job control contributes to increased psychological and physiological stress reactions. The model posits that job demands, such as

workload, time pressure, and conflicting demands, can create stress for employees. Simultaneously, job control, defined as the autonomy and decision-making authority individuals have over their work, acts as a buffer against the negative effects of high demands. According to the model, employees who experience high job demands but low job control are more likely to experience job strain, which can manifest as psychological distress, burnout, and physical health problems. On the other hand, individuals with high job control can effectively cope with high demands and experience lower levels of stress. The model suggests that the interaction between job demands and job control determines the level of stress experienced by individuals in the workplace.

Over the years, the demand-control model has been refined and expanded to incorporate additional factors such as social support, effort-reward imbalance, and organizational justice. These extensions have contributed to a more comprehensive understanding of the complex interplay between work characteristics and stress. For example, demands such as excessive workload, time pressure, and lack of control over work tasks can lead to physical and psychological strain, negatively affecting health and well-being. Prolonged exposure to work-related stress may diminish individuals' ability to actively engage in physical, cognitive, and social activities, ultimately impeding the process of active ageing (Vahle-Hinz et al., 2014). Furthermore, high levels of stress experienced in the workplace can contribute to individuals' intentions to retire earlier. This is explained on the level of stress impacting both physical and psychological health and wellbeing. For example, the detrimental effects of chronic work-related stress on mental and physical health may lead individuals to consider retirement as a means of reducing stress and improving overall well-being (Kim & Moen, 2002). Moreover, prolonged exposure to work-related stress can have adverse effects on health, including increased risk of cardiovascular disease, mental health issues, and musculoskeletal problems. Such health concerns may influence individuals' decisions to retire earlier in order to prioritize

their well-being and alleviate stress-related health conditions (Milner et al., 2016). In addition, stress stemming from an imbalance between work and personal life can impact retirement intentions. Individuals who struggle to manage work-related stress and maintain a healthy work-life balance may consider retirement as a means of achieving a better equilibrium and reducing overall stress levels (Wang & Shultz, 2010).

1.3 Conclusions

The aging of the global population, with emphasis on the developed countries, but not only, is increasingly becoming a phenomenon of concern for policy makers, organizations, researchers, and alike. Research on aging has been paid quite attention in the last decades from different perspectives, such as socio-demography, health, psychology, economy, and labour market. In this regard, considering this wide impact of ageing has on multi levels, research literature on active ageing underlines the importance of looking into ageing from the socio-economic context, from organizational perspective, as well as from individual perspective. Accordingly, research theory has been developed into the active ageing perspective. Most eminent theoretical approaches of active ageing that are emphasized in the research literature include Lifespan development theory, Life course perspective, Successful ageing, Bridge employment, and Retirement intentions. The last one was considered as core theoretical framework in this thesis research. Considering the robust research knowledge to date examining retirement intentions from cross-sectional research in more homogenous socio-economic contexts as well as to some extend in single type of occupations, additional research directions on retirement intentions was suggested to be investigated in more than one points in time, and from more heterogeneous socio-economic contexts. This thesis research has adapted the cohort research approach, in cross-occupational and cross-country samples/cohorts.

1.4   Thesis aims and research contributions

This thesis focuses on the examination of active ageing in Europe, as one of the continents having a high rate of older people shared amongst its population. The research to date conducted in European economies and societies leaves space for further examination and understanding of the diversity of factors which relate to and affect the active ageing phenomenon. The thesis overall aim was to investigate active ageing phenomenon through the examination of the retirement intentions in two cohort samples, with observation of differences of relationship of factors and retirement intentions from one to the other point of time, thus aiming to provide a few contributions to the body of knowledge.

First, regardless that previous research examined various factors that relate or have an effect on retirement intentions, the majority of the studies were conducted outside European countries on the one side, and mainly adapted cross-sectional approach in single countries and socio-economics contexts on the other side. The lack of evidence on a more systematic examination of active ageing through retirement intentions in Europe, in a more heterogeneous population, such as in cross-national samples, as well as in more than one point of time, represent obvious gap in the current body of the knowledge, where this thesis aimed to provide its main contribution.

Second, previous research evidence has provided partial explanation of the factors having a relation with retirement intentions, therefore leaving a gap for addressing with new research efforts on the area. Accordingly, the first specific aim of the thesis aimed to provide a contribution in exploring new possible factors and themes among older people which are important on their work activity around or after the retirement time. Furthermore, the need appears to investigate these themes having a role as facilitators or barriers among older people who promote a more proactive activity around or after retirement time. And finally, it is important also to understand how older people react and make efforts in challenging the

situations at work towards maintaining their work activity. In this regard, this thesis aims to answer the following research questions:

1.1 What kind of individual, social and work-related issues older people perceive as important elements for their work activity? Which of these elements are perceived to have positive or negative effect to their work?

1.2 What kind of strategies older people perceive as beneficial for keeping them active at work?

1.3 To what extent the change of experience and perceptions of older people is present regarding their work activity before, around and after their regular retirement in two time points?

In addressing the research need for a longitudinal investigation of the active ageing phenomenon, as well as based on the nature of measurements adapted in this thesis research, explored identification of such themes with qualitative approach in two cohorts of data collection, in 2016 and in 2021 respectively.

Third, the thesis aimed to systematically measure the relationship of selected individual, social and work-related factors with the retirement intentions, as well as provide a comprehensive comparison of measurement in two different point of time, in order to observe for possible variability over a period of time. Aligning with the overall approach of cohort research that was adapted in this thesis, quantitative survey data were observed from 2016 and 2021 data waves collected under the Survey of Health, Ageing and Retirement in Europe (SHARE) project. In this regard, the following research questions were aimed to answer:

2.1. What are the differences in intentions to retired among 55 years and above older male and female across the time?

2.2. Do people who intend to retire and those who don't differ on several measures reflecting individual, social and work-related factors?

2.3. What are the best individual, social and work-related predictors of intentions to retire in older adults?

2.4. How do the intentions to retire change among older people 55 years-old and above in different points in time?

The thesis aimed to investigate the following theoretical model represented under figure 1, as an approach to provide answers to the raised research questions:

Figure 1.1. *Theoretical model investigated under this thesis research*

Accordingly, with the aim to investigate the proposed research theoretical model, the thesis aimed to test the following hypotheses:

Hypothesis 2.1.1: Older women intend to retire earlier than their male counterparts regardless of cohort. (H1)

Hypothesis 2.1.2: Older men intend to retire earlier due to health complains than older women (H1a).

Hypothesis 2.2.1: There is a difference of relationships among all individual, social and work-related factors between women and men, as well as between the groups aiming to retire and not to retire. (H2)

Hypothesis 2.2.2: Male and female older people with better physical health, higher life satisfaction and more optimistic future do not intend to retire early across different time points. (H3)

Hypothesis 2.2.3: Other social and work-related factors shall be investigated in this relationship, with implying gender differences as well as differences in intentions to retire. (H3a)

Hypothesis 2.3.1: Individual, social and work related factors (all three constructs) significantly predict later retirement intentions across different time points. (H4)

1.5 Overall research methodology

1.5.1 Overall thesis research design and structure

In achieving the thesis research overall and specific aims, a combination of qualitative and quantitative approaches using primary and secondary data collected in two time cohorts, which characterize the overall methodological interventions in this thesis project. According to Neuman (2014), in social sciences research, longitudinal research can be designed based on the type of data they use in more than one point of time. Thus, longitudinal studies can base their research investigation methodology on panel data, collected from the same participants in more than one time points. Other longitudinal studies cab base their research investigation on cohort data collected from independent samples, but with similar sampling characteristics (socio-economic contexts, gender, age, occupation, and other characteristics). And finally,

longitudinal observation can also take place based on time-series data, mainly on fixed variables collected on several points of time, which type of research is less used in social science studies. In order to observe for longitudinal changes about the investigated phenomena, the data collected in 2016 and 2021 time points were used for analysis.

The first specific aim of the thesis focused on exploring older people's experiences and perceptions about their work activity around the retirement time, respectively before, during and after the retirement. A qualitative approach of research was adapted in order to identify and discover new possible themes which are important to understand in-depth insights that older people have about their work issues they experience in relation to their intention to remain longer active or not in the workplace. Semi-structured interviews were designed and used as techniques for data collection from Albanian older individuals 55 and above working in different economic sectors, with the aim to examine individual, social and organizational / work-related trends and factors that influence their being active around and after retirement age. The data were analysed using thematic analysis technique. The qualitative approach is provided and explained more thoroughly in Chapter 2, representing the thesis study one.

The thesis second specific aim was to examine relationship between individual, social and work related factors in regard to intentions to retire among older people, as well as to test for the predicting role of these factors towards intentions to retire. Furthermore, the extent of change of the same research examination from one to the other point of time was investigated. In order to achieve this, I adapted a quantitative study design using secondary data two waves of data, in 2016 and in 2021, collected from SHARE project. Detail methodological approach in the quantitative study design is provided under the study 2 included in the Chapter 3.

2 CHAPTER 2 – Study 1: Identifying factors that influence work-related activity of individuals over 55 years: An explorative study among Albanian cohorts

2.1 Abstract

Active ageing has mainly been examined through cross-sectional research, thus investigating determinants that affect positively or negatively active ageing. This study aimed to examine active ageing from a cohort perspective, and focused on exploring potential factors and themes that influence work-related activity of individuals over 55 in a socio-economic context of a developing country, with relatively young population. The study used qualitative data, collected through semi-structure interviews from two cohorts (2016 and 2021) of cross-occupational samples of 37 older people in total aged 55+ (age average of 59.8 years) in Kosovo. Thematic analyses suggest that there are individual, social, and work related factors that have positive and negative impact on the work of older people. Opportunity to remain engaged continuously, maintaining social network, gaining work respect, work-related motivational approaches, and possibility to learn, were identified as positive themes. Whilst, negative aspects related to work-related stress, work-related pressure, lack of appropriate working means and conditions, health problems, and difficulties in using technology. The study explored also work strategies that older people adapt towards becoming more successful in their work activity. Being healthy fit, enhancing working methods, cooperation with others at work, and asking others for support, were identified some of key working strategies. Study implications relate to developing and changing work practices and organizational ergonomics to better match the needs of older employees.

2.2 Introduction

Research has previously developed globally around the concept of intentions to retire. In this regard, studies were however conducted mainly as cross-sectional based on data from single

country contexts, such as in Australia, US, and European countries. Researchers however argue that the present research knowledge does not well explain the diversity of factors that might influence retirement intentions among older people (Shacklock, and Brunetto, 2016). In this regard, a theoretical framework of retirement intentions empirically tested by the same authors indicates around one fourth explanation of total variance of intentions to retire (from a sample of 379 participants aged between 50-74 years, M=55.29). Nonetheless, such theoretical testing was conducted in Australia, with no generalization possibility to the rest of the world. In this regard, further research is needed to take place in other socio-economically and cultural context, in order to observe new potential factors that might influence older people's intentions to retire as well as work activity around the pension age.

2.3   Study aim and research questions

Noting that there is a gap in the existing research literature sufficiently showing a better understanding of important elements that could be indicative to older people's work performance in general, it was imperative to try to understand more about this phenomenon directly the perceptions of older adults. Those elements could be of various nature like social, economic, cognitive, individual, or related to work environment and requirements, and so on. The main aim of the study was to explore any important new themes from work practices that older people might reflect from their daily work experiences in the dimension of completing work duties and task, and in the direction of interacting with others at work. From methodological perspectives, new themes mainly derive from raw data collected mainly with qualitative methods and analysed using an inductive research approach (Thomas, 2006). In order to achieve the aim of the study and guide methodological steps, the following main research questions were formulated:

— What kind of individual, social and work-related issues older people perceive as important elements for their work activity? Which of these elements are perceived to have positive or negative effect to their work?

— What kind of strategies older people perceive as beneficial for keeping them active at work?

— To what extent the change of experience and perceptions of older people is present regarding their work activity before, around and after their regular retirement in two time points?

This study is exploratory in nature using qualitative data, aiming of finding new themes related to the experiences and views of older people in the work place and individual, social and work related factors and how they see these factors affecting them and their work activity. The study was conducted in a single socioeconomic context (Kosovo), and was designed as cross-occupational cohort study, using semi-structured interviews as a method for data collection. The data were collected in two periods, in spring 2016 and in spring 2021, as a way to investigate the changing patterns of work activity across the changing context in different points of time.

In the data analysis and interpretation, the study uses a phenomenological approach, enabling to understand experiences that participants describe and reflect during interviews. Phenomenology is the way researchers observe and understand in-depth phenomena from lived experiences of people and to provide the interpretation of the observed phenomena (Tuffour, 2017). This approach makes it possible to inductively identify key elements which are important to experiences of participants through which main observable conclusions are derived in regard to the research questions of this study.

This chapter is further structured into two qualitative sub-studies, which both aim to respond to the study aims and research questions. The first sub-study (Study 1-A) provides methodological approach and results from 2016 data cohort, while the second sub-study (Study 1-B) provides methodological approach and results for 2021 data cohort.

2.4   Study 1-A – data cohort from 2016

2.4.1   Methodology

The first part of the qualitative study served as a pilot study, in order to frame further the qualitative study design, as well as to frame the protocol of interview according to the study aims. The pilot study was conducted in a sample of 15 participants, which is explained in the section below.

2.4.1.1   Participants

There is an increasing discussion among researches engaged in qualitative research about the size of sample that should be included in qualitative research (for a review see Marshall, Cardon, Poddar, and Fonteno, 2013). However, researchers agree that for concluding a meaningful sample adequate data saturation should be reached. More specifically, in selecting a sample size in qualitative studies one should consider "*not the amount of data but rather the richness of the data, not the total counts but the detailed descriptions*" (Carey, 1995: p. 492). In this study a purposeful sample was chosen in a total of 37 older individuals between 55-70 years old, with age average: 60.26 years. The data were sufficient for reaching data richness and saturation.

Participants were selected from Kosovar population, who were working in public and private work sectors and coming from different occupations and economic sectors such as doctors, managers, teachers, nurses, office administrators, and so on. The sample allocation also looked to gender and work sector disaggregation. These included characteristics that make the sample more heterogeneous, and better enables the study conclusions to reflect to different dimensions of the observed context. Table no. 2.1 below gives an overview of the selected sample:

Table 2.1. The cross-sectorial and cross-occupational sample disaggregation.

Data from 2016 cohort.

Sample characteristics		N	%
Age group	55-60 years	8	53%
	61-65 years	4	27%
	Over 65 years	3	20%
Gender	Female	7	47%
	Male	8	53%
Education background	Higher education	10	67%
	Secondary education	5	33%
Occupation	Manager	3	20%
	Archive	2	13%
	Doctor/Gynaecologist	2	13%
	Teacher	3	20%
	Nurse	3	20%
	Lawyer	1	7%
	Judge	1	7%
Work sector	Public	11	73%
	Private	4	27%
Economic sector	Administration/service	6	40%
	Education	3	20%
	Health	5	33%
	Construction	1	7%

Around 20% of participants were above 65 years old, which in fact were on their retirement age. However, they were still working in their profession in private initiatives. The

sample was quite balanced in terms of gender, with 47% female and 53% were male. Participants working in the key employing economic sectors in Kosovo were included in the sample, such as in administration/service, education, health, and construction, coming from both public and private organizational settings.

2.4.1.2   Instruments/data collection

The semi-structured interview was used for collection of the data. The interview protocol was developed in two sections (see Appendix A). The first section included demographic information about respondents. Demographic data are useful to see whether there are differences between gender, age group or occupational type. The second section of the interview protocol included a set of questions and prompts examining the opinion and experiences of respondents in relation to their relationship with colleagues, contribution in the organization and wider to the society, difficulties and barriers they experience at the workplace, individual and health-related issues, and their perceived strategies they use for effective work. Interview key questions were developed in relation to general study questions as well as to some important factors that have been discussed in the literature review. Prompts were mainly used as accordingly to guide discussion based on the asked interview questions as well as in consideration to the research questions.

In fact, the research questions of the study are quite broad and intend to address a general overview of work activities performed in different work sectors and occupational perspectives. Nevertheless, the literature review showed important suggestion of the role of motivation directly or indirectly to the work activity, therefore in order to examine how older people are motivated in their work activity, the following question was asked: "*Could you describe some of the reasons that keep you engaged at work (*with the given prompts: *is that a motivation/satisfaction with being active, a need, satisfaction with your contribution)*?". In addition, the literature review showed the importance of the knowledge depository that older

people possess as a positive element which can be utilized at work in account of their work success. In this context the following question was asked in order to collect more information in this perspective: "*What do you think are your contributions at the work, particularly after a long work experience (*with the given prompts: *to the team / to the organization)?"*. Another important element for informing work performance appeared in literature review as well, was feedback at work. The following question was asked to elaborate this concept more, particularly examining the direction of feedback: "*In your work you are commonly giving and receiving feedback. What kind of feedback is more effective in relation to your performance?*". Moreover, interpersonal relations among older people, either within the team or organization, could interestingly be important to the main thesis research outcome variable, the decision-making performance (for example exploring group dynamics in this direction) , thus this aspect was also examined in the study, via the following question: "*How do you deal with interpersonal relations with your colleagues at work (*with prompts like: *sharing experiences, contribution to conflict resolution, other issues)?"*. With regard to identifying potential barriers that might be interfering with work activities, the following three questions were asked: "*What are the most difficult issues / elements that you face at work* (with prompts: *(dealing with new) technology, (frequent interaction with) job complexity, other issues*)?"; "*Do you experience stressful situations in your job*? In the answer was affirmative to this question, the following questioning prompts were followed: *How do you handle them? How do they affect your performance?"*; and "*Are there health related issues that influence your performance*?" in this case as well upon affirmative answer the candidate was asked to indicate more in relation to: *physical abilities, cognitive abilities, and emotional abilities*. Finally, in order to explore more future interests and suggestions of older people's activity as well as what strategic actions they undertake to effectively deal with different aspects at workplace, the following questions were asked: "*Would you suggest that people should work/remain occupied with activities after their*

retirement?" In addition to this question, participants were asked to give further explanation whether their first reaction was affirmative or negative: *"Could you describe some of the strategies you use to work effectively in your job?"*.

2.4.1.3   Procedure

The study was approved by the Ethics Committee of the University of Sheffield. In the first cohort of data collection in spring (May-June) 2016 the interviews were conducted face-to-face with all fifteen participants. The participants were identified through organizational managers and human resource offices, after which they were contacted via phone, e-mail or directly in person to explain the aim of the research as well as receiving their consents prior to interview. Their recruitment mainly happened at their workplace, but as accordingly there were also a couple of cases that participants were interviewed at home, particularly ones that were retired, but still active in some sort of professional activity. After contacted, participants were provided with a summary information sheet about the research and its purpose, and the ones that agreed for the interview were given consent forms to read and sign prior to interviewing. Interviews were recorded with an audio device, having beforehand taken the consent of participants.

2.4.1.4   Data analysis

As mentioned under the methodology section, this study uses interpretivism approach to derive conclusions from the observed data. In this regard, the main technique for conducting step-by-step data analysis was used the Thematic Analysis Method, with the aim to explore and identify new themes and aspects that could potentially have any role in the work activity of older people. This method refers to "*a method used for analysing and reporting topics/patterns within data, which enables to minimally organize and describe the data set in detail*" (Braun and Clarke, 2006, p. 10). These authors suggest the application of this methods in six-phases (p. 16):

1. Familiarizing with the data,

2. Generating initial codes,

3. Discovering themes/searching for themes,

4. Reviewing themes,

5. Defining and naming themes, and

6. Writing the report.

The first phase of data analysis involved the listening to the recorded interviews, and then their transcription and translating the transcripts into English. The transcribed and translated material was then analysed with the software NVivo, version 10 for the first cohort, which program is largely used recently for qualitative data analysis in exploratory research. In the second stage the analysis via NVivo involved identification of initial codes from the gathered material, proceeded with the definition of initial themes, as a third stage of the thematic analysis. According to Boyatzis (1998) codes represent a feature of the data (semantic content or latent) that appears interesting to the analyst, and refer to "*the most basic segment, or element, of the raw data or information that can be assessed in a meaningful way regarding the phenomenon*". Whilst, "*a theme captures something important about the data in relation to the research question, and represents some level of patterned response or meaning within the data set*" (Braun and Clarke, 2006, p. 10). The fourth and fifth phases involved more thorough analysis served to enhance, compare and conclude the final list of themes which were considered as conclusive findings of the study, with relevant explanation and interpretation of the themes in the context of data collection, as the sixth and final phase.

The section below presents the identified themes, their definitions and interpretation supported with observations from the data. Except code identification and generation and definition of themes, the analysis involved also differences between participates based on their demographic characteristics. Because of the pretty much imbalanced sample between its

categories, except gender (with 2% difference), comparative analysis was conducted only between male and female. In the other demographic characteristics (age group, work position, economic sector, etc) comparative analysis were not performed because of this sample gap (see table no. 1).

2.4.2   Results and Discussion

In the process of data analysis while codes were identified, a combination of theory-driven and data-driven approaches was used. According to Braun and Clarke (2006), the theory driven approach is used when specific research questions are asked to drive the collection of the data. Whilst, a researcher uses data-driven approach to thoroughly analyse the data itself and try to identify the important elements brought in by interviewed participants. As this study aimed to basically identify potential factors that could facilitate the improvement of work performance among older people as well as on the other side identify possible barriers that in fact hinder the work performance, findings are presented consequently in relevance to the study research questions. Below the findings are presented under each research question, as a way to provide answers and conclusions to them. The definition and explanation of the themes have been supported by several examples, as direct statements extracted by interviews, which provide meaningful context to the elaboration of those themes.

2.2.1.1. Identification of individual, social and work-related issues in the work of older people

In relation to the first research question of this study "What kind of individual, social and work-related issues older people see as important elements in relation to realization of their work activities?", the findings revealed a few themes which are important for the work of older people in an organization. In the first data collection cohort from 15 conducted interviews the

main themes revealed under individual, social and work-related aspects are presented in the table below (see table 2.2).

Table 2.2. Identified themes clustered under individual, social and work-related aspects. Data from 2016 cohort.

| Theme category | Theme | Saturation | |
		Sources*	References**
Individual aspects (6 sources / *14 references*)	Being healthy fit	6	8
	Gain respect at work	4	6
Social aspects (11 sources / *30 references*)	Transferring knowledge to others	8	13
	Maintaining social network (including within team relations)	11	12
	Social contribution	5	5
Work-related aspects (10 sources / *43 references*)	Teamwork	10	13
	(Intrinsic) motivation	6	6
	Satisfied with the work	6	6
	Work commitment	6	6
	Feedback as critique	5	5
	Extrinsic motivation	4	4
	Feedback as reward	3	3

* Codes appeared under each participant

**Codes appeared in different questions across participants

In the first cohort of data collection the generated themes were supported by several codes identified among various participants and in different interview questions during the interview conversations. In the following part the explanation of the theme categories and themes is provided.

2.4.2.1.1 Individual aspects

Thematic analysis enabled to identify key themes related to individual aspects of being active at work. From the individual perspective participants emphasized the importance of **good health** as a crucial issue in relation to their ability to be successful at work. Health was portrayed in respect of **physical, psychological, psycho-motor** and other relevant **capabilities** to function properly. For example, a 64-years-old female who work as a doctor, states: "*I think people who are capable…every person knows his/her physical and psychological abilities, and based on psycho-physical abilities one should continue or not to work until he/she is capable of*". Another 61-year-old male working as a teacher noted: *"...age works its way…even the reflexes are not the same as when we were young*". Furthermore, a 68-year old male participant stated in regard to remain active as longer in work as health allows it: "*Speaking the truth, until you are on good shape, and capable, why not to work. One should work until death. A lot of people say, …hmmm this man is retired, why is he working…I work for my good health. One should work not only 4-5 hours (a day) but even up to 10 hours as far as he is healthy*". In conclusion, older people now and then suffer from age-related health conditions which mainly are prevalent among old age, such as coronary diseases (manifested with hypertension and irregular blood pressure), diabetes, kidney and urological issues, and others alike, which were majorly reported by participants in this study. Acute health issues were also reported, which now and then were affecting the participants' work activity, thus relatively influencing their attitudes towards staying longer in the labour market.

Gaining **respect at work** revealed to be another important individual element for older people, which seems to keep on their work morale at that age. In this context respect was brought in by some interviewees in relation to working with colleagues and clients. For example, a 61 years old teacher said: "*…this job kept me (active) because everything, the discipline, engagement of all personnel, even parents were active, and all that paid off the respect for us. The word 'teacher' was a great word and with quite weight*". Respect is also

gained as older people are honoured and acknowledged in the workplace. In this context for example, a lawyer aged 66 years stated: *"...regarding my work actually, because I have also worked in the court and the contribution was quite good and I have left a good impression, and now I am acknowledged to my colleagues there regarding legal issues"*. While a 68-year-old male working as manager in administration of a construction company said: *"...this work I do for around 45 years, everything I work I do it with honour, so then you are satisfied"*. Moreover, commitment also appeared in a considerable number of participants as an important element at work. For example, a 68-year-old male working as manager in a construction company emphasized: *"...for effective work there should be good will (commitment) for work, to be motivated, to love the profession, and exercise it continuously"*.

The individual factors revealed from the thematic analysis and explained above seem to have a great importance in the work of participants. The discussion during the interviews with participants was mainly triggered and maintained on the bases of what drives the older people to remain active at work. The support for these factors was greatly provided through different participants, supported by a good level of saturation that appeared among the identified codes.

2.4.2.1.2 Social aspects

Identifying social aspects among older people that may influence their work activity was another aim of this study. Findings revealed three key themes under this category (see table no. 2.2). In this regard the main theme identified among interviewed older participants is how they value the importance of **sharing/transferring knowledge** with others, particularly to younger generations. This seems to be an inner motivation for them, which in fact seems to actually keep them up with being active at work. For example, a 68-year-old who works in his own company providing consultancy services, stated: *"Although in the past I never thought that this kind of activity should be passed to my family successors, I think now more and more that someone from family can take it over"*. While another participant, who is 60 and works as

doctor, mentioned: "*...after the long work experience my contribution would be to continue further and transfer my experience to younger colleagues*". Furthermore, sharing knowledge was reported in the direction of also cooperation relations with workmate. This was best exemplified by a 55-year old male participant working as a judge: "*my relations with other colleagues are very good, excellent, so we do cooperate, consult and help each other, particularly younger colleagues here, they ask a lot of things about how the work should be carried out*". In addition, the support for this theme comes also from another male participant being 68 years old, already working on bridge employment as a manager in an educational institution: "*...many workers have carried out their work following my instructions, I have never had any problems with workers, they work as instructed, if they're instructed in the bad way, then they work bad...and so on*".

The transfer of knowledge to others is also quite linked with the dimension of the **contribution to the society,** which was another interesting theme brought out of the interviews. For some interviewed participants their activity at this age is important as far as it contributes to society in general, regardless barriers they face at work. This seems to give them positive feeling and motivation to continue working around that age. In this regard, a 64-year-old-female working in administration, stated: "*...we have minimal conditions for work...we all know what are the work conditions here, however, we manage to get it (the work) done in such conditions, we are working for our state*". Similarly, another female participant being 60 years old and working as doctor, noted: "*The first reason that keeps me work is my profession, second is because I want to be active and help the people*". Contribution towards supporting others is sometimes given in a larger context from older people, which is related to the discussion provided in other themes, such as sharing knowledge and cooperating with others.

In the context of social interaction with other people in the work place, the need of older people for **maintaining a social network** was another theme revealed in the study. This

important finding was emphasized in the direction of maintaining good relationship within the team in the organization, as well as maintaining a broader professional network for the future. For instance, a 66-year-old lawyer noted: "*In fact, wherever one lives creates own circle, and the knowledge is unlimited…I have my own office, we have chamber of lawyers, and we have also here our own lawyer league belonging of our 30 lawyers where we have our chairman….and I have good cooperation with older lawyers who are around 5-6*". Another 68-year-old participant, who works in a consultancy company, said: *"…for the fact that I have known quite some time a lot of people in this small society, and a number of people with whom I work today could be the successors of this work, with whom for me has been easier to deal with and helped me quite much*".

Themes identified and grouped under social aspects mainly relate to the interaction of older people with others at work in different ways. The reasons for putting these themes together under this category was to reflect about how the level of cooperation and interaction with others, in majority of the cases, was positively influencing motivation and satisfaction of the interviewed older people to be actively working and engaging in the workplace.

2.4.2.1.3 Work-related aspects

The identified themes in this part are higher in number and quite important for the daily work of older people. The themes clustered here include both the ones that seem to have positive influence on the work of older people, as well as the ones who were declared to have negative impact. These themes are listed under the tables no. 2.2 above.

Feedback at work revealed as the main theme under this category, which was brought in by several interviewed participants as an important element in their work. Feedback was mainly articulated in relation to receiving critiques as well as appraisal and acknowledgement on daily work activities. Feedback received as critique was mainly positively accepted by many of the interviewed older people. For instance, a 55-years-old judge answered: "*Of course there*

are also critics at the job. The critique is a mean to improve, we should not understand critique as depreciation, but the critique should be on the right place, and as such if it is reasonable, it is useful for improvement in the future". While a 61-year-old male teacher noted: "*When it comes a right critique about work done, for example any mistake or omission, we accept it quite well…it does not mean that it is catastrophic that you receive critique from any colleague because of any purposeless mistake or omission at work, so it my happen but it must be eliminated and not repeated again*". There were cases of received feedback by older people, which was perceived by them as inappropriate, and which stimulated negative feeling among them. One appropriate example on that regard is provided by a 59-year-old female doctor: "*Performance is mainly not really appreciated today, because we aren't all strangers, but we know each other, and I think that performance isn't really appreciated. It is valued the same as for people who work 7 days, 40 hours and for those who work certain days. I think the employers, my bosses, have for a relatively long time been giving high performance ratings, whether or not I do the job well. I don't believe that today's performance is very real, it is more subjective, but I think it could have been better*". Other experiences is where feedback needed for the work from hierarchy is not given: "*Unfortunately, our directors are appointed by politics. In terms of the feedback mechanism, you have zero information, because changes in the law happen, and it doesn't get that information. That is, the feedback comes from the second hand, not from the management, in addition to showing you about the schedule, how much you have the vacation, nothing else*", declared by a 59-year-old male doctor. Another 59-year-old but female doctor working in a different clinic stated: "*The feedback I get at work is smaller than the one I deserve, I think. Normally, they should give it to me, because I can no longer be objective about myself, so I need someone else to appreciate me and not me, because it isn't real, because no one wants to say that isn't satisfied*". Similar experience is also shared among teachers in schools, as the following one pointed out by a 55-year-ld female teacher: "*No praise*

or gratitude has never happened as a reward as the best teacher, in any primary school. I have mentioned this very often not only for myself, that I have never tried to lose any lesson, to "steal" my time or just let the students free but I give my best, I work with spirit in school, but motivation from the directorate from the administration never (is present), not only to me but also to my colleagues".

On the other side, feedback as reward, respectively positive feedback, was much more present among several participants, and was given as appraisal, gratitude and acknowledgement. This observation was supported by a great number of participants and their shared experiences in the interviews. For example, a 66-year-old lawyer mentioned: *"...regarding my work actually ... I have left a good impression, and now I am acknowledged to my colleagues there..."*. While this is more strongly supported by another male participant 62-years-old working as manager in a bank: *"The feedback to my performance is on the right level. Gratitude and praise are the best feedback for my performance of my work*". Feedback among school teachers have been also raised positively contributing to their motivation and satisfaction, as for example expressed by a 61-year-old male teacher: *"Positive feedback we get more when we see the success of students, the team, and colleagues when we have cooperation with new generations. The help that is required from the new generations is not sparing, while in the evaluation by the pedagogues, in the inspection of the classes, which I had one today, and such praises made me more motivated. So, in the presence of the school personnel, a model is given of how the class is held and the cooperation with the students*". As we note from these examples, and other similar shared experiences from the interviewed participants, positive feedback that motivates the older people is not coming only from the hierarchy at work, but also from their clients and beneficiaries of their services. These findings on the role of received feedback among older people in this study are in line with previous research (West et al., 2005;

Thompson, 1998; Diehl and Sterman, 1995; Butler and Roediger, 2008) emphasizing the role of feedback in enhancing performance and motivation of older people.

When it comes about the motivation of older people in their work, and how it appears in the workplace, both the types of intrinsic and extrinsic motivations were identified, which are consistent with Herzber (1986), and Rowland (2013).

Intrinsic motivation was expressed by a few participants mostly in regard to the need to contribute to society, as reflection of job satisfaction, and gaining respect, which the last could be a reflection of further self-fulfilment. "*The work gives me satisfaction and will to continue the life*", noted a 55-year-old nurse. While a 68-year-old male working as a manager in a construction company, said: "*...this work I do for around 45 years, everything I work I do it with honour, so then you are satisfied*". Similarly, a 61-year-old female teacher declared: "*It's because I love the job and it gives me pleasure. If you want to know, I am a mother of five children, but I've never taken any medical break because I have managed with all this stuff*".

Conversely, **extrinsic motivation** is manifested in relation to profiting from the work as well as gaining appraisal and gratitude. In this context for instance, a 68-year-old participant declared: "*...it is a profit from that job even though I was OK financially*". "*Gratitude and praise are the best feedback for my performance for my work...*", expressed by another 62-year-old participants working as manager in a bank. Themes related to extrinsic motivation have been described also under individual factors under financial needs for staying active at work.

The findings of this study in the relation of motivation to the activity of older people at work are comparable with the suggestions of Kanfer and Ackerman (2004) on the concept of motivation development with aging and its role in the work activity.

Work satisfaction and **commitment** are the next themes that were revealed from the interviews. They are closely related with the themes and explanations about the motivation, particularly inner motivation explained above. Work satisfactions was mainly mentioned in the

context of one liking the job as a profession and the possibility for exercising that profession. This is best exemplified by the answer of a 61-year-old teacher: *"…work gives me satisfaction, because when one like a job and selects a profession, it gives satisfaction, and life is always easier, because when you do the work you like you feel more physically and psychologically relieved"*. Similarly, a 64 years old female doctor noted: "*The main reason I am still active to work is that I feel professional satisfaction…and that is why a person should work*". Commitment on the other side was also mentioned by many participants, as a reflection of the individual will and motivation to work. In this perspective, a 55-year-old male working as a judge answered: *"…for effective work there should be good will (commitment) for work, to be motivated, to love the profession, and exercise it continuously"*.

Teamwork emerged as another important theme to many interviewed participants as a reflection of the availability for exchanging work information and practices, transferring knowledge to younger employees and consultations between team members. For instance, a 60-year-old doctor answered: "*We usually exchange work experience and ideas, mainly we sit in the morning meetings as doctoral advising, but also in different cases we exchange experiences that help us*". Similarly, a 66-year-old lawyer declared: *"…in order to understand better penal or civil cases, we discuss them with each other and how to elaborate a defending and how to uncover the reality, so when we consult it is different, because one might understand a legal disposition in one form, the other on the other form, so we analyse all together so then the performance is different*".

2.4.2.2   Barriers and facilitators of active work activity

The second research question that this study sought to explore was: *Which of these aspects are perceived to have a positive or negative effect to their work?*

After the different themes were identified, and clustered under individual, social and work-related aspects in the section above, the other aim of study was to explore how these

issues may influence the activity of older people either in the direction of positive or negative impact. Consequently, the identified themes (see table 2.3) were categorized in two groups, as barriers and facilitators of work performance.

Table 2.3. Identified themes clustered under barriers and facilitators. Data from 2016 cohort.

		Saturation	
Theme category	**Themes**	**Sources***	**References****
Barriers **(*9 sources /* *25* *references*)**	Stress (particularly from sensitive cases at work)	9	10
	Lack of work conditions-means	7	8
	Work overload-pressure	3	3
	Difficulties using technology	2	2
	Health problems	2	2
Facilitators **(15 *sources /* 73 *references*)**	Being active continuously (particularly in other activities)	15	28
	Motivation (intrinsic & extrinsic)	10	10
	Being healthy fit	5	7
	Commitment	6	6
	Satisfied with the work	6	6
	Learning through experience	5	5
	Feedback as critique	5	5
	Gain respect at work	4	5
	Maintaining social network	3	4
	Feedback as reward	3	3

* Codes appeared under each participant

**Codes appeared in different questions among participants

From work barriers the themes that appeared more frequently among participants are **stressful situations, lack of conditions and means at work, and work overload and work pressure**. **Difficulty in using technology**, and **health problems** were also mentioned by a few participants as issues that interfere with effectiveness at work.

Stress was largely reported among interviewed participants as a barrier mainly manifested among doctors and legal professions (lawyers, judges) as a consequence of dealing with sensitive cases at work (patients, clients seeking legal advising, etc). For instance, a 66-year-old male participant working as a lawyer stated: "*Speaking the truth there are procedural issues that you work with people who are considered to have done penal acts, so you know that it is bad (the penal acts of clients) so it is not easy to be on the side of defending them, but we must because it is an (professional) obligation*". Similarly, another 55-year-old male participant working as judge reported: "*Of course in this kind of job there are also stressful situations when you work with cases and you issue verdicts and heavy sentences, for example ones like eternal punishment, when we have such similar situations they are also stressful*". Stressful situations from facing sensitive cases at work were reported also among participants working as medical practitioners. In this regard, a 55-year-old female nurse answered: *"...we have stressful situations, for example when patients are in bad situation and we lack means (medicaments, apparatus), and so many other things*". Stress was observed to appear also as a consequence of facing new technology at work. For example, a 57-year-old female participant working in administration, said: *"...I am not able (enough) to use the computer, and I get stressed if I cannot use (work on) it*".

Another interesting barrier revealed in the study among participants of various professions, which issue could be more context specific, is that participants quite reported facing the **lack of work conditions and work means** for a more effective work. The conditions are linked to the sufficient available work space, equipment and means to accomplish certain activities, and so on. In this context, a 60-year-old female doctor mentioned: "*There are many difficulties we face, starting from work conditions, we lack different apparatus, as well as different spaces, which would be more useful for our work*". Besides that, a 56-year-old female teacher also declared: "*The most difficulties at work we have when we face the lack of lab*

classrooms, particularly technology labs, and the practical/technical work (learning) has a great importance". Additionally, a 55-year-old working as a judge also noted: *"...the main difficulties where I work is the small work space, so technical conditions are not sufficient. Also the information technology and other means of work have not been on place, but we have started to get new equipment, computers...*".

Older people at work now and then seem to also face with some kind of **work pressure** and work overload. This issue was mainly reported to be linked dealing with many work responsibilities shared in small teams, night shifts, even the pressure that comes from working with clients. In this context, a 57-year-old female nurse answered: "*There are difficulties, we are a few who work here in our team and we should care for everything...*". Similarly, a female doctor of 60 age noted: "*Regardless of knowledge one should have... there are also physical conditions which are unaffordable for that age because our work is difficult also physically, keeping also night shifts, and then being in the surgery rooms...*".

Besides barriers a considerable number of themes with a facilitating role to enhancing work performance were identified. From the observations in this study older people are quite likely to **keep themselves** continuously **active** as an effort to their work effectiveness. In addition, many interviewed participants stated that they are more willing to engage in those activities which are different from their professional work, and which are more focused on societal contribution. In this perspective a 61-year-old male teacher responds: "*I think they (retired persons) could not be active in the same profession, since now comes the memory problems and other stuff as well. But if we deal with other activities for example (community) organizations where we could give some contribution, like sharing our long experiences and information with new generations...*". Similarly, we have the answer from another 55-year-old judge: *"...it is a word said that the work keeps one on, so people without any obligations is a bit difficult to live, as far as people are good with their health it is good to work (be active)*".

Other aspects serving as facilitators of work performance were observed to be also whether older people **maintain a social network**, lead a **healthy life style**, reflect and further **learn from work experience**, nourish their **work commitment,** practice and promote the work practices following with regular giving and receiving **feedback**, and so on. In this context with emphases on work experience, a 64-year-old female participant working in administration declared: *"...the experience itself speaks, during your work experience you learn everything related to the work, and the institution where you work"*. While similarly a 62-year-old bank manager also shared: "*I do not have any difficulty because my long experience has contributed to me to deal with difficulties and stress at work*".

2.4.2.3   Strategies supporting older people's work activity

The final aim of the study was to explore the working strategies that older people use in their work to become successful in completing their working tasks. In this regard the study aimed to answer the research question: *What kind of strategies older people see beneficial for their work effectiveness?*

As explained above in detail the themes identified in social, individual-health related and work-related aspects were observed in this study to serve as barriers sometimes as well as facilitators on the other side to the work performance of older people. In facing different barriers as well as utilizing the different facilitating aspects, older people use now and then various methodologies in order to also seek for their work effectiveness. Identification of those methodologies was another aim of this study. The themes supporting strategy aspects of older people are presented on table 2.4 below.

Table 2.4. Identified themes clustered under working strategies. Data from 2016 cohort.

Themes	Saturation	
	Sources*	References**
Being active continuously	14	20

Being healthy fit	6	7
Learning through experience	6	6
Good coordination skills	4	6
Finding solutions	4	4
Knowing work barriers and challenges	4	4
Loving the job-profession	4	4
Fairness	2	2
Being patient	2	2

* Codes appeared under each participant

**Codes appeared in different questions among participants

The most frequent theme which is largely supported by interviews and which is likely to have an impact on the daily work is whether older people **keep** themselves **regularly active** with different activities. Nonetheless, older people seem to also favour the attention to their health as a good predisposition to remain productive at work additionally to their commitment for being active. Besides that, an additional important value to work effectiveness is how they **use the lessons and good practices** from long work experience in meeting and facing ongoing work barriers and challenges in different dimensions. Older people also value possessing necessary **coordination skills**, **patience** as well as **promoting fair work principles** as parameters to their success at work. These findings are in line with the concept of Baltes et al. (1997) about Selecting Optimization, and Compensation strategies as a lifespan theory of development.

2.5   Study 1-B – data cohort from 2021

2.5.1   Methodology

The overarching methodology also for study 1-B is the same as for the study 1-A, with basis interpretivist approach using in-depth qualitative data.

2.5.1.1 Participants

In the second data collection cohort 22 interviews were conducted with 22 participants, of which 55% were female, and 45% were male. The age average of participants was 58.36 years, ranging from 55 to 64 years old. Similar as in the first cohort of the qualitative data collection, the participants were identified through organizational managers and/or human resource offices, as well as other officials in charge of personnel. The contacted organizations provided information on the employed people being 55 years old and older, and they shared with the older people the research information sheet and consent forms, together with instructions to contact the researcher in case any of them agreed to participate in the interview, or to leave their contacts for the researcher to contact for interview arrangements.

Organizations in different economic sectors were contacted in order to be able to ensure a cross-occupational sample of participants. Accordingly, participants were selected from different occupations, in order to ensure a cross-occupational sample with the purpose of ensuring a better generalization of findings also across professions. In addition, participants were working in various economic sectors, such as education, administration, and health, in both public and provide organizational settings. Table no. 2.5 below presents the composition of sample in this data collection cohort.

Table 2.5. The cross-sectorial and cross-occupational sample disaggregation. Data from 2021 cohort.

Sample characteristics		*N*	*%*
Age group	55-60 years	17	*77%*
	61-65 years	5	*23%*
Gender	Female	12	*55%*
	Male	10	*45%*
Occupation	Manager	1	*4%*

	Doctor	3	*14%*
	Teacher	10	*45%*
	Civil servant	3	*14%*
	School maintenance	3	*14%*
	Administration	2	*9%*
Work sector	Public	20	*91%*
	Private	2	*9%*
Economic sector	Administration/service	6	*27%*
	Education	11	*50%*
	Health	4	*18%*
	Other	1	*5%*

2.5.1.2   Instruments/data collection

Semi-structured interviews were used for in-depth data collection also in the second cohort of data cohort, using the same interview questions as in the first cohort. However, in order to collect more direct insights on the older people plans and their plans for remaining longer at work, in the second round was added the following question: *"Do you expect to remain longer active in labour market?",* with the following probes*:*

- *Even after your retirement?*

- *What are the reasons that push you to leave early your job / stay active in labour market?*

In the second cohort of data collection, which was conducted in spring 2021 during the pandemic, it was estimated important to add to the study elements of Covid impact on the work and activity of older people (see interview protocol for the second cohort in appendix D). Therefore, the following question was added to the second round of interviews: *How much the*

coronavirus pandemic is affecting you to remain active at your job? And the following probes were available:

- *"To what extend is this situation a concern of your health being affected*?" and
- "*How is this affecting your interest and decision to continue work during and after the pandemic?"*

2.5.1.3 Procedure

The study for the second cohort was approved by the Ethics Committee of the University of Sheffield as well. The second cohort of data collection took place in spring (March-May) 2021. Similar actions were taken for identification of participants as in the first cohort. Interviews were conducted online because of the Covid-19 measures that were in place for social distancing. The ethics approval was provided by the University of Sheffield for online data collection and interviewing process. The online interviews were conducted using online platforms such as GoogleMeet, ZOOM, Skype, and Viber app, and the selection of these platforms was based on preferences of participants they were more familiar with. All online interviews were audially recorded, having beforehand permission of participants for the recording.

2.5.1.4 Data analysis

Data analysis approach was the same during both the first and second cohorts of data collection, with the basis on thematic analysis, using the 6-step approach adapted by Braun and Clarke (2006), which was explain in detail in the study 1-A. For the second round of data the NVivo software (version 20) was used to conduct thematic analysis, particularly on the first four steps (generating codes, identifying themes, and categorizing themes). The NVivo involved levels of analysis in generating codes among different interview questions and across different participants.

2.5.2 Results

Same approach was used in this part of study as in study 1-A, where a combination of theory-driven and data-driven approach was used. This section provides a detail data analysis and their interpretation organized under research questions of the qualitative study.

2.5.2.1 Identification of individual, social and work-related issues in the work of older people

Thematic analysis from 22 semi-structured interviews revealed a considerable number of themes that appeared to be very important for the work of older people. Based on how they affected individual, as well as how they were related to the work of older people, the identified themes were grouped under individual, social and work-related factors. The identified themes in the second cohort of data collection, with supporting codes among participants and across interview questions, are presented in the table 2.6 below.

Table 2.6. Identified themes clustered under individual, social and work-related aspects. Data from 2021 cohort.

Theme category	Theme	Saturation	
		Sources*	References**
Individual aspects (*22 sources / 72 references*)	Health issues (chronical and acute)	20	22
	Being affected from Covid individually and at work	15	23
	Love/like the job-profession	10	12
	Financial need	8	8
	Desire to remain active	5	5
	Getting appreciation	1	2
Social aspects (*22 sources / 78 references*)	Cooperation with others at work	21	47
	Contribution to society - supporting others	15	22
	Transferring-sharing knowledge-experiences to others	5	5

	Sharing respect with colleagues - giving and taking	3	4
Work-related aspects (*22 sources / 125 references*)	Feedback at work	20	36
	Work Motivation	13	20
	Pandemics - dealing with work during pandemics	10	16
	Satisfied with the work	11	15
	Using technology	8	11
	Lack of work conditions-tools-means	9	10
	Work pressure / pressure from others at work	4	5
	Work methods - changes	3	6
	Lack of support - from organization, others	2	3
	Lack of reward-appreciation-respect	1	3

* Codes appeared under each participant

**Codes appeared in different questions across participants

2.5.2.1.1 Individual aspects

The key themes identified under individual factors that were identified in the thematic analysis include: Health issues (both chronical and acute), Being affected from Covid individually and at work, Love/like the job-profession, Financial need, Desire to remain active, and Getting appreciation.

Health issues among older people, related to both chronical diseases as well as acute complains, represented one of major individual themes that appeared from interviews. The more frequent chronical health complaints were related to cardiovascular diseases, such as stroke, and blood pressure irregularities. These health concerns were perceived by older participants as expected to happen around that age, and that they need to deal with them also

while working. *"…I have health problems with hypertension, which sometimes cause us trouble, but I try to maintain it at the proper level, as much as possible in control…"*, stated a fifty-six-year-old male participant, working as technical maintainer in an educational institution. A similar experience is expressed by another 58-years old female working as a nurse: "*…I have high blood pressure and it happens sometimes that I have to stop working and take therapy. However, after more than 10 minutes and then I come back, I enjoy work and I do not leave it even though I have high blood pressure…".* This example represents one of stances that motivations to remain active is present among older people regardless they face health issues, which influence their regular work activity. Moreover, in line with the previous experiences shared, we have the statement also from a 59-year old male participant working as a teacher: "*Personally, I have a problem with blood pressure, but it is not a consequence of work but age and physical weight. Because I told you since I left the sport, I started increasing weight, even as a young man I had a kidney problem and it causes hypertension. But, at work on the contrary I get relaxed, and I have no problems.*"

In the health-related dimension in the second cohort of data collection, which happened during the time of pandemics caused by Covid-19, participants were asked about how they were affected by this situation, and around 68% of interviewed participants declared that they were directly affected by it, or it affected greatly their work activity. This situation also affected the older people's emotional and psychological wellbeing, as for example emphasized by a 57-years-old female teacher *"…it is an inexplicable situation, that is, we have a burden as emotional, psychological and learning (process at school) is not realized as required*". Another male teacher 59 years old similarly stressed "*The pandemic has affected a lot, I have to admit it, it has affected more than one war, I personally think. It is a condition, there is stigma, stress, fear, and every organism is in danger*".

The Covid-related increased stress and anxiety has been clearly shown through different participants, as exemplified by many participants, some examples of which have been extracted as per following. "*The pandemic has disrupted everything in every aspect, it has also brought, especially stress more than the consequences (of Covid infection) themselves*", stated by a 56-year-old working in school maintenance. Similarly, a 57-year-old female working in municipality administration noted "*The problem is that at the time of the pandemic we are having a lot, I myself was infected with the virus, I was sick for about 16 days, with therapy, we also have (other) challenges*". While she further adds, demonstrating the high level of anxiety that she deals with everyday work and having to meet with clients: "*We have a problem with the clients, because they enter the office without a mask, and even then they don't put the mask on the right way. They don't have the level of culture because when the official says it must be done. Because I have to disinfect myself, then ventilate my office where I work, which are stressful elements and difficult to be under stress. The clients when come do not keep distance. Then when they speak, they remove the mask. People aren't aware of the risk of spreading the virus. With colleagues I tell them to stay at a distance and with masks, we tried to protect ourselves, I did not have the virus but I work in the office with clients…*".

As individual related themes were identified also older people's preferences in regard to regular working, which theme was nominated as **Love/like the job-profession**. The love for exercising the profession was quite expressed among interviewed older participants coming from various professional background and working positions, regardless of health problems that they were facing as well as regardless of family obligations they have for providing care. In this regard, a 61-year old female teacher noted: "*It's (the reason to be active working) because I love the job and it gives me pleasure. If you want to know, I am a mother of five children, but I've never taken any medical break because I have managed with all this stuff. Sometimes I say, I would have done the same job if I went back in time...*". Similar experience

is shared by a 59-years old female, working as a paediatric dentist: "*The reasons (for being active in working) are love for work, motivation, because I keep two jobs in parallel, also the clinical part. As a clinician I have 34 years of experience, I love my job, working with children, I'm a paediatric dentist.*" Strong work motives to continue work in older age was also expressed by a 59-year old female participant working in public administration: "*I like my job, I have always done it , I want to work and not to leave work".*

Financial needs were the other theme which revealed from in-depth interviews, that participants noted as important aspect for them to continue working in their old age. That was expressed in regard to making and living and ensuring family incomes, as noted for instance by a 57-year old male participant: "*The biggest motive is the one for survival, because I am over 55 years old even though I feel good and work pushes me even more, makes me feel alive*". This type of statement came also from another 57-year old female participant working in public administration of local government: "*...as long as you have a family and you have to support them, that is the other reason (to remain active in working)".* The financial need seems to be important factor to remain active in paid work in various professions. In this regard, in addition to previous participants, similar declaration was provided by another 57-year old female, working as a director of a civil society organization: *"...normally maintaining a family is life, and existence is the most practical part (of working)*".

The desire to remain active to some participants appeared to be also their inner desire in relation to be occupied with work and daily professional activity. This is best exemplified by the following statement given by a 57-year-old female: "*Work ennobles man, it seems to me that nowadays is backwardness without any work, I'm 57 years old, but I'm very efficient at work, I'm very vital, I do work relatively quickly and with high efficiency*". Similarly, this premise is supported by another female participant being 62 years old: "*Work also gives me*

professional pleasure too, because I want to work, to be active at work. I respect work and colleagues, society, family".

2.5.2.1.2 Social aspects

Four main themes under social aspects revealed from the thematic analysis, which include Contribution to society - supporting others, Transferring-sharing knowledge-experiences to others, Sharing respect with colleagues - giving and taking, and Cooperation with others at work.

In this regard the identified theme receiving a considerable amount of attention among interviewed older participants is how they value the importance of **cooperation with others at work**. The interviewed participants valued the cooperation they have with work peers in the level of teamwork as well as other collaboration. This cooperation was stressed in positive cooperation at workplace, in non-cooperation stances, as well as in teamwork collaboration, and sharing experiences, consultations, and sharing respect with each other. The importance of cooperation with colleagues and other stakeholders at work was valued from both female and male participants. For example, this is greatly noted in the interview conversations with them, particularly as pointed out by a 58-year-old female teacher: "*...we share experiences. It means I'm older than the other teachers, but I often ask my colleague who is younger than me and we cooperate without any jealousy*". In that spirit, she further portrays in wider frame the level of collaboration she has with colleagues: "*We have good cooperation, we aren't jealous of each other, we help each other a lot, for example in Albanian language we are 4 teachers. We help with plans, statistics, teaching materials, free activities, school magazine formation, reciters' competitions, various quizzes, etc. We generally cooperate a lot with each other...*". Similar experience was shared by a 58-year-old male participant working in school maintenance: "*Very good, we have no remarks (in cooperation). We help each other, we have no differences between colleagues, well. In any case we help each other, or when a college is busy with another duty,*

we also help them. We have no obstacles from the director or others". While, examples of consultations and sharing experiences are greatly brought in by teachers as noted above, but also by other professionals, such as doctors, as we have the case here from a 59-year-old female doctor: "*With consulting visits we especially share a lot of experience, because you can have 100 years of work experience, but there are more complicated cases. I am one of those people who don't hesitate to consult a colleague, even if he is much younger, it happens that there is something more updated. So, I take into consideration their opinion, I consult, especially with the students and the staff I work with, that I am responsible. I am happy to consult and see where they stand with their technical knowledge, how much they have access to the latest knowledge.*" Good examples of cooperation at workplace have been demonstrated in reflection also for sharing respect among workmates, which may clearly be seen as type of work satisfaction for older people at workplace. This is demonstrated by several participants, one of which, a 62-year-old female participant working in public administration, stated: "*Work also gives me professional pleasure too, I want to work, to be active at work. I respect work and colleagues, society, family. I'm the older generation, they have respect for me*". Similar experience is shared by a 58-year-old female nurse: "*doctors also have mutual respect for nurses and vice versa. The doctor tells us, and asks us to confirm the information, and we have a good relationship, doctor-nurse, and each other*".

There are also experiences of older people when cooperation is vital for them at work but the practice is different, particularly when handling cases of non-good cooperation. This type of experience in cooperation was both with work colleagues and with clients and other beneficiaries they provide services for directly and indirectly. This is noted by several participants, coming from different job positions, both from male and female participants. For example, a 57-year-old female working in public administration stressed: "*We have generally good relations with colleagues, with exceptions, because workers are appointed by political*

parties and there are cases when they are young, and don't know the job well and behave arrogantly and commandingly, even though you may not have him a direct leader, but he has political support." While, a similar experience is extracted here, given by a 59-year-old male doctor: "*Do you know what cooperation is like? When the other party has a certain interest, while at the moment when the interest ends, the cooperation is lost. The relationships are such that they all give it to you (meaning work), but success, never. They don't have the courage to say that you are right or wrong, but behind your back they say everything…*".

Non-cooperation stances were also noted among teachers with parents of children they have been teaching, but also sometimes with their workmates. An example of such practice is extracted here from a 61-year-old male teacher: "*Cooperation with parents and classmates is now much lower than before, much lower. I do not know the reason why, for example, as a headteacher I need to call parents at least 5-10 times, to have a conversation with them. Instead of being a parent, often coming to the headteacher, being interested in the child, this is lacking at the moment, I am talking about our school and in general*". Similar experience was shared by another male teacher, who was 55 years old: "*We have a very big problem with parents, because parents do not come to the school meetings we hold about their children. We call the parents on the phone and tell them to come because we need to talk about something related to your child*".

The level of cooperation of older people with others at work is also greatly related with the level of they **shared/transferred knowledge** with others, particularly to younger generations. This seems to be an inner motivation for them, which in fact seems to actually keep them up with being active at work. This is best exemplified by a female teacher 55 years old noted: "*I want to spread knowledge because for this I have contributed my whole life, I have learned and I have studied to spread knowledge, to influence the youth positively and especially the students*". Similarly, a 55-year-old teacher stated: "*My other motive is to express all the*

knowledge I knew to the students, in the sense of contribution, but not only to express it, but I also wanted the opposite, so here was the challenge now when I asked them to reproduce it". Sharing knowledge to younger generations is quite typical for teachers as a motivational pattern, since it is related to the type of the professional mission they carry on. Nevertheless, sharing experience is also found alike in other type of professions, towards younger workmates and work successors. For example, a 68-year-old who works in his own company providing consultancy services, stated: "*Although in the past I never thought that this kind of activity should be passed to my family successors, I think now more and more that someone from family can take it over*". While another participant, who is 60 and works as doctor, mentioned: "*...after the long work experience my contribution would be to continue further and transfer my experience to younger colleagues*". In similar terms we have a statement also by a 56-year-old male participant working on correctional/probation service: "*…from the beginning I have shared my experiences, because I've been accepting new generations, and they should rely on us for more knowledge for work, and I have given my maximum capacity. But I am also grateful to them, not because I've done something huge, but because I gave them the basis of work and they found themselves (got adopted) very quickly*".

Under the social aspects important theme that revealed from thematic analysis is also the **contribution to the society,** which was considered by participants an important part of their work activity. Contribution towards supporting others is sometimes given in a larger context from older people, which is related to the discussion provided in other themes, such as sharing knowledge and cooperating with others. An example of this nature is provided by a 59-year-old male doctor: "*First, the priority is to provide the service to the patient correctly, the second is to educate the patient in terms of health. Third, new colleagues who want to come to learn from me, I cannot impose. The motive is that I didn't spend part of my life being parasitic and selfish, but normally to leave something behind. Someone who leaves nothing behind, for me is*

professionally dead". Furthermore, the contribution of older people with their work to a general good of societal development is portrayed also in a statement provided by a 56-year old male participant working in correctional service: "*I am more motivated to work in this service, because I think we contribute to society, the state and ourselves normally. Our main motivation is that we think we are doing something good for the state, society and for the family and ourselves*".

Another important theme for older people that appeared from thematic analysis was **Sharing respect with colleagues - giving and taking**. Older people valued the work context and inter-personal relations at work where respect is shared among colleagues. Particularly, it meant a lot important to them when they received respect from others at work, and beyond it. In this context, a 62-year old female older participant working in public administration stated: "*Work also gives me professional pleasure too, because I want to work, to be active at work. I respect work and colleagues, society, family*". Furthermore, a 58-year old female working as a nurse noted: "*...doctors also have mutual respect for nurses and vice versa. The doctor tells us, and asks us to confirm the information, and we have a good relationship, doctor-nurse, and each other*". Older people also share respect with other workers and receive it from them, which practice is best exemplified by a 64-year old male older participant working as maintainer in a school: "*...because of the respect (we have) for them (younger colleagues), they also have respect for me even more*".

2.5.2.1.3 Work-related aspects

Work-related themes were higher in number than other type of factors, identified through the thematic analysis. The main themes identified under this group include: Feedback at work, Work Motivation, Satisfied with the work, Using technology, Lack of work conditions-tools-means, Change of work methods, Lack of reward-appreciation-respect, Lack of support - from organization, others, and Pressure from others.

Feedback at work that older participants received in the workplace showed to have different forms in relation how participants received it. Feedback at workplace was identified as a reward or work recognition, thus reflecting a positive feedback. It also appeared that older people received negative feedback, in the form of critique for their work. In addition, the lack of feedback at all was also reported by participants, thus in this form appearing to influence older people in a negative way.

Feedback as a reward was mainly portrayed in reflection of work success practices, particularly with satisfaction of beneficiaries/clients, but as well as from hierarchical positions at work. In this context, a 61-year old male participant, working as a teacher, noted: "*Positive feedback we get more when we see the success of students, the team, and colleagues when we have cooperation with new generations. The help that is required from the new generations is not sparing, while in the evaluation by the pedagogues, in the inspection of the classes, which I had one today, and such praises made me more motivated*". Similar experience is expressed also by a 58-year old female nurse: "*We receive praise because it is now known that patients are more stressed, so we speak with them with kind words, we measure their blood pressure and ask them questions*". In addition, positive feedback for older people is pretty motivating and a gratitude to them also when provided by their hierarchical staff. This is best exemplified by declarations of a few interviewed participants, such as one 56-year old male participants working in judicial administration noted: "*If I get good comments, if we are given gratitude and people are decorated for good work, they are motivation for others as well*". Hence, similar experience of hierarchical praise is provided by another 56-years old male working as a technical maintainer in school: "*To be honest, if it is in a professional aspect positive feedback is a very strong support and motivation, even though they (managers) don't understand much in this profession, but they want the work to be done. However, I'm satisfied when they are satisfied with doing the job properly on time*".

Feedback as a critique, or the lack of feedback revealed to be a negative feedback in the data analysis from interviews. Older people however reacted in a more promising way when they were 'criticized' for their work, and they declared that such feedback was considered as a lesson for enhancing their working practice. "*So, for those who haven't received gratitude or praise is also for them motivation to work harder and to manage to get comments from the director / commissioner or someone else*", stated a 56-year old male working in judicial administration. Feedback as a critique sometimes is also self-directed as a means to require more from the self in enhancing work strategy, which was best exemplified by a 57-years old female participant, working as a director of a nongovernmental organization: "*There are different feedbacks, but the most difficult one is the one I give to myself, because I'm always looking at my approach to work and I see the shortcomings I have*". Negative feedback was considered also when older people lacked to receive feedback at all for the work realized, which seemed to be demotivating for older people. In this context a 55-year old female participant working as a teacher stated: "*No praise or gratitude has never happened as a reward as the best teacher, in any primary school. I have mentioned this very often not only for myself, that I have never tried to lose any lesson, to "steal "my time or just let the students free but I give my best, I work with spirit in school, but motivation from the directorate from the administration never, not only me but also my colleagues*". Similar experience is expressed by a 59-years old male participant working as a doctor: "*In terms of the feedback mechanism, you have zero information, because changes in the law happen, and it doesn't get that information. That is, the feedback comes from the second hand, not from the management, in addition to showing you about the schedule, how much you have the vacation, nothing else*". This last point, namely the lack of feedback, was also considered by older participants also as a lack of appreciation at work as well as lack of respect. In this context, a 61-year old female teacher added: "*They (directorate) did not mention (the contribution), nor did they give me any motivation, although*

I am not very happy when someone praises me, because I value myself, because I am giving something, but for the March 7 in an event (teacher's day), they decided to reward and select someone else".

Work motivation appeared to be very strong factor among the interviewed older people. In many cases work motivation appeared when older people realized their professional goals, in terms of supporting and helping others, as well as contributing to societal development. This type of motivation is known also as internal or intrinsic motivation. In this regard, we have the statement from a 59-year-old female doctor supporting the intrinsic motivation force for becoming active: "*The reasons (for being active at work) are love for work, motivation, because I keep two jobs in parallel, also the clinical part. As a clinician I have 34 years of experience, I love my job, working with children, I'm a paediatric dentist*". The feeling of contribution to general context and society seems to be immensely important among older people. In this regard a 56-year-old male participant working in correctional/probation service emphasized: "*We are a correctional service, which with our opportunities we try to correct and improve their (client) condition. For this reason, I am more motivated to work in this service, because I think we contribute to society, the state and ourselves normally. Our main motivation is that we think we are doing something good for the state, society and for the family and ourselves*".

Work satisfaction was manifested from the influence of work motivation of older participants. In this context a 61-year old male teacher noted: "*Yes, an indication, an additional motivation to us, because when I see that instead of 17 students (to form a class of students), I get 30-40 requests. This is a great motivation and the best selection of students is done, so we are satisfied*". Similarly, another male teacher being 50-years old stated: "*For me, the greatest satisfaction is that a young person after finishing his studies finds a job, and I listen to him with full pleasure when he tells me about his success, because I've been his tutor, so, these are the reasons*". This represents also work satisfaction relying on professional achievement goals that

older people have contributed with their profession. Moreover, work satisfaction appeared among older people also as an outcome that older participants liked to work in their profession. This is well exemplified by a 57-years old male participant dealing with music as profession: "*I have spent most of it (life) with culture and music. I'm satisfied and this profession is inside my soul. Last night I was at a wedding and it reminded the years of my life that I spent in this profession*". Similar strong statement comes also from a 61-year old male teacher: "*I love the profession in education. I wouldn't change it for anything*".

Use of technology was another work-related theme which was based on several stances brought in by older participants during the interviews. Technological use increasingly demanded among older people at the workplace has appeared as one of main work barriers for them, because of lake of experience and skills to use it. "*There are few difficulties with technology, because our earlier generation didn't work with it earlier. Then, it starts and we have difficulties, because every time it is a new system, they change, so this is a problem*", stated a 62-year old female participants working in public administration. Similar statement comes from a 59-year old male teacher: "*I personally do have problems (with using technology at work), because at the age of 40 I sat in front of the computer for the first time. Our colleagues help us a lot, we have our former students who now work as IT teachers and I have my daughter (who help me with it), for every obstacle I have her there. I'm almost used to it, some things are more complicated, others I do without problems*". Older people just do not find themselves to use the technology at their workplace, but they also face incomplete technological devices to properly carry on their working task. In this context, we have a stance of a 55-year old female teacher: "*Yes, (we do) using technology now that we are teaching online with laptop by phone through software but as I mentioned earlier in school they haven't completed all of my cabinet. I want to see the most dramas through projector, any kind of comedy or a tragedy, we do not*

have the conditions at all. My own family brought me the projector from abroad. Also the tables are not working well, so we do not have technology tools".

Older people also **lack conditions and working means** to properly carry out work, which was seen as another work barrier to them. In fact, facing frequent limitations of working means resulted in higher difficulty in completing their work tasks successfully. In this regard, a 55-year old female teacher noted: *"...I need my cabinet, I have the projector, but the conditions are still not good, I have the class alone, I have to carry the projector and the laptop in four classes"*. Similar experience is shared by a 59-year old male doctor: *"In terms of equipment support you all have 100 obstacles, and with your strength you have to face..."*. Furthermore, a dental doctor female participant being 59-year old stated: "*Our main challenge is that we don't have all the (dental) chairs in order, there are shortcomings in the functionality of our chairs, but we hope that it will get better, we have great promises from colleagues, otherwise we have no complains for material, and we always have "high tech". We are very updated with material, but we are not satisfied with the apparatus and functionality of the chairs...*".

Work pressure was identified a theme that impacted older people's work activity to a great extent. Work pressure was identified in the work situations where older people had to deal with higher number of serving the clients. In this context, a 57-year old female participant working in public administration stated: "*I travel constantly, and I never come late, but for example sometimes I go out for a scan, there are people who tolerate the delay and some others look at some details, which they make me stressed and I feel bad*". In addition, similar experience was shared by a nurse female participant being 58 years old: "*We have 4 doctors and each doctor has 50 people, i.e. 200 patients from 8 to 2 o'clock. Even in the afternoon 200, we are very busy...*". In addition, pressure at work was considered also working with difficult cases at work, such as tells this experience shared by a 57-years old female participant working

in public administration: *"...the clients come to require a service that you can't perform even then it starts with debates and they do not understand for example that I can't give possession list except the narrow member in the vertical line, father for son and husband and wife, so they ask for cousin's documents , then you should get into debates and they often intervene to other people, and this make me feel bad, because it doesn't fit my system of values. I don't like these things and it is very stressful..."*. As we note from these examples, the work pressure highly relates to older people's work stress, as one of key barriers to their work activity.

In the second cohort of data collection, it was also explored how older people **deal with the issue of pandemic at the workplace** and how that was manageable by them. In general, the work during the time of pandemic was more challenging for older people in different manners. In several cases, such as in the case of doctors, teachers, and sometimes older people working in administration in direct services with the citizens, they continually had to deal with the fear of being directly affected by the situation, and the ways to handle it in the workplace. In this contexts, several examples were brought in by participants during interviews, such as this one from a 58-year-old nurse: "*Regardless of the difficulties with Covid, we have given help to everyone, even though I was infected with the patient. The patient was lying in the corridor, I took him, together with the doctor we gave him breath, she was with Covid. But we had no other choice but to offer her help because usually family medicine does not have an emergency job. We offered him first aid, that we were both infected with Covid for one day*". Being old in the time of the pandemic interestingly made the context to stigmatize the older people beyond their sensitivity towards the pandemic, as exemplified by a 59-year-old female doctor (and several other cases apparently): "*Now, today we have the stigma of fear of Covid and it is the approach that key institutions don't take on key responsibilities, where we should be the tertiary institution in terms of work, in dentistry*". This theme has been also treated in more detail under individual aspects presented at the beginning of this section, therefore

considering that it is both an individual-related factor in terms of affecting the individual and the individual's regular work activity, as well as a work-related factor, since the work-related pandemic management influences to a great extend the level of (dis)engagement of older individuals with their work.

2.5.2.2 Barriers and facilitators of active work activity

The second aim of the study was examined through the research question: *Which of these aspects are perceived to have positive or negative effect to their work?* The identified aspects that had a positive influence on the work activity were grouped into facilitators, while the ones having a negative impact in their work were considered as barriers. The grouped themes into facilitators and barriers are listed in the table no. 2.7 below.

Table 2.7. Identified themes grouped under barriers and facilitators. Data from 2021 cohort.

Theme category	Themes	Saturation	
		Sources*	References**
Barriers (*22 sources / 165 references*)	Stress - facing with stressful situations	18	24
	Being affected from COVID	15	23
	Health issues (chronical and acute)	20	23
	Pandemics - dealing with work during pandemics	10	16
	Inappropriate feedback	11	13
	Lack of work conditions-tools-means	9	13
	Dealing with difficult people	7	11
	Difficulties using technology	8	11
	Non-good cooperation - conflicts	7	10
	Lack of collaboration	2	3
	Lack of reward-appreciation-respect	1	3

	Lack of support - from organization, and others	2	3
	Pressure from others (in organization)	2	3
	Work methods - changes	2	3
	Age discrimination	2	2
	Work pressure	2	2
	Difficulty to adapt with work demands-requirements	1	1
	Struggles to keeping work-life balance	1	1
	Good cooperation at work	18	25
	Contribution to society - supporting others	15	22
	Feedback as a reward - positive feedback / Getting appreciation	13	23
	Motivation at work	13	20
	Satisfied with the work	11	15
Facilitators	Love/like the job-profession	10	12
(*22 sources / 148 references*)	Teamwork - consultations	7	10
	Desire to remain active	5	5
	Transferring-sharing knowledge-experiences to others	5	5
	Doing the work properly - Achieve success	3	5
	Sharing respect with colleagues - giving and taking	3	4
	Maintain social contacts-networks	2	2

* *Codes appeared under each participant*

***Codes appeared in different questions among participants*

The data collected in the 2021 cohort were with higher level of richness and saturation, which enabled to identify a higher number of themes than in 2016 data cohort. In this regard, aspects identified as barriers and facilitators are much higher in number for 2021 cohort.

2.5.2.2.1 Barriers

The main work barriers identified through thematic analysis include: Stress - facing with stressful situations at work, Being affected from COVID, Health issues (chronical and acute), Pandemics - dealing with work during pandemics, Inappropriate feedback, Lack of work conditions-tools-means, Dealing with difficult people, Difficulties using technology, Non-good cooperation – conflicts, Lack of collaboration, Lack of reward-appreciation-respect, Lack of support - from organization, Pressure from others (in organization), Work methods – changes, Age discrimination, Work pressure, Difficulty to adapt with work demands-requirements, and Struggles to keeping work-life balance.

Stress at work was considered one of highest reported aspect among interviewed older participants. Stress seemed to have been caused from work situations when older people work with difficult people, such as clients, or work mates. It appeared as such among older people coming across different occupations. In in some other stances stress comes from task-related activities of more sensitive nature. Moreover, some job professions are characterized with the work nature they demand to engage, which may bring to frequent stressful situations to handle, such for example are doctors, staff working in correctional services, and teachers to some extent. For instance, a 59 years old female participant working as paediatric dentist emphasized: "*We have daily stress, working with children is extremely stressful. We have things in tension, out of 100 children, only 3-4 hug us. Every day we have children who haven't been able to perform services, we deal with complicated work and sending patients for further clinical consultations, children with various tumours, disabilities, other previous pathologies…*". Furthermore, a 56 years old male participant working in correctional service said: "*Well, the*

nature of work is so stressful, more trouble than it should. The nature of work is that way, so stress is present. Maybe, not always, but there are special cases we face". Moreover, we have a similar declaration coming from a 58 years old female teacher, dealing frequently with difficult students in her classes: "*Yes, I am honestly telling you that it has rarely happened to me to use a sedative (because of stress), not even with my family, and when I go to class with a student who is problematic I have to use one. I honestly say, I can't accept a student to destroy the whole class. That in the end, he doesn't do anything to me, but I feel sorry for the other students. I see in their faces that these students have psychological violence caused to them by these types of problematic students*". While in addition, a female older participant working in public (tax)administration and being 62 years old, noted: "*...it happens that I get stressed sometimes, because we are dealing with payments, figures and at the moment you can mistakenly figure and the amount disappears. Normal, even that is stress*". Work stress appears among older people also even when they face obstacles to keep a proper work-life balance, such as we have an example experience shared by a 57 years old female participants working as a director of an NGO: "*Normal yes, stress yes. People who are about my age, have grown children, have demands from family and work, and balancing between caring for family and work, especially in pandemic conditions when working from home, is an important challenge*".

Older people face work barriers also in stances where there is **lack of cooperation** and **non-good cooperation** in the workplace. This seems not just to create them stress, but also leading them to work situations performing their work tasks in more difficult manners. This situation seems considerably present among older participants working as teachers, but also among other professions. In this context, a 55-year old male teacher indicated: "*...t is that didactic triangle teacher-student-parent and now in that triangle, if one of these elements is missing one rib loses its meaning, only one angle remains. Thus, we have a very big problem with parents, because parents do not come to the school meetings we hold about their children.*

We call the parents on the phone and tell them to come because we need to talk about something related to your child". In addition, collaboration at work is presented as challenge among the work colleagues themselves, as we have a stance given by a 59-year old male participant working as doctor: "*Do you know what cooperation is like? When the other party has a certain interest, while at the moment when the interest ends, the cooperation is lost. The relationships are such that they all give it to you, but success, never. They don't have the courage to say that you are right or wrong, but behind your back they say everything…*".

Other themes grouped as barriers are largely discussed in the section above in the context how they appeared and how they affected older people's work activity.

2.5.2.2.2 Facilitators

The main themes that were identified through thematic analysis (see table 2.7 above) which appeared to have a positive influence on the work of older participants include: Good cooperation at work, Contribution to society - supporting others, Feedback as a reward - positive feedback / Getting appreciation, Satisfied with the work, Motivation, Love/like the job-profession, Teamwork–consultations, Desire to remain active, Transferring-sharing knowledge-experiences to others, Doing the work properly - Achieve success, Sharing respect with colleagues - giving and taking, and Maintain social contacts-networks. The majority of these themes have been presented and widely discussed in the sections above, while a brief explanation is provided hereby for the remaining themes.

Older people valued extensively **good cooperation at work**, as an approach to support their work activity. Cooperation at work appeared in many stances, such as in supporting each other in undertaking work tasks and activities, sharing experiences, sharing respect, functioning as **teamwork**, and other patterns alike. That was also supporting good interpersonal relations among colleagues at work. Cooperation at work was emphasized by older participants also in

the direction exercised among work mates as well as with work clients. In supporting these results, some stances and statements from interviews are hereby shared. In this regard, a 61-year-old male teacher participants expressed: "*Interpersonal relationships are at a higher level, regardless of age, because we, the older ones, do not hesitate in those parts that are technology, for example, that we have deficient knowledge, to seek the help of young people in this field*". Furthermore, another female teacher being 55 years old explained: "*We have excellent relationship, we share experiences with each other, we work in seminars and especially in pandemics if they finished their responsibilities before me, they helped me, we didn't make any political differences, I don't make political differences at all, we cooperate a lot, we do projects here in primary school with some professors of different disciplines even now we wanted to work on a project for the celebration of independence, but the issue of the pandemic stopped us*". In addition, we also have the declaration of a doctor, who was 59 years old, who stated: "*With consulting visits we especially share a lot of experience, because you can have 100 years of work experience, but there are more complicated cases. I am one of those people who don't hesitate to consult a colleague, even if he is much younger, it happens that there is something more updated. So, I take into consideration their opinion, I consult, especially with the students and the staff I work with, that I am responsible. I am happy to consult and see where they stand with their technical knowledge, how much they have access to the latest knowledge*."

The facilitation towards a more successful work activity among older people seems to be supported also whether older people do their **work properly** and to the extent that they **desire to remain active** by working. This seem also to increase the older people commitment towards working. This was supported by several stances extracted from the interviews. One good representing example is provided by a 56-year old male participant working as school maintainer: "*Basically, I get excited when there is a problem I choose immediately, I do not wait for the answer to come back, I do not like these*". In addition, the supporting statement

comes also by a 57-year old female participant working in public administration: "*...the work that is offered to me, I perform it quickly and responsibly to the clients who come to receive the documents. Efficiency is at work and I'm satisfied when the client comes to work and is satisfied with the service, this is satisfaction for the work it does. Otherwise, we constantly attend training for changes in the system, in the cadastral agency, and we are constantly monitored for performance*".

2.5.2.3   Strategies supporting older people's work activity

In responding to the third research question: *What kind of strategies older people see beneficial for their work effectiveness?* the study aimed finally to identify the strategies that older people use and see as useful to support their successful work activity. The main strategies identified through thematic analysis from the conducted interviews are presented in the table no. 2.8 below, which include: Enhance working methods, Love/like the job-profession, Good cooperation with others at work, Teamwork – consultations, Asking for support, Do a leisure activity, and Being healthy fit.

Table 2.8. Identified themes clustered under working strategies. Data from 2021 cohort.

	Saturation	
Themes	**Sources***	**References****
Enhance working methods	11	15
Love/like the job-profession	10	12
Good cooperation with others at work	18	31
Teamwork - consultations	7	10
Asking for support	4	5
Do a leisure activity	2	2
Being healthy fit	1	1

* Codes appeared under each participant

**Codes appeared in different questions among participants

Enhancing working methods was considered an important aspect that older people use as a strategy when they make effort to be more successful in their work and addressing barriers that they face at the workplace. In addition, older people who **like their job** and **love to exercise their profession**, seem to also manage easier work challenges that they face, towards better work effectiveness. Furthermore, older people who promote more a **collaborative approach** in the workplace, as well as **working on team**, seem to be more successful in their work. Finally, older people to become successful they see importance of **seeking support** among workmates and others in regard to completing their work tasks and activity.

2.6   Study conclusions

This qualitative study aimed to explore new aspects and factors being of individual, social and work-related nature that are important for the work of older people, and which have influence on their work activity. The study design to achieve the aim was undertaken in two points in time (2016 and 2021), representing a cohort type of research design. The study thematic analyses were carried on a sample of 37 older participants for both cohorts, enabling to derive a comprehensive data saturation and richness, thus supporting reliable study results.

Related to the first study aim and research question, the key findings of the qualitative study in both cohorts concluded a list of important themes grouped under individual, social and work-related factors. In 2016 cohort two main themes were identified as individual aspects, such as: Being healthy fit, and Gain respect at work. In addition, data from 2021 cohort revealed a few more individual themes. In this cohort, which data were collected during the Covid-19 pandemics, Covid-related health was reported one of most sensitive health issue affecting the work of older people. This situation was reported to create quite stress among older participants that had to work during this period. Besides that, additional individual aspects that revealed

from 2021 cohort data include also: Love/like the job-profession; Financial need; Desire to remain active; and Getting appreciation.

The main social aspects identified include: Transferring knowledge to others; Maintaining social network (including also within team relations); and Social contribution. In addition, several other social aspects revealed also from 2021 cohort, such as: Cooperation with others at work; Contribution to society - supporting others; Transferring-sharing knowledge-experiences to others; and Sharing respect with colleagues - giving and taking.

Thematic analysis revealed a larger list of work-related aspects from 2016 data. Main themes relate to Teamwork; Motivation (both intrinsic and extrinsic types; Satisfied with the work; Work commitment; Feedback at work (both as a critique and reward). Individual aspects identified in the 2021 cohort were much higher in number. They include, excluding the similar ones identified with the first cohort: Using technology; Lack of work conditions-tools-means; Work pressure / pressure from others at work; Work methods – changes; Lack of support - from organization, others; and Lack of reward-appreciation-respect.

Moreover, based on the nature of influence that the identified theme had on the work of older people, they were classified as facilitators of or barriers to the work of older people. On the one side, with 2016 data, main facilitators that influenced positively the work activity of older people include: Being active continuously (particularly in other non-job related activities); Maintaining good work motivation (particularly intrinsic); Being/maintaining a healthy fit style; Staying committed to work; Maintain a good level of satisfaction with the work; Keep learning through experience; Maintaining social network (at work and life in general); and Gain respect at work (both from colleagues, and clients). In 2021 data cohort the facilitating factors were higher in number, although several of them revealed similar to 2016 cohort. Those include: Good cooperation at work; Contribution to society - supporting others; Feedback as a reward -

positive feedback / Getting appreciation; Motivation at work; Satisfied with the work; Love/like the job-profession; Teamwork – consultations; Desire to remain active; Transferring-sharing knowledge-experiences to others; Doing the work properly - Achieve success; Sharing respect with colleagues - giving and taking; and Maintain social contacts-networks. It is noted that several of work-related aspects appeared in two data cohorts, which include: Being active continuously (particularly in other non-job related activities); Maintaining good work motivation (particularly intrinsic); Maintain a good level of satisfaction with the work; Maintaining social network (at work and life in general); and Gain respect at work (both from colleagues, and clients).

On the other side, barriers identified from 2016 cohort data that were reported to have a negative influence on the work activity of older people appeared to be: Stress at work; Lack of work conditions-means; Work overload-pressure; Difficulties using technology at work; and Facing health problems. Furthermore, in 2021 data cohort barriers that influence negatively the work of older people appeared higher in number, which include: Stress - facing with stressful situations; Being affected from COVID; Health issues (chronical and acute); Pandemics - dealing with work during pandemics; Inappropriate feedback; Lack of work conditions-tools-means; Dealing with difficult people; Difficulties using technology; Non-good cooperation – conflicts; Lack of collaboration; Lack of reward-appreciation-respect; Lack of support - from organization, and others; Pressure from others (in organization); Work methods – changes; Age discrimination; Work pressure; Difficulty to adapt with work demands-requirements; and Struggles to keeping work-life balance.

Finally, the study aimed also to identify relevant strategies that older people use in their work to become more effective in undertaking work tasks and achieve work objectives. Mainly, the themes that were classified as facilitators of older people's activity, both for 2016 and 2021

cohorts, were considered as type of strategies that older people use to remain effective in their work.

To finally conclude, the qualitative study provided an additional contribution towards providing an additional frame of examination of active ageing in addition to the present approaches found in the respective research literature.

2.6.1 Study strengths

The strength of this qualitative study is that it brings some complementary findings to the existing body of knowledge from the direct perspective of older people, while many other previous qualitative studies focused on age stereotypes tried to portray the older people's perspective from the perceptions of younger adults and older people's work managers or supervisors. The findings revealed in this study also informs research knowledge on three important dimensions. First, the identified themes, based on their nature, are grouped in three main categories, namely social, individual and work-related factors. Second, the identified themes, based on their role and function they play in older people's performance, are categorized in two clusters, positive factors, which are assumed to facilitate improvement of work performance, and negative factors which are assumed to function as barriers against exceling work performance. Third, the findings reveal a number of more common strategies that older people mainly use for making their work more effective. And finally, the study is conducted in a socio-economic context of a developing country (Kosovo), with lack of scientific conclusions on dynamics of ageing in general, and retirement intentions and its influencing factors, in particular.

2.6.2 Study limitations

Almost as in every research, limitations are present also in this study. On the one side, the qualitative study was conducted in a more culturally and socio-economical homogenous context, taking place in Kosovo as a developing country, which has a fragile welfare state as

well as having country context-related organizational characteristics with less opportunities for work for older people after their retirement age, thus providing more limited possibilities for bridge employment. In this regard, the research findings of this study are limited to generalize in other more diverse contexts, being in more developed economies as well as with advanced state of welfare. On the other side, the samples included in two cohorts are imbalanced in number, since one of the aims of the first cohort data collection was also to pilot the study methodology. This could have led to appearing more themes from the thematic analysis from the 2021 cohort, therefore making it more critical for estimating respective change of phenomena across both cohorts.

2.6.3 Future research

This study also informs future research, particularly suggesting a variety of themes that might be important for their further examination in the context of quantitative research in the domain of aging and work. More specifically, the qualitative study served to provide further support to the quantitative study design in chapter 3, in order to undertake a systematic measurement of the identified factors with larger cross sectional samples.

3 CHAPTER 3 – Study 2: Predictors / antecedents of intentions to retire among older people: A European perspective of two independent cohort analyses

3.1 Abstract

Global societies are changing rapidly, and one of the major changes in recent decades has been the demographic change toward older societies. This societal ageing is bringing economic challenges, creating an evident imbalance between the supply and demand sides of the respective labour markets. New evidence and practices to tackle the ageing phenomena, particularly relating to flexible working arrangements of older people around retirement age, is therefore a key requirement for organizations and policy makers. Critical aspects in the latest research work involve the questions around the development of active ageing phenomena.

The main purpose of the study was to investigate the likelihood of influence of individual, social and work-related factors in the retirement intentions of older people around the retirement time, as a contribution to understanding active ageing. The study is based on comparison of the cross-sectional panel data collected from the Survey of Health, Ageing and Retirement in Europe, from 6 wave in 2016 (N=11325) and 8 wave in 2021 (N=8217), collected in 28 European countries and Israel, in order to estimate time-related changes.

Logistic regression analyses were employed to estimate odds ratios of individual, social and work-related factors as well as demographic factors on the retirement intentions among the study participants. Results showed a significantly higher likelihood for later retirement among older people who are: more satisfied with their job; have better health conditions; who perceive a higher level of their quality of life and wellbeing; have less workload; and receive less support from others. Female older people, and older people with higher educational level tended to retire later beyond their retirement age. The study contributes to further understand the implications of ageing for the labour market of European economies, and how policy and

organizational practices may be adjusted towards more flexible retirement possibilities for older people.

3.2   Introduction

Research literature treats work retirement as a phenomenon that was explained from multi-level perspective (Szinovacz, 2003), and regarded as: a process which happens (considering the life course perspective) in certain points on time; a personal experience of older individuals going through changes during this process with the needs for adjustment; and as a social institution creating expectations for older people to leave their job and making room for younger workers to join the workplace. Furthermore, other researchers suggest that both work-related and non-work-related aspects influence retirement intentions among older people (Beehr, Glazer, Nielson, and Farmer, 2000). Work-related factors include aspects related to work autonomy, task significance, and skill variety, which compose parts of the Job/work Characteristic Model (JCM) as according to Hackman and Oldham (1980), and are supposed to be intrinsically motivating factors. On the other side, non-work related factors were of personal nature and dealt with health issues, family care needs, financial incomes, and obtaining regular retirement age. Research conducted testing this theoretical approach (Beehr, Glazer, Nielson, and Farmer, 2000) in regard to non-work related factors showed that higher financial income predicted intentions to retire earlier. Similarly, health showed to be correlated with retirement intentions showing that older people facing worse health conditions opted for early retirement. In addition, the older people who needed to allocate more time for caring after their family, they showed earlier retirement intentions. While, the three aspects of the work characteristics did not show any significant correlation with the intentions to retire, therefore not having any influence on such decisions.

Additionally, other research literature further examined the retirement decisions of older people, as post-retirement intentions successors, under the lenses of a multi-faceted construct,

102

which interacts with other factors, such as health of older people, financial status, satisfaction with job, plans of the spouse, as well as responsibilities for caring for family members (Brown and Vickerstaff, 2011). This inductive-based qualitative study undertaken by these authors from empirical findings based on semi-structured interviews in a sample of 96 older participants in UK, concluded that health was among major issues that older people, particularly emphasized among those with lower socio-economic status, were facing and that influenced their decisions towards retirement from job. Finally, research suggests that extended working life is also greatly influenced by lifelong-learning opportunities in the workplace, enhancing both needed hard and soft skills, relevant to enhance working practice (Wiktorowicz, 2017). Seemingly, intentions to retire among older people are affected by various types of factors, being of demographic, individual, social and work-related nature.

Demographic factors treated in several studies include gander, age, marital status, educational attainment, socio-economic status, occupation, and other factors alike. These factors have been examined as well through research conducted to investigate retirement intentions. Gender has been placed as one key demographic factor when researchers examined intentions to retire among older men and older women. In reviewing relevant research work in this direction, there seem to be a different situation among older women and older men when they decide to retire. Nevertheless, research is controversial in regard to whether older men or older women favour earlier retirement than the other group. Some studies (Clarke, Marshall & Weir, 2012) suggest that older men have higher probability to work after the age of 62, a proxy age to retirement in many countries. Moreover, other research conducted recently (Struffolino, and Zaccaria, 2016) show that men are more likely to favour early retirement than women. Additionally, older people with lower education level (primary and secondary tend to prefer early retirement than those with higher education level attainment (Struffolino, and Zaccaria, 2016; Carr, et al., 2018). Occupational status and work position has been also an interest of

investigation among older people in relation to intentions to retire. Latest studies suggest that people occupying lower work grades have expressed higher risks to leave their job earlier (Carr, et al., 2018).

Similar to other demographic factors above, socioeconomic status (SES), particularly finances and income of older people, showed significant relationship with retirement intentions. Nevertheless, research suggests controversial findings about how finances and income affect intentions to retire. According to recent research (Carr, et al., 2018; Leinonen, Martikainen, and Lahelma, 2012) older people reporting lower SES were more likely to decide for earlier exits from job. These findings may support the assumption that older people are pushed to engage in paid work in later life for economic reasons. In contrary, other research suggest that older people reporting adequate financial resources were more likely to intend to retire earlier from job (Wijeratne, Earl, Peisah, Luscombe, and Tibbertsma, 2017). Financial incomes were investigated also in relation to whether they influence decisions and intentions to unretired. In this regard, older people facing low financial resources were more likely to unretired (return to paid work) (Armstrong-Stassen, Schlosser, and Zinni, 2012). Moreover, incomes of older people play an important role around their retirement age. Previous studies argue that finances are both a factor that can influence intentions to retire early, or to retire late, or to unretired (Armstrong-Stassen, and Schlosser, 2010), which depends on the socio-economic and cultural contexts where people work, which is characterized by the expectations of living standards that people have.

In terms of individual factors, some studies examined intentions to retire in relation to psycho-social factors (Topa and Alcover, 2015). Accordingly, the empirical research conducted in a culturally homogenous sample (in Spain) of older people showed that the key antecedents of retirement intentions were shown to be work involvement, retirement self-efficacy, and worker identity. In this regard, retirement intentions were predicted by lower work involvement,

higher retirement self-efficacy, and stronger worker identity. Furthermore, other studies suggest that other individual factors are important to determine the intentions of older people to remain later in the labour market, even in the cases of returning to labour market after they already retired (Armstrong-Stassen, and Schlosser, 2010; Armstrong-Stassen, 2008). These factors included desire of older people to develop further skills, abilities and knowledge, and that older people miss some of the work aspects (practice, routine).

Late retirement intentions and bridge employment intentions were also predicted by good self-perceived health, good self-perceived work ability, positive work-related psychological factors (absence of negative perceptions for older people, reward satisfaction, and high job control and job satisfaction (von Bonsdorff, 2009). Self-perceived health among older people in relation to early exits from the labour market was examined also in longitudinal cohorts in cross-national large samples (around 50 thousand participants), showing mainly a significant effect of worse health conditions to early work exits (Carr, et al., 2018). Moreover, both poor physical and mental health were shown to have a strong influence in early retirement among older people (Topa, Depolo, and Alcover, 2018). Furthermore, work stress and anxiety about ageing were other individual factors that showed significant relation with retirement intentions. Older people having higher anxiety about ageing showed more likelihood to retire earlier (Wijeratne, Earl, Peisah, Luscombe, and Tibbertsma, 2017). While, work stress, such as burnout, was found to influence the early retirement intentions of older physicians on the other side (Silver, et al., 2016). In addition, poor mental health was considered a push factor to early retirement (Negrin, Panari, Simbula, and de la Hera, 2013).

Among the work related factors previously investigated by researchers, work involvement has shown important influence to intentions to retire in a later career-stage. Work involvement has been regarded as a level of dedication to one's present position or to work in general (Kanungo, 1982). It was argued that this factor pushes older people to remain active in

their work activity (Taylor-Carter, & Cook, 1995). Furthermore, studies showed negative and strong association of work involvement and turnover intentions among older people (Griffeth, Hom, and Gaertner, 2000). Similarly, older people with higher work involvement had intentions to retire late in their career (Post, Schneer, Reitman, and Ogilvie, 2013).

In conclusion, retirement intentions seem to be influenced by a variety of factors coming from demographic, individual, social, and job/work related nature. In reflections of the literature discussed in this section, as well as considering the lack of research to date explaining the intentions to retire in a higher amount of variance from various factors, as discussed in the literature review chapter, this study seeks to add to the current body of knowledge additional explanation of new factors which have influence to intentions to retire among older people, which is thoroughly explained in the next section.

3.3   Study aim and research questions

This study aims to investigate the intentions to retire among older people aged 55+, in relation to individual, social and work-related factors using data from the SHARE database. The selection of the variables included in this study was guided by the findings of Study 1 (Chapter 2) from the Qualitative data collected in two cohorts, 2016 and 2021. The identified themes from Study 1 have been categorized into individual, social and work-related factors. More specifically, the identified *individual variables* include health issues, desire to remain active (in work), financial income, getting appreciation and respect (at work), and liking the job/work profession. The *Social factors* are related to cooperation with work mates, which relates also to maintaining collaboration (social) network, giving a contribution to society and supporting others, sharing and receiving respect, and transferring knowledge/experience to others (to younger generations). And finally, the identified *work-related factors* include receiving work feedback (on performance and contribution), which is related also to receiving or not appreciation/recognition, satisfaction with the job, work motivation, difficulties using

technology, lack of support at work, as well as work pressure (from people and tasks). The work-related factors are represented higher in number than social and individual factors, which were supported alike with the findings of study 1. Thus, based on the identified variables in Study one, the present study aims at providing quantitative evidence on the role of these factors in intentions to retire of older adults from a large sample (N=19 542 for both cohorts) of the European SHARE (*Survey of Health, Ageing and Retirement in Europe*) project.

The variables selected from SHARE and included in this study research measure similar constructs to the themes identified in Study 1. Individual factors are represented through three (3) variables: *Self-perceived health*, *Satisfied with life*, and *Optimistic future*; Social factors are represented through one variable: *Satisfaction with social network*; and work-related factors with ten (10) variables: *Satisfied with job*, *Job physically demanding*, *Time pressure due to a heavy workload in job*, *Little freedom to decide how to do the work in job*, *Opportunity to develop new skills in job*, *Receive support in difficult situations in job*, *Receive recognition for work in job*, *Salary or earnings are adequate in job*, *Poor prospects for job advancement*, and *Poor job security*. In addition, Gender, Age, and Retirement intentions of participants were used as variables to compare group differences in various analysis to provide answers to research questions and testing hypothesis. Retirement intentions, were measured through one categorical question 'Look for early retirement?' (Yes/No). In line with Study 1, I conducted analyses with independent samples at two time points, 2016 (N=11 325) and 2021 (N=8 217).

The following questions are investigated:

1. What are the differences in intentions to retired among 55 years and above older male and female across the time?

2. Do people who intend to retire and those who don't differ on several measures reflecting individual, social and work-related factors?

3. What are the best individual, social and work-related predictors of intentions to retire in older adults?

4. How do the intentions to retire change among older people 55 years-old and above in different points in time?

3.3.1 Study hypotheses

The following section contains the proposed hypotheses for testing using the SHARE data cohorts of 2016 and 2021. The hypotheses were built based on the study aims and research questions as well as based on findings from published research on similar area.

Gender differences in retirement intentions are supported from previous research arguing for higher rate of earlier retirement intentions for women than for man. The findings have been evidenced in both homogenous professions, such as among doctors in Australia (Peisah et al., 2017), as well as among mixed occupations in the United States (Laires, Serrano-Alarco, Canha, and Perelman, 2020; Messe, and Wolff, 2019; Kim, Kang, and Ekerdt, 2019; Clarke, Marshall, and Weir, 2012). These differences have been primarily explained in terms of gender role that men and women have in life (Dingemans, Henkens, and Solinge, 2017). For example, around the retirement time, older women are more likely to play an important role in supporting the family and providing care (i.e. caring for grandchildren, spending time with family, and so on), therefore opting towards premature retirement. In this regards, I assumed that there are gender differences in retirement intentions, therefore I hypothesized that (**H1**) **Older women intend to retire earlier than their male counterparts regardless of cohort**. Conversely, other studies using SHARE data from 2004 cohort (first wave) suggest higher rate of men favouring premature retirement in comparison to women (Siegrist et al., 2006). This was particularly found when they faced health problems (Calasanti, 1996), thus I hypothesize that **older men intend to retire earlier due to health complains than older women (H1a)**.

In addition, considering gender differences in various studies between men and women as well as retirement intentions already discussed in literature review and in previous hypotheses, I hypothesize that **there is a difference of relationships among all individual, social and work-related factors between women and men, as well as between the groups aiming to retire and not to retire (H2).**

Evidence supports the influence of individual, social and work-related factors on intentions to retire among older people, particularly on the bridge employment opportunities around the retirement age (Zhan and Wang, 2015; Dingemans, Henkens, and Solinge, 2017). Health conditions of older people have been shown to influence their retirement intentions. As expected, studies suggest that worse health conditions relate with early retirement intentions (Štambuk, Uroda, and Anđelić, 2020; Messe, and Wolff, 2019; Carr et al., 2018). In addition, older people with higher work and life satisfaction have reported later intentions to retire (Prakash et al., 2019) indicating a positive correlation between satisfaction with work and life and later retirement. Furthermore, satisfaction with retirement, portrayed as a form of optimistic future, has also been shown to have an important role among older people in their retirement time and was suggested to include in further research investigation (Topa and Alcover, 2015). Consistently, I hypothesise that (**H3) male and female older people with better physical health, higher life satisfaction and more optimistic future do not intend to retire early across different time points.** These factors form a composite of older people's wellbeing construct according to Siegrist et al. (2006). Likewise, **other social and work-related factors shall be investigated in this relationship, with implying gender differences as well as differences in intentions to retire (H3a).**

Another aim of this study was to examine work-related factors in relation to retirement intentions. The theoretical concept of quality of work presented by Siegrist et al (2006) has partially investigated work-related factors in relation to retirement intentions, utilizing SHARE

data from 2004 cohort. This composite concept, which was included in SHARE, was measured through a short version of a battery of items composed from two questionnaires, the effort–reward imbalance model questionnaire (Siegrist, 1996), and from the Job Content Questionnaire measuring the demand-control model (Karasek et al., 1998). Findings from Siegrist et al (2007) study suggest that poorer quality of work is associated with earlier retirement intentions among older people. In addition, I included three more work-related factors which are supported by the literature (Topa and Alcover, 2015); *job satisfaction*, *work autonomy*, and *opportunity to develop new skills in job*. Accordingly, I hypothesize **(H4) that individual, social and work related factors (all three constructs) significantly predict later retirement intentions across different time points.**

In relation to the study aims, the Study 2 was designed using data from two waves, 2016 and 2021, which corresponded to the time points of the qualitative data collection of Study 1. In this context, the following sections provide two sub-studies, study 1-A and study 1-B, through which the research questions are responded as well as hypotheses are tested in each study separately. This approach provides the possibility to observe the changes of the investigated factors from one to the other point of time influencing the intentions to retire.

3.4   Study 2-A – 2016 Cohort

3.4.1   Methodology

A quantitative design was adopted in this study examining the study variables in a samples recruited for the SHARE project. The basis of selecting the variables in this study for further observation has been derived from the findings of Study 1 (Chapter 2), as well as by examining literature of cross-sectional studies in the past decades. The deductive approach used in the study has the purpose to derive conclusions on the addressed study aims and answer the research questions and testing hypotheses from empirical quantitative data, thus providing immense possibility for a wide context for generalization of the research findings.

3.4.1.1   Participants & datasets

This study uses data from the *Survey of Health, Ageing and Retirement in Europe* (SHARE), as a multidisciplinary and cross-national panel database of data on health, socio-economic status and social and family networks[1]. In eight waves of data collection since 2004, this database includes about 140,000 individuals aged 50 or older, with around 412,110 survey interviews. These data sets have been obtained in 28 European countries and Israel. European countries participated differently in different waves of data collection. This was because countries joined the SHARE initiative at different time points. In this regard, in the 2016 data cohort the following 21 countries were involved in data collection: Austria, Belgium, Switzerland, Germany, Denmark, Spain, France, Greece, Italy, Netherlands, Sweden, Israel, Czech Republic, Ireland, Poland, Estonia, Hungary, Portugal, Slovenia, Luxemburg, and Croatia.

The datasets in SHARE, as they are archived and maintained, are divided based on different set of variable modules as well as based on different collection waves. The following steps and procedures were undertaken to pre-process the data: i) The variables and datasets containing the present study variables were identified. All SHARE datasets and modules for 2016 cohort that contained variables used in this study were merged using the participant ID variable 'mergeid', considering instructions provided in the SHARE Release Guide 8.0.0 (Börsch-Supan, 2022). The selected variables are listed and explained under section 3.4.1.2. ii) The variables in different merged modules and datasets which were not relevant to this study were removed from the database, in order to eliminate any confusion with large number of variables during the analysis. iii) Missing and unneeded data from the outcome variable (Look for early retirement) were cleaned in two steps: a) participants with missing data and answers other than Yes/No (61 participants = Do not know; 13 participants = refusal, other participants

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[1] http://www.share-project.org/organisation/dates-facts.html

had missing answers) were removed.; b) participants younger than 55 years old, who did not fit the study inclusion criteria, were excluded. iv) Missing data for other variables included in the present study were coded, and several variables were recoded and reversed in the intended direction of data analysis, which are thoroughly explained in the section 3.4.1.2 below.

After pre-processing of data, the total sample of participants from the 2016 cohorts included in the data analysis was 11 325 participants, of which 50.8% were male and 49.2% were female. The average age of participants was 59.74 (SD=4.13) ranging from 55-91 years old (see Tables 3.1 & 3.2).

3.4.1.2   Variables and measures

Demographic variables

Demographic variables include gender and age of participants. *Gender* was reported as a binary variable, coded as Male (=1) and Female (=2). *Age* was measured as "Age of respondent at the time of interview", as a continuous variable, reporting years of participants by the time of interview. *Education*, too, was reported in number of years spent in education, composing a continuous variable, with average M = 12.31 (SD = 4.13) years, ranging from 0-25 years.

Intentions to retire

This variable was measured with a single forced choice question, "*Thinking about your present [main/secondary] job, would you like to retire as early as you can from this job?*", with the responses being Yes = 0, and No = 1.

Individual factors

Individual factors are related to individual's wellbeing (Siegrist et al., 2006), and contain three variables, physical health, life satisfaction, and optimistic future.

Perceived physical health was measured with a single item "Would you say your health is ....", answering in a five-point Likert scale: 1. Excellent, 2. Very good, 3. Good, 4. Fair, and 5. Poor. The scale was reversed for data analysis, and consequently higher scores indicate better perceived physical health.

Life satisfaction was measured through a single item, where participants were asked about "On a scale from 0 to 10 where 0 means completely dissatisfied and 10 means completely satisfied, how satisfied are you with your life?"

Optimistic future was measured through a single item as well "How often do you feel that the future looks good for you?", and participants answered a four-point scale: 1 = often, 2 = sometimes, 3 = rarely, 4 = never. The scale was reversed, and consequently higher scores indicated higher levels of perceived optimistic future.

Social factors

Social factors were measured through only one variable, *satisfaction with social network*. This variable contained two items: a) "You indicated that there is no one with whom you discuss important matters, and no one who is important to you for some other reason. On a scale from 0-10, where 0 means completely dissatisfied and 10 means completely satisfied, how satisfied are you with this (situation)?"; and b) "Overall, on a scale from 0 to 10, where 0 means completely dissatisfied and 10 means completely satisfied, how satisfied are you with the [relationship that you have with the person/relationships that you have with all the people] we have just talked about?".

Work-related factors

Work-related factors include 10 variables. The SHARE project employed a short battery based on the effort–reward imbalance model (Siegrist, 1996) . The questionnaire contains 6 items measuring the 'effort' and 11 items measuring the 'reward'. However, due to constraints

the SHARE project included 2 out of 6 items measuring the 'effort': "I am under constant time pressure due to a heavy workload", and "My job is physically demanding"; and 5 out of 11 items measuring the 'reward': "I receive adequate support in difficult situations", "I receive the recognition I deserve for my work", "My job promotion prospects/prospects for job advancement are poor", "Considering all my efforts and achievements, my [salary is/earnings are] adequate", and "My job security is poor". All of these items were measured in a four-point Likert scale: 1=Strongly agree, 2=Agree, 3=Disagree, and 4=Strongly disagree. In addition, two more items were added to the 'reward' construct, based on relevance with Study 1 suggestions: "I have very little freedom to decide how I do my work", and "I have an opportunity to develop new skills in my work", both with the same measurement scale as previous items. The scale was reversed for all items where higher scores represent stronger agreement level.

J*ob satisfaction* was measured through a single item: "All things considered I am satisfied with my job. Job satisfaction was measured in a four-point Likert scale: 1=Strongly agree, 2=Agree, 3=Disagree, and 4=Strongly disagree. The scale was reversed where higher scores represent stronger agreement level.

Descriptive analysis of all variables in both 2016 and 2021 cohorts are presented in tables no. 3.1 and 3.2.

Table 3.1. Sample size and Percentage of the categorical variables included in 2016 analyses.

Variable		N	%
Gender	Male	5756	*50.80*
	Female	5569	*49.20*
Look for early retirement	No	6249	*55.20*
	Yes	5076	*44.80*
Received help from others (outside household)	No	9568	*84.50*

	Yes	1750	*15.50*
Given help last twelve months	No	7199	*63.60*
	Yes	4119	*36.40*
Afraid health limits ability to work before regular retirement in job	No	8316	*74.00*
	Yes	2922	*26.00*
Current job requires using a computer	No	3493	*30.80*
	Yes	7830	*69.20*

Table 3.2. Sample size, Mean, and Standard Deviation of the variables included in 2016 analyses.

Variable	N	Mean *(SD)*	Range
Age at the time of interview (in years)	11325	59.74 *(4.13)*	55-91
Years of education	1596	12.31 *(4.13)*	0-25
Network satisfaction	10337	9.02 *(1.10)*	0-10
Satisfied with job	9714	3.36 *(.67)*	1-4
Job physically demanding	9718	2.41 *(1.05)*	1-4
Time pressure due to a heavy workload in job	9705	2.43 *(.92)*	1-4
Little freedom to decide how I do my work in job	9698	2.08 *(.94)*	1-4
Opportunity to develop new skills in job	9705	2.83 *(.88)*	1-4
Receive support in difficult situations in job	9664	2.91 *(.82)*	1-4
Receive recognition for work in job	9667	2.87 *(.82)*	1-4
Salary or earnings are adequate in job	9697	2.62 *(.87)*	1-4
Poor prospects for job advancement	9602	2.90 *(.92)*	1-4
Poor job security	9611	1.94 *(.89)*	1-4

Self-perceived health - us version	11322	3.28 *(.99)*	1-5
How satisfied with life	11058	7.98 *(1.50)*	1-10
Future looks good	11033	3.29 *(.78)*	1-4

Note: Standard Deviations (SD) are put in parentheses.

3.4.1.3 Data analyses approach

To address RQs 1 and testing hypotheses H1 and H1a, I conducted chi-square analysis to test for significant differences in distribution of participants as a function of gender and retirement intentions in both cohorts. To address Q2 and hypotheses H2, bi-variate Pearson correlation analysis were conducted with all the continuous variables. In addition, between groups (men/women, and early/late retirement) analyses were conducted, using independent samples z-test, in order to examine statistically significant differences between groups. Analysis of variance (ANOVA) analyses were conducted to further answer the question Q2 as well as testing hypotheses H3 and H3a, that is, investigating differences in individual, social and work-related factors as a function of gender and intentions to retire. Finally, logistic regression was applied to test the hypothesis H4 as well as answering research question Q3, in order to estimate predictions of retirement intentions in relation to individual, social, and work-related factors, as well as gender. In answering all research questions and testing study hypotheses, the observations were made for 2016 and 2021 cohorts, therefore providing answers to research question Q4.

3.4.2 Results

3.4.2.1 Differences in distribution of Gender and Retirement intentions in older adults

Cross-tabulation comparisons and chi-square associations were used to analyse the distribution of retirement intentions, across gender groups. In the 2016 cohort there was a higher proportion of older people (55.2%) who reported not to retire. Among them, 55.4% of men and

55% of women reported not to retire. The 2x2 chi square analyses show that there is not a gender difference in the proportion of people who intended to retire or not $\chi^2(1, 11325) = 0.203$, $p > 0.05$. The effect size examined with Cramer's V is highly low and non-significant (0.004, $p > 0.05$). Thus, the results do not support H1.

In order to test the H1a hypothesis, assuming higher rate of men than of women for early retirement when they face health problems, the chi-square was used between gender and health categorical variables (see table no. 3.5). The finding suggests a significant association between gender and perceived health $\chi^2(1, 11238) = 25.66$, $p < 0.001$, with significant Cramer's V effect of 0.048, $p < 0.001$. In addition, 64.70% of older participants who reported early retirement intentions are also afraid that their health would limit their work ability before retirement. However, the H1a hypothesis was not confirmed since there was higher proportion among men (76,1) who reported that their health did not limit their ability to work, then among women (71,9%) as portrayed in table no. 3.3.

Table 3.3. Cross-tabulation between: Gender * Afraid health limits ability to work before regular retirement in job. Data from 2016 cohort.

			Afraid health limits ability to work before regular retirement in job		
			No	Yes	Total
Gender	Male	N	4343	1367	5710
		%	76.10%	23.90%	100.00%
	Female	N	3973	1555	5528
		%	71.90%	28.10%	100.00%
	Total	N	8316	2922	11238
		%	74.00%	26.00%	100.00%

The chi-square analysis was used to also examine associations between the *Retirement intentions* and other factors such as *Current job requiring a computer, Received help from*

others, Given help last twelve months, and *Afraid health limits ability to work before regular retirement*, as presented in the table 3.5 below.

Cross-tabulation distributions between *Retirement intentions* and *Help received outside household* indicate that older people who receive support outside their household are more likely to favour later retirement from their job (58.2%). Amongst the group who reported intentions for early retirement, 45.5% declare that they do not receive help outside their household. Chi-square analysis indicate a significant association between Retirement intentions and the Received help from outside household, $\chi^2(1, 11318) = 7.55$, $p < 0.01$, having also a significant Cramer's V size effect of 0.026, $p < 0.01$. That is, older people aim to be active in work longer in life when they receive support from others on needed situations.

Table 3.4. Cross-tabulations between: Look for early retirement in job * Gender, Received help from others (outside household), Given help last twelve months, Afraid health limits ability to work before regular retirement in job, Current job requires using a computer. Data from 2016 cohort.

			Look for early retirement in job		
			No	Yes	Total
Gender	Male	N	3188	2568	5756
		%	*55.40%*	*44.60%*	*100.00%*
	Female	N	3061	2508	5569
		%	*55.00%*	*45.00%*	*100.00%*
	Total	N	6249	5076	11325
		%	*55.20%*	*44.80%*	*100.00%*
Received help from others (outside household)	No	N	5226	4342	9568
		%	*54.60%*	*45.40%*	*100.00%*
	Yes	N	1018	732	1750

			%	58.20%	41.80%	100.00%
	Total	N	6244	5074	11318	
		%	55.20%	44.80%	100.00%	
Given help last twelve months	No	N	3897	3302	7199	
		%	54.10%	45.90%	100.00%	
	Yes	N	2347	1772	4119	
		%	57.00%	43.00%	100.00%	
	Total	N	6244	5074	11318	
		%	55.20%	44.80%	100.00%	
Afraid health limits ability to work before regular retirement in job	No	N	5171	3145	8316	
		%	62.20%	37.80%	100.00%	
	Yes	N	1031	1891	2922	
		%	35.30%	64.70%	100.00%	
	Total	N	6202	5036	11238	
		%	55.20%	44.80%	100.00%	
Current job requires using a computer	No	N	1609	1884	3493	
		%	46.10%	53.90%	100.00%	
	Yes	N	4639	3191	7830	
		%	59.20%	40.80%	100.00%	
	Total	N	6248	5075	11323	
		%	55.20%	44.80%	100.00%	

There is also a higher likelihood for later retirement among the older people who provide help to others. The cross-tabulation data show that 57% of older participants who reported later retirement intentions have provided help to others in the past year. Chi-square analysis indicate

a significant association between *Retirement intentions* and the aspect that older people *Provided support to others*, $\chi^2(1, 11318) = 8.59$, $p < 0.01$, having a significant Cramer's V size effect of 0.028, $p < 0.01$. This finding suggest that older people who estimate providing contributions to others promote a more active engagement for themselves, thus also reporting later retirement intentions.

Furthermore, the likelihood for later retirement is even much higher (62.2%) among the older people who have reported no fear that their health conditions would limit their ability to work. In contrary, 64.7% of participants who have expressed fear that their health would limit their ability to work, have reported early retirement intentions. Chi-square analysis indicate a significant association between older people's *Retirement intentions* and their perception on *Health-related limited ability to work*, $\chi^2(1, 11238) = 632.53$, $p < 0.001$, having a significant Cramer's V size effect of 0.231, $p < 0.001$, suggesting that older people would favour early retirement when they perceive that their health prevents their ability to work.

Table 3.5. Chi-square associations of Retirement intentions with Gender, Current job requiring a computer, Received help from others, Given help last twelve months, and Afraid health limits ability to work before regular retirement. Data from 2016 cohort.

| | | | Pearson | |
	N	df	Chi-Square	Cramer's V
Gender	11325	1	0.203	0.004
Current job requiring a computer	11323	1	169.73***	.122***
Received help from others	11318	1	7.55**	.026**
Given help last twelve months	11318	1	8.59**	.028**
Afraid health limits ability to work before regular retirement in job	11238	1	632.53***	.231***

*$p < .05$, **$p < .01$, ***$p < .001$

Finally, older people who use more computer in their work (possessing higher computer skills) are more likely to retire later. In this regard, 59.2% of the proportion of participants who

have reported higher intentions for late retirement have also declared that they use computer in their work. While, among the group of participants who reported early retirement intentions, 53.9% of them declared that they do not use computer in their work. Chi-square analysis indicates a significant association between *Retirement intentions* and *Computer use at work*, $\chi^2(1, 11323) = 169.73$, $p < 0.001$, having a significant Cramer's V size effect of 0.122, $p < 0.001$, suggesting that the more the older people use computer at their work the more likely they intend to retire later.

3.4.2.2 Associations among individual, social and work-related factors and between group differences

In relation to answering the research question Q2, Pearson correlation analysis were performed between the continuous variables to test for significant associations between individual, social and work-related factors (H2). *Satisfaction with life, as individual factor,* showed significant correlation with all other individual factors , such as it was positively correlated with *Optimistic future*, $r = 0.47$, $p < 0.001$, *Self-perceived health*, $r = 0.34$, $p < 0.001$, *Satisfaction with social network,* $r = 0.27$, $p < 0.001$, *Job satisfaction*, $r = 0.26$, $p < 0.001$, *Adequate salary/earnings in job*, $r = 0.24$, $p < 0.001$, with job recognition, $r = 0.22$, $p < 0.001$, *Opportunity to develop new skills in job*, $r = 0.18$, $p < 0.001$, and *Receive support in difficult situations in job*, $r = 0.17$, $p < 0.001$. That is, older people who were more satisfied with life also had better perceived health, greater satisfaction with their network, their job, their salary, greater perceived recognition at their job, higher opportunity to develop new skills in their job, and receiving more support in difficult situations at work (see scatterplots in figure no. G.1, Appendix G).

Satisfaction with life showed also negative significant correlation with *Poor job security*, $r = -0.17$, $p < 0.001$, *Job physically demanding*, $r = -0.13$, $p < 0.001$, *Little freedom to decide how to do the work*, $r = -0.11$, $p < 0.001$, *Poor prospects for job advancement*, $r = -0.09$,

p < 0.001, and *Time pressure due to heavy workload*, r = -0.06, p < 0.001. This suggests that older people who were less satisfied with life had poorer job security, were working in more physically demanded jobs, had less job autonomy, poorer prospects for job advancement, and faced higher time pressure due to their heavy workload.

In addition, *Optimistic future* was significantly correlated with *Perceived health,* r = 0.24, p < 0.001, *Adequate salary/earnings in job,* r = 0.23, p < 0.001, *Job satisfaction,* r = 0.22, p < 0.001, J*ob recognition* and *Opportunity to develop new skills,* r = 0.21, p < 0.001, *Receiving support in difficult situations in job*, r = 0.17, p < 0.001, and *Satisfaction with social network*, r = 0.14, p < 0.001, suggesting that older people who are more optimistic for their future, they have also better perception about their health, receive more adequate salaries 9and other earnings) in their job, have greater job satisfaction, receive greater job recognition, have more opportunities to develop new skills in their job, receive more support in difficult work situations, and are more satisfied with their social network. Similar to *Satisfaction with life*, *Optimistic future* was, too, negatively but significantly correlated with *Poor job security*, r = -0.18, p < 0.001, with *Job physically demanding*, r = -0.16, p < 0.001, *Poor prospects for job advancement*, r = -0.13, p < 0.001, *Little freedom to decide how to do the work*, r = -0.12, p < 0.001, and with *Time pressure due to heavy workload*, r = -0.04, p < 0.001. This finding suggests that older people who perceived less optimistic future had poorer job security, were working in more physically demanded jobs, had less job autonomy, poorer prospects for job advancement, and faced higher time pressure due to their heavy workload.

S*atisfaction with network,* as a social factor, has a positive significant association with *Life satisfaction,* r = 0.27, p < 0.001, with *Optimistic future,* r = 0.14, p < 0.001, *Job satisfaction,* r = 0.12, p < 0.001, *Support in difficult situations in job,* r = 0.11, p < 0.001, *Job recognition,* r = 0.10, p < 0.001, *Perceived health,* and *opportunity to develop new skills,* r = 0.08, p < 0.001, and *Adequate salary/earnings*, r = 0.05, p < 0.001. That is older people who are more satisfied

with their social network they have also grater life satisfaction, are more optimistic about their future, are more satisfied with their job, receive more support in difficult work situations, receive greater job recognition, have better perception of their health and have greater opportunities for developing at job, as well as have better salaries/earnings. However, *Satisfaction with social network* is also significantly and negatively correlated with *Poor job security,* r = -0.05, p < 0.001, and *Workload-related time pressure*, r = -0.04, p < 0.001, suggesting that older people who face greater work-related time pressure, and perceive poorer job security they have lower satisfaction with their social network as well.

Work-related factors have relatively good significant correlation with each other, but also to some extent with other factors. *Job satisfaction* is one of job related factors showing better association than others with other job-related and with individual and social factors, respectively with *Receive recognition for work in job*, r = 0.39, p < 0.001, *Receive support in difficult situations at work,* r = 0.34, p < 0.001, *Adequate salary/earnings from job,* r = 0.30, p < 0.001, *Opportunity to develop their skills,* r = 0.29, p < 0.001, *Optimistic with their future,* r = 0.22, p < 0.001, and *Self-perceived health*, r = 0.17, p < 0.001. The finding suggests that older people who are more satisfied with their job, also receive more support when they face work difficulties, receive more adequate salaries/earnings in job, have higher opportunities to develop new skills, have better health, and are more optimistic for their future. *Job satisfaction* is also negatively and significantly correlated with *Work autonomy,* r = -0.23, p < 0.001, *Work-related time pressure*, r = -0.19, p < 0.001, *Poor job security*, r = -0.17, p < 0.001, *Poor prospects for job advancement*, r = -0.14, p < 0.001, and *Job physically demanding*, r = -0.12, p < 0.001, that is older people who have less work autonomy, face greater work-related time pressure, have poorer job security, and face greater physical demands at work, they are less satisfied with their job.

Other work-related factors have shown poorer but significant correlations between them as well as with other factors, except that people who deal with higher *Physical demands in their job*, their *Heavy workload related time pressure* increases, r = 0.22, p < 0.001, have less *Job autonomy*, r = 0.19, p < 0.001, *Poorer job security*, r = 0.13, p < 0.001, and *Poorer prospects for job advancement*, r = 0.07, p < 0.001. Whereas, when *Physical work demand* increases, there is a decrease towards *Salary/earnings in job*, r = -0.21, p < 0.001, *Self-perceived health* and *Optimistic future*, r = -0.16, p < 0.001, *Opportunity to develop new skills in job*, r = -0.15, p < 0.001, and *Work recognition*, r = -0.11, p < 0.001.

Furthermore, the work-related factor *Time pressure due to heavy worked* has positive and significant association with less *Job autonomy*, r = 0.23, p < 0.001, and very low but significant positive correlation with *Poor job security*, r = 0.05, p < 0.001, suggesting that older people who face higher heavy workload related time pressure, they are likely to receive less salaries or earnings from job, as well as they face poorer job security. It has negative significant relationship with *Receiving support in difficult work situations* and with *Work recognition*, r = -0.10, p < 0.001, *Adequate salary/earnings in job*, r = -0.14, p < 0.001, and *Optimistic future*, r = -0.04, p < 0.001, suggesting that older people facing higher heavy workload related time pressure are less likely to receive support when they face difficult situations in their job, to receive work recognition, less likely to receive adequate salary/earnings at work, and less likely to have optimistic future.

In addition, limited *Work autonomy* is found to be positively and significantly correlated with *Poor job security*, r = 0.19, p < 0.001, and with *Poor prospects for job advancement*, r = 0.11, p < 0.001, that is older people who experience low work autonomy at their job, they also are more likely to face with poorer job security and have poorer prospects for job advancement. Higher levels of limited *Work autonomy* are negatively and significantly associated with lower *Opportunity to develop new skills in job*, r = -0.19, p < 0.001, lower *Work recognition*, r = -

0.17, p < 0.001, lower *Salary/earnings at work*, r = -0.14, p < 0.001, less *Support in difficult situations in job*, r = -0.13, p < 0.001, less *Optimistic future*, r = -0.12, p < 0.001, and worse *Self-perceived health*, r = -0.11, p < 0.001. This explains that older people with higher levels of limited work autonomy have less opportunities to develop in their job, receive less work recognition, receive lower salaries / earnings in job, get less support in difficult situations in their job, face worse health, as well as are less optimistic for their future.

Moreover, positive significant correlations are found between *Opportunities to develop new skills in job* with receiving *Work recognition,* r = 0.29, p < 0.001, *Receiving support in the difficult situations at work,* r = 0.27, p < 0.001, *Optimistic future*, r = 0.21, p < 0.001, *Adequate salary/earnings in job*, r = 0.20, p < 0.001, and with *Self-perceived health*, r = 0.15, p < 0.001. This finding suggests that, the older people who have more opportunities to develop new skills in their work, they also receive more work recognition, receive more support in difficult situations at work, perceive better future for them, have better salaries/earnings in job, and perceive better health.

The work-related factor *Receive support in difficult situations* is positively and significantly correlated with *Work recognition*, r = 0.46, p < 0.001, *Adequate salary/earnings in job*, r = 0.24, p < 0.001, *Optimistic future*, r = 0.17, p < 0.001, and *Self-perceived health*, r = 0.09, p < 0.001, suggesting that older people who receive support when they face difficult situations in job they also perceive that they receive better work recognition, have more adequate salary/earnings in job, perceive a more optimistic future, and perceive better health. Whereas, this factor has significant negative correlation with *Poor job security*, r = -0.10, p < 0.001, and with P*oor prospects for job advancements*, r = -0.07, p < 0.001. That is, older people who receive little support in difficult situations in job, they face also with poorer job security, and have poorer prospects for job advancement.

Older people who receive higher *Recognition in their work*, they also have opportunity to have better *Salary/earnings from the job*, r = 0.42, p < 0.001, are more *Optimistic for their future*, r = 0.21, p < 0.001, as well as they *Perceive better health*, r = 0.15, p < 0.001. However, older people who *Receive higher recognition in their work*, they are less likely to have *Poor prospects for job advancement*, r = -0.16, p < 0.001, and less likely to face with *Poor job security*, r = -0.14, p < 0.001.

Higher salary/earnings at job is positively and significantly associated with better *Optimism for the future,* r = 0.23, p < 0.001, and with better *Self-perceived health*, r = 0.17, p < 0.001, but is negatively and significantly correlated with *Poor prospects for job advancement*, r = -0.18, p < 0.001, and with *Poor job security*, r = 0.16, p < 0.001, suggesting that older people with better salary/earnings in their job they have more optimistic future and are more healthier, while they are less likely to face with poor job security and with poor prospects for job advancement.

Finally, older people who perceive *Poorer prospects in job advancement*, they also perceive *Poorer job security*, r = 0.11, p < 0.001, they perceive less *Optimistic future*, r = -0.13, p < 0.001, and worse *Health condition*, r = -0.08, p < 0.001. Results of bivariate correlations among all factors are presented in table no. 3.6.

Table 3.6. Frequency, means, standard deviations, and correlations of continuous variables of data collected in wave 2016

	Variables	N	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1.	How satisfied with life	11058	7.98	1.50													
2.	Social network satisfaction	10337	9.02	1.10	.27**												
3.	Satisfied with job	9714	3.36	.67	.26**	.12**											
4.	Job physically demanding	9718	2.41	1.05	-.13**	-.002	-.12**										
5.	Time pressure due to a heavy workload in job	9705	2.43	.92	-.06**	-.04**	-.19**	.22**									
6.	Little freedom to decide how I do my work in job	9698	2.08	.94	-.11**	-0.02	-.23**	.19**	.23**								
7.	Opportunity to develop new skills in job	9705	2.83	.88	.18**	.08**	.29**	-.15**	-.01	-.19**							
8.	Receive support in difficult situations in job	9664	2.91	.82	.17**	.11**	.34**	-.08**	-.16**	-.13**	.27**						
9.	Receive recognition for work in job	9667	2.87	.82	.22**	.10**	.39**	-.11**	-.16**	-.17**	.29**	.46**					
10.	Salary or earnings are adequate in job	9697	2.62	.87	.24**	.05**	.30**	-.21**	-.14**	-.14**	.20**	.24**	.42**				
11.	Poor prospects for job advancement	9602	2.9	.92	-.09**	.01	-.14**	.07**	.01	.11**	-.17**	-.07**	-.16**	-.18**			
12.	Poor job security	9611	1.94	.90	-.17**	-.05**	-.17**	.13**	.05**	.19**	-.10**	-.10**	-.14**	-.16**	.11**		
13.	Self-perceived health	11322	3.28	.99	.34**	.08**	.17**	-.16**	-.02	-.11**	.15**	.09**	.15**	.17**	-.08**	-.13**	
14.	Future looks good	11033	3.29	.78	.47**	.14**	.22**	-.16**	-.04**	-.12**	.21**	.17**	.21**	.23**	-.13**	-.18**	.24**

** Correlation is significant at the 0.01 level (2-tailed).

Furthermore, testing the hypothesis H2 observation of correlations was undertaken between the continuous variables among men and women, as well as among the group of participants who have reported later retirement and the group who have reported early retirement intentions, as presented in the table no. H.1, in Appendix H, in order to estimate differences between groups. These observations were also important to support the strategy of within groups and between groups comparisons employing ANOVA analysis for the individual, social and work-related factors in both data cohorts. Z-test analysis employing the calculation approach used by Eid, Gollwitzer & Schmidt (2011) was used to compare the strength of correlations between the groups.

The majority of correlations between the individual, social and work-related factors among the groups of participants who reported early and late retirement show non-significant difference between the correlation coefficients among both groups. However, the z-test analysis showed a few significant differences (see table no. I.1, in appendix I), such as between correlations of *Satisfaction with network* and R*eceive support in difficult situations in job*, r (early retirement) = 0.08 (p < 0.001) & r (late retirement) = 0.13 (p < 0.001), z = -2.42, p < 0.05 (2-tailed); *Job satisfaction* and *Little freedom to decide how to do the work in job*, r (early retirement) = -0.23 (p < 0.001) & r (late retirement) = -0.18 (p < 0.001), z = -2.44, p < 0.05 (2-tailed); *Job satisfaction* and *Opportunity to develop new skills in job*, r (early retirement) = 0.28 (p < 0.001) & r (late retirement) = 0.23 (p < 0.001), z = 2.56, p < 0.01 (2-tailed); *Job satisfaction* and R*eceive support in difficult situations in job*, r (early retirement) = 0.35 (p < 0.001) & r (late retirement) = 0.28 (p < 0.001), z = 3.57, p < 0.001 (2-tailed); *Job physically demanding* and *Receive support in difficult situations in job*, r (early retirement) = -0.09 (p < 0.001) & r (late retirement) = -0.04 (p < 0.001), z = -2.3, p < 0.05 (2-tailed); *Time pressure due to a heavy workload in job* and *Self-perceived health*, r (early retirement) = -0.02 (p > 0.05) & r (late retirement) = 0.03 (p < 0.05), z = -2.34, p < 0.05 (2-tailed); *Little freedom to decide how to do*

the work in job and *Receive support in difficult situations in job*, r (early retirement) = -0.15 (p < 0.001) & r (late retirement) = -0.07 (p < 0.001), z = -4.14, p < 0.001 (2-tailed); *Little freedom to decide how to do the work in job* and *Receive recognition for work in job*, r (early retirement) = -0.18 (p < 0.001) & r (late retirement) = -0.11 (p < 0.001), z = -3.23, p < 0.001 (2-tailed); *Opportunity to develop new skills in job* and *Receive support in difficult situations in job*, r (early retirement) = 0.28 (p < 0.001) & r (late retirement) = 0.23 (p < 0.001), z = 2.70, p < 0.01 (2-tailed); *Opportunity to develop new skills in job* and *Receive recognition for work in job*, r (early retirement) = 0.276 (p < 0.001) & r (late retirement) = 0.229 (p < 0.001), z = 2.44, p < 0.05 (2-tailed); *Receive support in difficult situations in job* and *Poor prospects for job advancement*, r (early retirement) = -0.08 (p < 0.001) & r (late retirement) = -0.034 (p < 0.05), z = -2.29, p < 0.05 (2-tailed); *Receive support in difficult situations in job* and *Self-perceived health*, r (early retirement) = 0.099 (p < 0.001) & r (late retirement) = 0.052 (p < 0.05), z = 2.3, p < 0.05 (2-tailed); *Poor prospects for job advancement* and *Future looks good*, r (early retirement) = -0.086 (p < 0.001) & r (late retirement) = -0.13 (p < 0.05), z = 2.24, p < 0.05 (2-tailed).

Z-tests were performed also to examine the differences of correlations between the variables of the individual, social and work-related factors among men and women (see table no. I.2 in appendix I). Significant differences were found between the following correlations, such as between *Life satisfaction* and *Satisfaction with social network*, r (men) = 0.30 (p < 0.001) & r (women) = 0.24 (p < 0.001), z = 3.39, p < 0.001 (2-tailed); *Life satisfaction* and *Self-perceived health*, r (men) = 0.31 (p < 0.001) & r (women) = 0.37 (p < 0.001), z = -3.51, p < 0.001 (2-tailed); *Life satisfaction* and *Optimistic future*, r (men) = 0.45 (p < 0.001) & r (women) = 0.49 (p < 0.001), z = -3.03, p < 0.01 (2-tailed); *Satisfaction with social network* and *Salary or earnings are adequate in job*, r (men) = 0.08 (p < 0.001) & r (women) = 0.03 (p < 0.05), z = 2.13, p < 0.05 (2-tailed); *Satisfaction with social network* and *Poor job security*, r (men) = -0.07

(p < 0.001) & r (women) = 0.02 (p > 0.05), z = 0.004, p < 0.01 (2-tailed); *Job satisfaction* and

Time pressure due to a heavy workload in job, r (men) = -0.16 (p < 0.001) & r (women) = -0.29

(p < 0.001), z = 3.01, p < 0.01 (2-tailed); *Job satisfaction* and *Receive support in difficult*

situations in job, r (men) = 0.32 (p < 0.001) & r (women) = 0.36 (p < 0.001), z = -1.94, p < 0.05

(2-tailed); *Job satisfaction* and *Salary or earnings are adequate in job*, r (men) = 0.34 (p <

0.001) & r (women) = 0.29 (p < 0.001), z = 2.89, p < 0.01 (2-tailed); *Job physically demanding*

and *Time pressure due to a heavy workload in job*, r (men) = 0.19 (p < 0.001) & r (women) =

0.24 (p < 0.001), z = -2.32, p < 0.05 (2-tailed); *Job physically demanding* and *Opportunity to*

develop new skills in job, r (men) = -0.12 (p < 0.001) & r (women) = -0.18 (p < 0.001), z = 3.12,

p < 0.01 (2-tailed); *Job physically demanding* and *Receive support in difficult situations in job*,

r (men) = -0.04 (p < 0.05) & r (women) = -0.12 (p < 0.001), z = 4.25, p < 0.001 (2-tailed); *Job*

physically demanding and *Poor job security*, r (men) = 0.17 (p < 0.001) & r (women) = 0.10 (p

< 0.001), z = 3.49, p < 0.001 (2-tailed); *Job physically demanding* and *Optimistic future*, r (men)

= -0.18 (p < 0.001) & r (women) = -0.14 (p < 0.001), z = -2.10, p < 0.05 (2-tailed); *Time*

pressure due to a heavy workload in job and *Little freedom to decide how to do the work in job*,

r (men) = 0.21 (p < 0.001) & r (women) = 0.25 (p < 0.001), z = -2.28, p < 0.05 (2-tailed); *Time*

pressure due to a heavy workload in job and *Receive support in difficult situations in job*, r

(men) = -0.13 (p < 0.001) & r (women) = -0.18 (p < 0.001), z = 2.82, p < 0.05 (2-tailed); *Time*

pressure due to a heavy workload in job and *Poor job security*, r (men) = 0.09 (p < 0.001) & r

(women) = 0.013 (p > 0.05), z = 3.73, p < 0.001 (2-tailed); *Little freedom to decide how to do*

the work in job and *Receive support in difficult situations in job*, r (men) = -0.09 (p < 0.001) &

r (women) = -0.16 (p < 0.001), z = 3.54, p < 0.001 (2-tailed); *Opportunity to develop new skills*

in job and *Salary or earnings are adequate in job*, r (men) = 0.23 (p < 0.001) & r (women) =

0.18 (p < .001), z = 2.82, p < 0.01 (2-tailed); *Opportunity to develop new skills in job* and

Optimistic future, r (men) = 0.19 (p < 0.001) & r (women) = 0.23 (p < 0.001), z = -1.94, p <

0.05 (2-tailed); *Receive support in difficult situations in job* and *Receive recognition for work in job*, r (men) = 0.42 (p < 0.001) & r (women) = 0.49 (p < 0.001), z = -4.15, p < 0.001 (2-tailed); *Receive recognition for work in job* and *Salary or earnings are adequate in job,* r (men) = 0.44 (p < 0.001) & r (women) = 0.40 (p < 0.001), z = 2.08, p < 0.05 (2-tailed); *Salary or earnings are adequate in job* and *Poor job security*, r (men) = 0.197 (p < 0.001) & r (women) = -0.13 (p < 0.001), z = -3.37, p < 0.001 (2-tailed); *Salary or earnings are adequate in job* and O*ptimistic future*, r (men) = 0.25 (p < 0.001) & r (women) = 0.20 (p < 0.001), z = 2.67, p < 0.01 (2-tailed); *Poor job security* and *Optimistic future*, r (men) = -0.21 (p < 0.001) & r (women) = -0.15 (p < 0.001), z = -2.56, p < 0.01 (2-tailed); and *Self-perceived health* and *Optimistic future*, r (men) = 0.27 (p < 0.001) & r (women) = 0.32 (p < 0.001), z = -2.87, p < 0.01 (2-tailed).

3.4.2.3 Between subjects differences among individual, social and work related factors

To test H3 & H3a, 2x2 ANOVAs were conducted with *Retirement* (yes and no) and *Gender* (female and male) as the between subject factors, for all individual, social and work-related factors included in this study. ANOVA plots with error bars for all interactions are presented in Figure J.1, Appendix J.

Individual factors. The scores for *Life satisfaction* were submitted to a 2 x 2 ANOVA with *Retirement* (yes and no) and *Gender* (female and male) as between subject factor. Results showed significant main effects of Retirement and Gender, $F(1, 24562.8) = 189.94$, $p < 0.001$, $\eta^2 = 0.001$ and $F(1, 24562.8) = 11.37$, $p < 0.001$, $\eta^2 = 0.017$, respectively. That is, overall the group who intended to retire early showed lower satisfaction with their life than the group who did not intend to retire early, and men overall reported lower life satisfaction than women. The interaction between gender and retirement groups did not reach statistical significance $F(1, 24562.8) = 0.02$, $p = 0.89$ $\eta^2 < 0.001$.

The ANOVA with *Optimistic future* scores showed significant main effects of Retirement, $F(1, 6482.989) = 291.31$, $p < 0.001$, $\eta^2 = 0.026$, That is, the group who did not intend to retire early were more optimistic about their future than the group who intended to retire early. The main effect of Gender, $F(1, 12535.23) = 1.79$, $p = 0.18$, $\eta^2 < 0.001$, and the interaction , $F(1, 12535.23) = 0.90$, $p = 0.34$, $\eta^2 < 0.001$, did not reach statistical significance.

The scores for *self-perceived health* were submitted to a 2 x 2 ANOVA with *Retirement* (yes and no) and *Gender* (female and male) as between subject factor. Results showed significant main effects of Retirement, $F(1, 10775.53) = 227.65$, $p < 0.001$, $\eta^2 = 0.02$, $\eta^2 = 0.001$, and Gender, $F(1, 10775.53) = 3.84$, $p = 0.05$, $\eta^2 < 0.001$. That is the group of older people for both men and women who intended to retire later scored higher in self-perceived health than the group who intended to retire earlier. In addition, men scored slightly higher than women in both retire and non-retire groups. Thus, the interaction between Gender and Retirement groups did not reach statistical significance, $F(1, 10775.53) = 1.07$, $p = 0.30$, $\eta^2 < 0.001$.

Social factors. The scores for *Satisfaction with social network* were submitted to a 2 x 2 ANOVA with *Retirement* (yes and no) and *Gender* (female and male) as between subject factor. Results showed significant main effects of Retirement, $F(1, 12535.23) = 8.68$, $p < 0.01$, $\eta^2 = 0.001$, and Gender, $F(1, 12535.23) = 24.08$, $p < 0.001$, $\eta^2 = 0.002$. That is the group of older people for both men and women who intended to retire later scored higher in Satisfaction with social network than the group who intended to retire earlier. In addition, women scored higher than men in both Retirement and Non-retirement groups. Thus, the interaction between Gender and Retirement groups did not reach statistical significance, $F(1, 12535.23) = 0.12$, $p = 0.73$, $\eta^2 < 0.001$.

Work-related factors. The scores for *Job satisfaction* were submitted to a 2 x 2 ANOVA with Retirement (yes and no) and Gender (female and male) as between subject factor. Results showed significant main effects of Retirement, $F(1, 4025.91) = 803.72$, $p < 0.001$, $\eta^2 = 0.076$,

and no significant main effect for Gender, $F_{(1, 4025.91)} = 1.59$, $p = 0.21$, $\eta^2 < 0.001$. This finding suggests that older people who intend later retirement scored higher in satisfaction with their job than older people who intend earlier retirement. While there is no significant difference whether male or female are more satisfied with their job. Furthermore, results show neither a significant interaction between Gender and Retirement, $F_{(1, 4025.91)} = 0.78$, $p = 0.38$, $\eta^2 < 0.001$.

The scores for *Job physically demanding* were submitted to a 2 x 2 ANOVA with *Retirement* (yes and no) and *Gender* (female and male) as between subject factor. Results showed significant main effects of Retirement, $F_{(1, 10594.52)} = 164.76$, $p < 0.001$, $\eta^2 = 0.017$, and Gender, $F_{(1, 10594.52)} = 11.48$, $p < 0.001$, $\eta^2 = 0.001$. That is the group of older people for both men and women who intended to retire later scored higher in Job physically demanding than the group who intended to retire earlier. In addition, men scored higher than women in both Retirement and Non-retirement groups. Thus, the interaction between Gender and Retirement groups did not reach statistical significance $F_{(1, 10594.52)} = 0.447$, $p = .50$, $\eta^2 < 0.001$.

The scores for *Time pressure due to a heavy workload in job* were submitted to a 2 x 2 ANOVA with Retirement (yes and no) and Gender (female and male) as between subject factor. Results showed significant main effects of Retirement, $F_{(1, 7962.76)} = 218.31$, $p < 0.001$, $\eta^2 = 0.022$, and no significant main effect for Gender, $F_{(1, 7962.76)} = 0.668$, $p = .41$, $\eta^2 < 0.001$. That is, older people who intended later retirement scored lower in satisfaction with their job than older people who intend earlier retirement. While there is no significant difference whether male or female face more time pressure in their job. Furthermore, as presented in figure 3.1, results show a significant interaction between Gender and Retirement, $F_{(1, 7962.76)} = 4.31$, $p = 0.038$, $\eta^2 < 0.001$. That is, women participants group scored lower in no-retirement group, while men participants group scored lower on yes-retirement group.

Figure 3.1. *Means of interaction of Gender and Retirement groups scoring for Time pressure due to a heavy workload in job.*

The scores for *Job autonomy (Little freedom to decide how I do my work in job)* were submitted to a 2x2 ANOVA with *Retirement* (yes and no) and *Gender* (female and male) as between subject factor. Results showed significant main effects of *Retirement*, $F_{(1, 8339.85)} = 194.81$, $p < .001$, $\eta^2 = 0.02$, and *Gender*, $F_{(1, 8339.85)} = 13.15$, $p < 0.001$, $\eta^2 = 0.001$. That is the group of older people for both men and women who intended to retire later scored higher in *Job autonomy* than the group who intended to retire earlier. In addition, women scored higher than men in both Retirement and Non-retirement groups. Thus, the interaction between Gender and Retirement groups did not reach statistical significance $F_{(1, 7962.76)} = 0.081$, $p = .776$, $\eta^2 < 0.001$.

The scores for *Opportunity to develop new skills in job* were submitted to a 2 x 2 ANOVA with Retirement (yes and no) and Gender (female and male) as between subject factor. Results showed significant main effects of *Retirement*, $F_{(1, 7218.389)} = 387.48$, $p < 0.001$, $\eta^2 = 0.038$, and no significant main effect for *Gender*, $F_{(1, 7218.389)} = 2.695$, $p = 0.10$, $\eta^2 < 0.001$. That is, older people who intended later retirement scored higher in *Opportunity to develop new skills in job* than older people who intended earlier retirement. While there is no significant

134

difference whether male or female have more opportunities to develop new skills in their job. Furthermore, results show a non-significant interaction between *Gender* and *Retirement*, $F(1, 7218.389) = 0.41$, $p > 0.05$, $\eta^2 < 0.001$.

The scores for *Receive support in difficult situations in job* were submitted to a 2 x 2 ANOVA with *Retirement* (yes and no) and *Gender* (female and male) as between subject factor. Results showed significant main effects of *Retirement*, $F(1, 6298.325) = 220.51$, $p < 0.001$, $\eta^2 = 0.022$, and *Gender*, $F(1, 6298.325) = 11.85$, $p < 0.001$, $\eta^2 = 0.001$. That is the group of older people for both men and women who intended to retire later scored lower in *Receive support in difficult situations in job* than the group who intended to retire earlier. Further, as presented in figure 3.2, results show a significant interaction between *Gender* and *Retirement*, $F(1, 6298.325) = 5.95$, $p = 0.015$, $\eta^2 = 0.001$. That is, women participants group scored higher in no-retirement group, while men participants group scored higher on yes-retirement group.

Figure 3.2. *Means of interaction of Gender and Retirement groups scoring for Receive support in difficult situations in job.*

The scores for *Receive recognition for work in job* were submitted to a 2 x 2 ANOVA with Retirement (yes and no) and Gender (female and male) as between subject factor. Results

showed significant main effects of $F_{(1, 6220.508)} = 541.17$, $p < 0.001$, $\eta^2 = 0.053$, and no significant main effect for *Gender*, $F_{(1, 6220.508)} = 0.041$, $p = .84$, $\eta^2 < 0.001$. That is, older people who intended later retirement scored higher in *Job recognition* than older people who intended earlier retirement. While there is no significant difference whether male or female receive more recognition in their work. Further, results show a non-significant interaction between *Gender* and *Retirement*, $F_{(1, 6220.508)} = 0.019$, $p = 0.89$, $\eta^2 < 0.001$.

The scores for *Salary or earnings are adequate in job* were submitted to a 2 x 2 ANOVA with *Retirement* (yes and no) and *Gender* (female and male) as between subject factor. Results showed significant main effects of *Retirement*, $F_{(1, 7079.182)} = 336.18$, $p < .001$, $\eta^2 = 0.034$, and *Gender*, $F_{(1, 7079.182)} = 67.22$, $p < 0.001$, $\eta^2 = 0.007$. Results suggest that the group of older people for both men and women who intended to retire later scored higher in *Salary or earnings are adequate in job* than the group who intended to retire earlier. Further, results show a significant interaction between *Gender* and *Retirement*, $F_{(1, 7079.182)} = 4.27$, $p < .05$, $\eta^2 < 0.001$. That is, men participants group scored higher in later retirement, while women participants group scored higher on early retirement.

The scores for *Poor prospects for job advancement* were submitted to a 2 x 2 ANOVA with *Retirement* (yes and no) and *Gender* (female and male) as between subject factor. Results showed significant main effects of *Retirement*, $F_{(1, 7945.729)} = 119.54$, $p < .001$, $\eta^2 = .012$, and *Gender*, $F_{(1, 7945.729)} = 12.87$, $p < .001$, $\eta^2 = .001$. That is the group of older people for both men and women who intended to retire later scored lower in *Poor prospects for job advancement* than the group who intended to retire earlier. In addition, women scored higher than men in both Retirement and Non-retirement groups. Thus, the interaction between Gender and Retirement groups did not reach statistical significance $F_{(1, 7945.729)} = 0.21$, $p = 0.65$, $\eta^2 < 0.001$.

Figure 3.3. *Means of interaction of Gender and Retirement groups scoring for Poor job security*

Finally, the scores for *Poor job security* were submitted to a 2 x 2 ANOVA with *Retirement* (yes and no) and *Gender* (female and male) as between subject factor. Results showed significant main effects of *Retirement*, $F(1, 7740.382) = 23.97$, $p < 0.001$, $\eta^2 = 0.002$, and *Gender*, $F(1, 7740.382) = 5.95$, $p = 0.015$, $\eta^2 = 0.001$. That is the group of older people for both men and women who intended to retire later scored lower in *Poor job security* than the group who intended to retire earlier. Further, as presented in figure 3.3, results show a marginal significant interaction between *Gender* and *Retirement*, $F(1, 7740.382) = 3.76$, $p = 0.052$, $\eta^2 < 0.001$. That is, women participants group scored higher in no-retirement group, while men participants group scored higher on yes-retirement group.

All results of two-way ANOVA for 2016 data cohorts are presented in the table no. 3.7 below:

Table 3.7. Tests of Between-Subjects Effects. Two Way ANOVA for 2016 cohort

Dependent variable	Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
How satisfied with life	Corrected Model	448.398a	3	149.466	67.264	<.001	0.018
	Intercept	693294.2	1	693294.2	312003.3	0	0.966

		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
	Gender	25.261	1	25.261	11.368	<.001	0.001
	Intention to retire	422.063	1	422.063	189.941	<.001	0.017
	Gender * Intention to retire	0.045	1	0.045	0.02	0.887	0
	Error	24562.8	11054	2.222			
	Total	729447	11058				
	Corrected Total	25011.2	11057				
	a R Squared = .018 (Adjusted R Squared = .018)						
Satisfaction with social network	Corrected Model	40.660a	3	13.553	11.172	<.001	0.003
	Intercept	828361.7	1	828361.7	682832.2	0	0.985
	Gender	29.208	1	29.208	24.077	<.001	0.002
	Intention to retire	10.532	1	10.532	8.681	0.003	0.001
	Gender * Intention to retire	0.142	1	0.142	0.117	0.732	0
	Error	12535.23	10333	1.213			
	Total	853585	10337				
	Corrected Total	12575.9	10336				
	a R Squared = .003 (Adjusted R Squared = .003)						
Future looks good	Corrected Model	172.747a	3	57.582	97.961	<.001	0.026
	Intercept	117283.9	1	117283.9	199525.8	0	0.948
	Gender	1.055	1	1.055	1.794	0.18	0
	Intention to retire	171.235	1	171.235	291.309	<.001	0.026
	Gender * Intention to retire	0.531	1	0.531	0.903	0.342	0
	Error	6482.989	11029	0.588			
	Total	126173	11033				
	Corrected Total	6655.736	11032				
	a R Squared = .026 (Adjusted R Squared = .026)						
Self-perceived health	Corrected Model	220.868a	3	73.623	77.329	<.001	0.02
	Intercept	119446	1	119446	125459.2	0	0.917
	Gender	3.652	1	3.652	3.836	0.05	0
	Intention to retire	216.742	1	216.742	227.654	<.001	0.02
	Gender * Intention to retire	1.023	1	1.023	1.074	0.3	0
	Error	10775.53	11318	0.952			
	Total	132861	11322				
	Corrected Total	10996.4	11321				
	a R Squared = .020 (Adjusted R Squared = .020)						
Satisfied with job	Corrected Model	334.847a	3	111.616	269.204	<.001	0.077
	Intercept	106448.3	1	106448.3	256740.1	0	0.964
	Gender	0.658	1	0.658	1.586	0.208	0
	Intention to retire	333.234	1	333.234	803.719	<.001	0.076
	Gender * Intention to retire	0.324	1	0.324	0.781	0.377	0
	Error	4025.91	9710	0.415			
	Total	114337	9714				
	Corrected Total	4360.757	9713				
	a R Squared = .077 (Adjusted R Squared = .077)						

Job physically demanding	Corrected Model	193.289a	3	64.43	59.075	<.001	0.018
	Intercept	56272.62	1	56272.62	51595.73	0	0.842
	Gender	12.524	1	12.524	11.484	<.001	0.001
	Intention to retire	179.698	1	179.698	164.763	<.001	0.017
	Gender * Intention to retire	0.487	1	0.487	0.447	0.504	0
	Error	10594.52	9714	1.091			
	Total	67205	9718				
	Corrected Total	10787.81	9717				
	a R Squared = .018 (Adjusted R Squared = .018)						
Time pressure due to a heavy workload in job	Corrected Model	184.593a	3	61.531	74.963	<.001	0.023
	Intercept	56956.77	1	56956.77	69390.23	0	0.877
	Gender	0.548	1	0.548	0.668	0.414	0
	Intention to retire	179.192	1	179.192	218.309	<.001	0.022
	Gender * Intention to retire	3.536	1	3.536	4.308	0.038	0
	Error	7962.759	9701	0.821			
	Total	65274	9705				
	Corrected Total	8147.352	9704				
	a R Squared = .023 (Adjusted R Squared = .022)						
Little freedom to decide how I do my work in job	Corrected Model	179.997a	3	59.999	69.741	<.001	0.021
	Intercept	42007.24	1	42007.24	48828	0	0.834
	Gender	11.31	1	11.31	13.146	<.001	0.001
	Intention to retire	167.599	1	167.599	194.813	<.001	0.02
	Gender * Intention to retire	0.069	1	0.069	0.081	0.776	0
	Error	8339.85	9694	0.86			
	Total	50607	9698				
	Corrected Total	8519.847	9697				
	a R Squared = .021 (Adjusted R Squared = .021)						
Opportunity to develop new skills in job	Corrected Model	291.274a	3	97.091	130.484	<.001	0.039
	Intercept	74883.44	1	74883.44	100638	0	0.912
	Gender	2.005	1	2.005	2.695	0.101	0
	Intention to retire	288.315	1	288.315	387.475	<.001	0.038
	Gender * Intention to retire	0.305	1	0.305	0.41	0.522	0
	Error	7218.389	9701	0.744			
	Total	84992	9705				
	Corrected Total	7509.663	9704				
	a R Squared = .039 (Adjusted R Squared = .038)						
Receive support in difficult situations in job	Corrected Model	157.562a	3	52.521	80.553	<.001	0.024
	Intercept	79688.22	1	79688.22	122221.1	0	0.927
	Gender	7.728	1	7.728	11.853	<.001	0.001
	Intention to retire	143.773	1	143.773	220.51	<.001	0.022
	Gender * Intention to retire	3.877	1	3.877	5.947	0.015	0.001
	Error	6298.325	9660	0.652			
	Total	88529	9664				
	Corrected Total	6455.886	9663				

			df				
Receive recognition for work in job	Corrected Model	348.433a	3	116.144	180.42	<.001	0.053
	Intercept	76799.41	1	76799.41	119301	0	0.925
	Gender	0.027	1	0.027	0.041	0.839	0
	Intention to retire	348.376	1	348.376	541.171	<.001	0.053
	Gender * Intention to retire	0.012	1	0.012	0.019	0.889	0
	Error	6220.508	9663	0.644			
	Total	86136	9667				
	Corrected Total	6568.941	9666				

a R Squared = .053 (Adjusted R Squared = .053)

			df				
Salary or earnings are adequate in job	Corrected Model	302.746a	3	100.915	138.176	<.001	0.041
	Intercept	64121.18	1	64121.18	87796.38	0	0.901
	Gender	49.091	1	49.091	67.216	<.001	0.007
	Intention to retire	245.522	1	245.522	336.176	<.001	0.034
	Gender * Intention to retire	3.116	1	3.116	4.266	0.039	0
	Error	7079.182	9693	0.73			
	Total	73694	9697				
	Corrected Total	7381.928	9696				

a R Squared = .041 (Adjusted R Squared = .041)

			df				
Poor prospects for job advancement	Corrected Model	110.660a	3	36.887	44.557	<.001	0.014
	Intercept	80152.83	1	80152.83	96820.18	0	0.91
	Gender	10.652	1	10.652	12.867	<.001	0.001
	Intention to retire	98.96	1	98.96	119.538	<.001	0.012
	Gender * Intention to retire	0.175	1	0.175	0.211	0.646	0
	Error	7945.729	9598	0.828			
	Total	88909	9602				
	Corrected Total	8056.389	9601				

a R Squared = .014 (Adjusted R Squared = .013)

			df				
Poor job security	Corrected Model	25.775a	3	8.592	10.664	<.001	0.003
	Intercept	35623.67	1	35623.67	44214.43	0	0.822
	Gender	4.79	1	4.79	5.945	0.015	0.001
	Intention to retire	19.313	1	19.313	23.971	<.001	0.002
	Gender * Intention to retire	3.032	1	3.032	3.763	0.052	0
	Error	7740.382	9607	0.806			
	Total	43805	9611				
	Corrected Total	7766.157	9610				

a R Squared = .003 (Adjusted R Squared = .003)

3.4.2.4 Factors associated with retirement intentions

Stepwise binary logistic regression was used to investigate factor relations to retirement

intentions, in order to answer research question Q4, and particularly for testing the H4

hypothesis "*individual, social and work related factors (all three constructs) significantly predict later retirement intentions across different time points*". In line with comprehensive approach adapted in this study in performing analysis based on individual, social and work-related factors, there were four steps conducted in the logistic regression analysis. In the first step only Gender and Age were entered into the equation. In the second step, individual factors were entered, which were Satisfaction with Life, Optimistic future, and Self-perceived health. In the third step, social factors were entered, represented by Satisfaction with social network. And finally, in the fourth step all ten work-related factors were entered, such as Satisfied with job, Job physically demanding, Time pressure due to a heavy workload in job, Little freedom to decide how I do my work in job, Opportunity to develop new skills in job, Receive support in difficult situations in job, Receive recognition for work in job, Salary or earnings are adequate in job, Poor prospects for job advancement, and Poor job security.

The stepwise binary logistic regression in four blocks was conducted to test the H4 hypothesis for 2016 cohort data. The table 3.8 below shows model fits based on chi-square tests.

Table 3.8. Chi-square tests of Model Coefficients. Data cohort from 2016.

		Chi-square	df	Sig.
Model 1	Step	280.006	2	<.001
	Block	280.006	2	<.001
	Model	280.006	2	<.001
Model 2	Step	349.309	3	<.001
	Block	349.309	3	<.001
	Model	629.315	5	<.001
Model 3	Step	.183	1	.669
	Block	.183	1	.669
	Model	629.498	6	<.001

Model 4	Step	813.761	10	<.001	
	Block	813.761	10	<.001	
	Model	1443.258	16	<.001	

All four models are significantly fit, however the model 4 presents the best significant model fit for included predictors, with the highest cumulative chi-square value, $\chi^2(16) = 1443.26$, $p < 0.001$. This model was selected for further data interpretation and testing the hypothesis, containing 14 predictors, of which one is binary (gender) and the other predicting variables are continuous.

The logistic regression analysis indicate that the overall model is statistically significant, $\chi^2(16) = 1443.26$, $p < 0.001$, showing a good fit of the model to data. The good fit of the data into the testing model was checked also with the Hosmer-Lemeshow test significance, which is argued to be above 0.05 level of significance in order to estimate the model fit to data (Hosmer and Lemeshow, 1989). Analysis show that the goodness-of-fit of the model is confirmed with the Hosmer-Lemeshow test, $\chi^2(8) = 12.082$, $p = 0.148$, showing that there is not a statistical difference between predicted and observed models, which is presented in the table no. 3.9 below.

Table 3.9. Predicted and observed models of data tested with Hosmer and Lemeshow Test. Data cohort from 2016.

		Look for early retirement in job = Yes		Look for early retirement in job?		
		YES		NO		
		Observed	Expected	Observed	Expected	Total
Model 4	1	703	711.750	197	188.250	900
	2	615	585.440	285	314.560	900
	3	509	512.834	391	387.166	900
	4	431	456.346	469	443.654	900
	5	428	406.548	472	493.452	900
	6	344	357.098	556	542.902	900

7	320	306.037	580	593.963	900
8	254	256.146	646	643.854	900
9	196	203.129	704	696.871	900
10	122	126.672	780	775.328	902

Observing for the Nagelkerke R Square values I note that there is a 19.9% variance explanation of the model for non-early retirement intentions from the included predictor variables, leaving a large amount of prediction of the retirement intentions outside the observed predictors.

The data fit model correctly classifies around 66,6% of the cases overall towards the later retirement intentions of older participants, with a cut value at 0.500, as presented on table no. 3.10, which is higher than the model classification without predictors included, which classified 56.4% of the cases towards later retirement intentions. The model specificity (negative rate) accounts for 53,1% of the classified cases that chose the early retirement option. While, 77% were classified respondents choosing the non-early retirement at the time of the interview, thus presenting the model sensitivity (positive rate).

Table 3.10. Classification table[a] for the predicted and observed cases in the testing model. Data cohort from 2016.

			Predicted		
			Look for early retirement in job		
	Observed		Yes	No	*Correct %*
Model 4	Look for early	Yes	2084	1838	53.1
	retirement in job	No	1169	3911	77.0
		Overall %			*66.6*

[a] *The cut value is .500*

3.4.2.4.1 Association of individual factors with retirement intentions

Testing the hypothesis H4 for a significant association of individual factors with retirement intentions, the results of the binary logistic regression analysis show that there is negative and significant association of probability of *Satisfaction with life* with later *Retirement intentions* among older participants, B = -.048, SE = 0.019, p = 0.013. The odds ratio (OR) indicate that for every increased unit of *Satisfaction with life* the odds that older people retire later from job increases for 0.95 times, Exp(B) = 0.953, CI(95%) = 0.917 to 0.99, p = 0.013. That is, *Satisfaction with life* shows more association of likelihood with early retirement than with later retirement.

Self-perceived health is a positive and significant predictor of probability of late *Retirement intentions*, B = 0.21, SE = 0.026, p > 0.001. Odds ratio indicate that one unit higher of health self-perception increases the odds for 1.23 times towards later retirement, Exp(B) = 0.21, CI(95%) = 1.234 to 1.299, p < 0.001. This suggests that *Self-perceived health* is a significant predictor of later retirement intentions among older people.

Optimistic future (Future looks good) showed a positive and significant prediction of probability of late *Retirement intentions*, B = 0.153, SE = 0.035, p > 0.001, with odds ratio indicating a likelihood of 1.66 times higher for later retirement for a unit increase of optimistic future among older people, Exp(B) = 1.165, CI(95%) = 1.087 to 1.249, p < 0.001.

In addition, Gender and Age were also included as predictors in the model, for testing the hypothesis H4. *Gender* associates positively and significantly with predicting probability of late *Retirement intentions*, B = 0.098, SE = 0.047, p = 0.038. Odds ratio show that there is 1.103 times higher likelihood for older women to retire later than for older men (Male coded as 1, and Female coded as 2), Exp(B) = 1.165, CI(95%) = 1.006 to 1.209, p = 0.038.

Age as well showed positive and significant predicting probability with late *Retirement intentions*, B = 0.085, SE = 0.006, p > 0.001. Odds ratio show that one year increase among

older people provides 1.088 times more likelihood to retire later, Exp(B)= 1.088, CI(95%) = 1.075 to 1.102, p < 0.001.

In conclusion, all individual factors significantly predicted retirement intentions, with Gender, Age, Self-perceived health, and Optimistic future predicting later retirement intentions; while, Satisfaction with life predicting early retirement intentions. Therefore, these findings confirm the hypothesis H4, for significant prediction of retirement intentions by the individual factors.

3.4.2.4.2 Association of social factors with retirement intentions

Social factors, represented with '*Satisfaction with social network*', show negative and non-significant predicting probability with *Retirement intentions*, B = -0.032, SE = 0.022, p = 0.139, therefore presenting no significant likelihood for any significant prediction of the outcome variable, Exp(B)= 0.968, CI(95%) = 0.927 to 1.011, p = 0.139, thus confirming the null hypothesis.

3.4.2.4.3 Association of work-related factors with retirement intentions

Satisfaction with job is positively and significantly predicting the probability of late *Retirement intentions*, B = 0.555, SE = 0.041, p < 0.001. The odds ratio show that for one unit of increase of satisfaction among older people, there is an increase of 1.74 times of likelihood for later retirement intentions, Exp(B) = 1.741, CI(95%) = 1.605 to 1.888, p < 0.001.

Significant but negative association with *Retirement intentions* has shown *Job physically demeaning*, B = -0.09, SE = 0.023, p < 0.001, indicating that the odds ratio of increase of one unit of physical demand in job, there is a likelihood of 0.97 times of increase of later retirement, Exp(B) = 0.914, CI(95%) = 0.873 to 0.957, p < 0.001. That is, older people intend early retirement in physically demanding jobs.

The predictor variable *Time pressure due to a heavy workload in job* shows as well a negative and significant predicting probability of late *Retirement intentions*, B = -0.174, SE = 0.027, p < 0.001. The odds ration shows that for every unit of increase of heavy workload-related time pressure in older people's job, there is an increase of 0.84 times of likelihood of their late retirement intentions, Exp(B) = 0.84, CI(95%) = 0.797 to 0.886, p < 0.001. That is, the increase of older people's time pressure in job decreases their likelihood in late retirement intentions.

The lack of *Job autonomy* (Little freedom to decide how I do my work in job) was negatively and significantly predicting the probability of late *Retirement intentions*, B = -0.074, SE = 0.027, p = 0.006. The odds ratio show that for every unit increase of the lack of job autonomy among older people, there is an increase of 0.93 times of the likelihood of late retirement intentions, Exp(B) = 0.929, CI(95%) = 0.881 to 0.979, p = 0.006. The finding suggests that the increase of the lack of job autonomy among older people decreases the likelihood for their intentions for late retirement.

The predicting variable *Opportunity to develop new skills in job* shows positive and significant predicting probability of late *Retirement intentions*, B = 0.241, SE = 0.029, p < 0.001. The odds ratio indicates that an increase for one unit of opportunity to develop in job for older people, increases their likelihood for 1.23 times higher for later retirement intentions, Exp(B) = 1.272, CI(95%) = 1.201 to 1.347, p < 0.001.

Conversely, the predictor variable *Receive support in difficult situations in job* shows negative but non-significant predicting probability with late *Retirement intentions*, B = -0.007, SE = 0.033, p = 0.841, therefore confirming the null hypothesis.

Furthermore, *Work recognition (Receive recognition for work in job)* shows positive and significant association with predicting probability of late Retirement intentions, B = 0.022,

SE = 0.035, p < 0.001. The odds ratio suggests that for an increase of unit for job recognition, the likelihood for later retirement among older people increases for 1.25 times, Exp(B) = 1.246, CI(95%) = 1.163 to 1.334, p < 0.001.

In addition, the predicting variable *Salary or earnings are adequate in job* is positively and significantly related with the predicting probability of late *Retirement intentions*, B = 0.009, SE = 0.031, p = 0.003, thus, the odds ratio suggests that for one unit increase in salary/earnings in job, there is an increase of 1.1 times of likelihood for later retirement intentions, Exp(B) = 1.094, CI(95%) = 1.03 to 1.162, p = 0.003.

Moreover, *Poor prospects for job advancement* shows negative and significant association of predicting probability with late *Retirement intentions*, B = -0.115, SE = 0.027, p < 0.001. The odds ratio shows that when poor prospects for job advancement increases for a unit, the likelihood for late retirement intentions increases for 0.89 times, Exp(B) = 0.891, CI(95%) = 0.846 to 0.939, p < 0.001. That is, the likelihood for late retirement intentions decreases when older people face increased lack of prospects for job advancement.

Finally, *Poor job security* is positively and significantly associated with predicting probability of late *Retirement intentions*, B = 0.087, SE = 0.027, p = 0.001. The odds ration indicate an increased likelihood for 1.034 of the late retirement intentions among older people for every unit of increased poor job security, Exp(B) = 0.891, CI(95%) = 1.034 to 1.151, p = 0.001. Interestingly, the finding suggests that increased job security of older people also increases the likelihood for their later retirement intentions.

In conclusion, the hypothesis H4 is confirmed by the majority of work-related factors, such as: Job satisfaction, Job physically demanding, Time pressure due to a heavy workload in job, Little freedom to decide how I do my work in job, Opportunity to develop new skills in job, Receive recognition for work in job, Salary or earnings are adequate in job, Poor prospects

for job advancement, and Poor job security; thus showing a significant predicting likelihood for later retirement intentions among older people. However, only one work-related factors, Receive support in difficult situations in job, did not show significant predicting level for retirement intentions, therefore confirming the null hypothesis. The four testing models and all predictor variables included in the models are presented in table no. 3.11 below.

Table 3.11. Association between retirement intentions and gender, age, and individual, social and work-related factors among older people 55+ years old: Adjusted odds ratios of working with level of significance, confidence intervals (CI 95 %). Data from 2016 cohort.

Models	Variables	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Model 1[a]	Gender	0.056	0.043	1.635	1	0.201	1.057	0.971	1.151
	Age	0.094	0.006	252.022	1	<.001	1.098	1.085	1.111
	Constant	-5.352	0.354	228.258	1	<.001	0.005		
[a]Variable(s) entered on step 1: Gender, Age.									
Model 2[a]	Gender	0.077	0.044	3.044	1	0.081	1.08	0.99	1.178
	Age	0.099	0.006	277.331	1	<.001	1.104	1.092	1.117
	How satisfied with life	0.03	0.018	2.926	1	0.087	1.031	0.996	1.067
	Self-perceived health	0.261	0.025	111.676	1	<.001	1.298	1.237	1.362
	Future looks good	0.298	0.033	80.225	1	<.001	1.347	1.262	1.438
	Constant	-7.799	0.391	397.613	1	<.001	0		
[a]Variable(s) entered on step 2: How satisfied with life, Self-perceived health, Future looks good.									
Model 3[a]	Gender	0.079	0.044	3.138	1	0.077	1.082	0.992	1.18
	Age	0.099	0.006	277.498	1	<.001	1.105	1.092	1.118
	How satisfied with life	0.032	0.018	3.108	1	0.078	1.033	0.996	1.07
	Self-perceived health	0.26	0.025	111.511	1	<.001	1.298	1.236	1.362
	Future looks good	0.298	0.033	80.363	1	<.001	1.348	1.262	1.438
	Social network satisfaction	-0.009	0.021	0.183	1	0.669	0.991	0.952	1.032
	Constant	-7.738	0.417	344.692	1	<.001	0		
[a]Variable(s) entered on step 3: Social network satisfaction.									
Model 4[a]	Gender	0.098	0.047	4.328	1	0.038	1.103	1.006	1.209
	Age	0.085	0.006	175.714	1	<.001	1.088	1.075	1.102
	How satisfied with life	-0.048	0.019	6.225	1	0.013	0.953	0.917	0.99
	Self-perceived health	0.21	0.026	64.643	1	<.001	1.234	1.172	1.299
	Future looks good	0.153	0.035	18.618	1	<.001	1.165	1.087	1.249
	Social network satisfaction	-0.032	0.022	2.184	1	0.139	0.968	0.927	1.011
	Satisfied with job	0.555	0.041	179.131	1	<.001	1.741	1.605	1.888
	Job physically demanding	-0.09	0.023	14.592	1	<.001	0.914	0.873	0.957
	Time pressure due to a heavy workload in job	-0.174	0.027	41.079	1	<.001	0.84	0.797	0.886
	Little freedom to decide how I do my work in job	-0.074	0.027	7.479	1	0.006	0.929	0.881	0.979

Opportunity to develop new skills in job	0.241	0.029	67.689	1	<.001	1.272	1.201	1.347
Receive support in difficult situations in job	-0.007	0.033	0.04	1	0.841	0.993	0.93	1.061
Receive recognition for work in job	0.22	0.035	39.35	1	<.001	1.246	1.163	1.334
Salary or earnings are adequate in job	0.09	0.031	8.535	1	0.003	1.094	1.03	1.162
Poor prospects for job advancement	-0.115	0.027	18.69	1	<.001	0.891	0.846	0.939
Poor job security	0.087	0.027	10.128	1	0.001	1.091	1.034	1.151
Constant	-7.779	0.487	255.611	1	<.001	0		

ªVariable(s) entered on step 4: Satisfied with job, Job physically demanding, Time pressure due to a heavy workload in job, Little freedom to decide how I do my work in job, Opportunity to develop new skills in job, Receive support in difficult situations in job, Receive recognition for work in job, Salary or earnings are adequate in job, Poor prospects for job advancement, Poor job security.

3.5   Study 2-B – 2021 Cohort

3.5.1   Methodology

The study 2-B was designed in the same format as the study 2-A, adapting the same sample characteristics, same variables and same data analysis methods. Nonetheless, there were used two independent samples in 2016 and 2021, recruited for the SHARE project, which had different samples of participants.

3.5.1.1   Participants & datasets

The SHARE project in the eighth wave of data collection, which took place in 2021, included in total 29 countries from Europe, as well as Israel. In comparison to 2016 cohort which were 21 countries included, in 2021 were added eight more countries: Bulgaria, Cyprus, Finland, Latvia, Lithuania, Malta, Romania, and Slovakia. The permission to use the data has been granted by SHARE.

In order to adapt the data for analysis based on the study aims and research questions, the data preparation and processing approach for 2021 cohort was followed the same as in 2016 cohort (see section 3.4.1.1). The final sample for the 2021 cohort was smaller than 2016 cohort, with 8 217 participants, of which 45.2% were male, and 54.8% were female. Age average of

participants was 60.8 (SD = 4.42) ranging from 55-68 years old (see Tables 3.13). This represent a slightly younger sample of participants in regard to age range inclusion in comparison to 2016 cohort, thus representing a slightly higher standard deviation for this sample. However, for the age based on average, the 2021 cohort is represented with roughly one year older (age average for 2016 cohort was 59.74; SD = 4.13). The average educational level of participants was 12.91 (SD = 3.22), slightly higher than for 2016 cohort (M = 12.31; SD = 4.13).

3.5.1.2 Variables and Measures

All variables included in the study 2-A, were also included in the study 2-B with the same type of measurement. A thorough description of variables is provided in the section 3.4.1.2 of the study 2-A. Descriptive analysis of all variables in both 2016 and 2021 cohorts are presented in tables no. 3.12 and 3.13.

Table 3.12. Sample size and Percentage of the categorical variables included in 2021 analyses.

Variable		N	%
Gender	Male	3716	*45.20*
	Female	4501	*54.80*
Look for early retirement	No	4604	*56.00*
	Yes	3613	*44.00*
Received help from others (outside household)	No	7020	*85.40*
	Yes	1190	*14.50*
Given help last twelve months	No	5172	*63.00*
	Yes	3036	*37.00*
Afraid health limits ability to work before regular retirement in job	No	6073	*74.70*
	Yes	2060	*25.30*

Current job requires using a computer	No	1058	*46.60*
	Yes	1211	*53.40*

Table 3.13. Sample size, Mean, and Standard Deviation of the variables included in 2021 analyses.

Variable	N	Mean *(SD)*	Range
Age at the time of interview (in years)	7369	60.80 *(4.42)*	55-86
Years of education	1749	12.91 *(3.22)*	2-25
Network satisfaction	7199	9.06 *(1.10)*	0-10
Satisfied with job	5600	3.38 *(.66)*	1-4
Job physically demanding	5603	2.43 *(1.05)*	1-4
Time pressure due to a heavy workload in job	5597	2.37 *(.91)*	1-4
Little freedom to decide how I do my work in job	5598	2.06 *(.93)*	1-4
Opportunity to develop new skills in job	5590	2.86 *(.87)*	1-4
Receive support in difficult situations in job	5557	2.97 *(.78)*	1-4
Receive recognition for work in job	5569	2.92 *(.79)*	1-4
Salary or earnings are adequate in job	5590	2.69 *(.85)*	1-4
Poor prospects for job advancement	5493	2.83 *(.92)*	1-4
Poor job security	5546	1.88 *(.87)*	1-4
Self-perceived health - us version	7367	3.27 *(.96)*	1-5
How satisfied with life	7338	8.15 *(1.40)*	1-10
Future looks good	7310	3.35 *(.74)*	1-4

Note: Standard Deviations (SD) are put in parentheses.

3.5.1.3　Data analysis methods

Since study 2-B aimed to answer the same research questions, as well as test the same hypothesis as study 2-A, the same data analysis approach was adapted in this study as well. In summary, the results section contains descriptive data analyses including cross-tabulations, as well as chi square, correlation, analysis of variance and logistic regression, undertaken appropriately to test respective hypothesis and answering the study research questions.

3.5.2　Results

3.5.2.1　Differences in distribution of Gender and Retirement intentions in older adults

The study's first and second research questions were answered also with data analysis from 2021 data cohort, including testing of the H1 and H1a hypotheses. These data show that there were 57% of older participants who reported later retirement intentions, among whom 56.8% were men and 57.1% were women who reported later retirement intentions.

Hypothesis H1a was tested also from 2021 data cohort, indicating a significant association between *Gender* and *Health* categorical variable, $\chi^2(1, 7295) = 16.03$, $p < 0.001$, with significant Cramer's V effect of 0.047, $p < 0.001$. 65.70% of older participants who reported early retirement intentions are also afraid that their health would limit their work ability before retirement (see table no. 3.15). However, the H1a hypothesis was not confirmed also for 2021 data cohort since there was higher proportion among men (77,7) who reported that their health did not limit their ability to work, then among women (73,7%).

Table 3.14. Cross-tabulation between: Gender * Afraid health limits ability to work before regular retirement in job. Data from 2021 cohort.

	Afraid health limits ability to work before regular retirement in job		
	No	Yes	Total

Gender	Male	N	2693	771	3464
		%	*77.70%*	*22.30%*	*100.00%*
	Female	N	2824	1007	3831
		%	*73.70%*	*26.30%*	*100.00%*
	Total	N	5517	1778	7295
		%	*75.60%*	*24.40%*	*100.00%*

Cross-tabulations and 2x2 chi-square analysis were performed between categorical outcome variable representing retirement intentions, and other categorical variables, in order to observe the distribution proportions as well as associations among them (see table no. 3.15, and table no. 3.16).

Table 3.15. Cross-tabulations between: Look for early retirement in job * other categorical variables, from the data collected in 2021.

			Look for early retirement in job		
			No	Yes	Total
Gender	Male	N	1988	1513	3501
		%	56.80%	43.20%	100.00%
	Female	N	2210	1658	3868
		%	57.10%	42.90%	100.00%
	Total	N	4198	3171	7369
		%	57.00%	43.00%	100.00%
Received help from others (outside household)	No	N	3544	2712	6256
		%	56.60%	43.40%	100.00%
	Yes	N	651	455	1106
		%	58.90%	41.10%	100.00%
	Total	N	4195	3167	7362

			%	57.00%	43.00%	100.00%
Given help last twelve months	No	N	2548	2059	4607	
		%	55.30%	44.70%	100.00%	
	Yes	N	1645	1108	2753	
		%	59.80%	40.20%	100.00%	
	Total	N	4193	3167	7360	
		%	57.00%	43.00%	100.00%	
Afraid health limits ability to work before regular retirement in job	No	N	3543	1974	5517	
		%	64.20%	35.80%	100.00%	
	Yes	N	610	1168	1778	
		%	34.30%	65.70%	100.00%	
	Total	N	4153	3142	7295	
		%	56.90%	43.10%	100.00%	
Current job requires using a computer	No	N	346	469	815	
		%	42.50%	57.50%	100.00%	
	Yes	N	501	441	942	
		%	53.20%	46.80%	100.00%	
	Total	N	847	910	1757	
		%	48.20%	51.80%	100.00%	

Cross-tabulation distribution between retirement intentions and received help from others indicates that older people who receive support outside their household are slightly more likely (58.90%) to choose for later retirement than those who do not receive support (56.60%). Chi-square analysis indicate a non-significant association between Retirement intentions and *Received help from outside household*, $\chi^2(1, 7362) = 1.88$, p > 0.05, having a significant

Cramer's V size effect of 0.02, p > 0.05. That is, older people aim to be active in work longer in life when they receive support from others on needed situations.

59.80% of older participants who reported later retirement intentions have also reported that they provide support to others. The chi-square analysis indicates a significant association between *Retirement intentions* and *Provide help to others*, $\chi^2(1, 7360) = 13.89$, $p < 0.001$, having a significant though low Cramer's V size effect of 0.004, $p < 0.001$, suggesting that older people who provide support to others are more likely to have later retirement intentions.

Finally, 57.5% of older people who are not required to use their computer in their job intend for early retirement. While, among the group of older people who favour later retirement, 53.2% of them reported that they are required to use computer in their job. Nonetheless, the chi-square analysis indicates a significant association between *Retirement intentions* and the *Received help from outside household*, $\chi^2(1, 1757) = 20.15$, $p < 0.001$, having a significant Cramer's V size effect of 0.11, $p < 0.001$. This finding suggests that using computer at the work place increases the likelihood of older people's retention in the labour market.

Table 3.16. Chi-square associations of retirement intentions with Gender, Current job requiring a computer, Received help from others, Given help last twelve months, and Afraid health limits ability to work before regular retirement. Data from 2021 cohort.

Variables	N	df	Chi-Square	Cramer's V
Gender	7369	1	0.09	0.004
Current job requiring a computer	1757	1	20.15***	0.11***
Received help from others	7362	1	1.88	0.02
Given help last twelve months	7360	1	13.89***	0.04***
Afraid health limits ability to work before regular retirement in job	7295	1	490.65***	.26***

3.5.2.2 Associations among individual, social and work-related factors and between group differences

Inter-variable Pearson correlational analyses were performed for 2021 data cohort in order to examine the relationship between continuous variables, thus testing the hypothesis H2 (see table no. 17). Individual factors such as *Satisfaction with life, Optimistic future* and *Self-perceived health* show moderate relationship with each other. *Satisfaction with life* is positively and significantly related with *Optimistic future* r = 0.44, p < 0.01, *with Self-perceived health* r = 0.33, p < .01, *Job satisfaction*, r = 0.30, p < 0.01, *Work recognition*, r = 0.23, p < 0.01, *Adequate salary/earnings in job*, r = 0.22, p < 0.01, and with *Opportunity to develop new skills in job* and *Receive support in difficult situations in job*, r = 0.22, p < 0.01. The finding suggests that older people who are satisfied with their life, they also are optimistic about their future, perceive their health positively, receive recognition for their work, receive adequate salary/job earnings, have more opportunities to develop in their job, as well as receive support in difficult situations they face in job. On the other side, *Life satisfaction* is also significantly but negatively associated with *lack of Work autonomy* and *Poor job security*, r = -0.16, p < 0.01, *Job physically demanding*, r = -0.13, p < 0.01, *Time pressure related to heavy workload*, r = -0.12, p < 0.01, and with *Poor prospects with job advancement*, r = -0.10, p < 0.01. That is, older people who face with lack of work autonomy, have poor job security, they face with physical demands in their job, have time pressure related to heavy workload and have poor prospects for advancement in their job, they also have low life satisfaction.

Satisfaction with social network, as a social factor, shows significant positive relationship with *Life satisfaction*, r = 0.28, p < 0.01, with *Optimistic future,* r = 0.17, p < 0.01, *Job satisfaction*, r = 00.12, p < .01, *Receiving support in difficult situations in job* r = 0.11, p <

156

0.01, *Self-perceived health*, r = 0.11, p < 0.01, *Receive work recognition*, r = 0.07, p < 0.01, *Adequate salary/earnings in job*, r = 0.06, p < 0.01, and with *Opportunity to develop new skills in job*, r = 0.05, p < 0.01. That is, older people who have higher life satisfaction, higher job satisfaction, are optimistic with their future, have better health perception, receive more support in difficult situations in their job, receive more work recognition, have more adequate salary/earnings in job, and have more opportunities to develop in their job, they also have higher satisfaction with their social network. *Satisfaction with social network* has also negative and significant correlation with *Poor job security,* r = -0.08, p < 0.01, *Time pressure related to heavy workload*, r = -0.06, p < 0.01, and with lack of *Work autonomy*, r = -0.03, p < 0.05, suggesting that they are less satisfied with their social network when they face poorer job security, face more time pressure related to heavy workload, and have less work autonomy.

Work-related factors have shown more significant inter-relations between themselves (see scatterplots in figure no. 3.2), and with individual and social factors. *Job satisfaction* is the most highly correlated variable. The analysis show that older people who *Receive recognition of their work*, they are more satisfied with their job, r = 0.42, p < 0.01. They are also more satisfied the more they *Receive support in difficult situation at work*, r = 0.34, p < 0.01. Moreover, higher *Adequate salary/earnings* that older people have in job influence their higher satisfaction, r = 0.33, p < 0.01. In addition, older people's satisfaction increases when they see more O*pportunities in their job to develop new skills*, r = 0.31, p < 0.01, when they are more *Optimistic about their future*, r = 0.25, p < 0.01, as well as when they *Perceive better health* among themselves, r = 0.15, p < 0.01. *Job satisfaction* is also negatively and significantly related to some other work-related factors. Older people who experience more *lack of Work autonomy*, their satisfaction is lower r = -0.24, p < 0.01. Similarly, older people who face higher *Time pressure related to heavy workload*, they are less satisfied with their job, r = -0.23, p < 0.01. Finally, lower satisfaction among older people is significantly and negatively related to

higher experienced *Poor job security* r = -0.22, p < 0.01, to *Poorer prospects for job advancement,* r = -0.17, p < 0.01, as well as to higher levels of *Physical work demands,* r = -0.15, p < 0.01.

The *higher physical job* older people are demanded in their work the more *Time pressure related to heavy workload* they experience, r = 0.24, p < 0.01, the more they experience lower *Work autonomy,* r = 0.22, p < 0.01, they perceive *Poorer job security,* r = 0.13, p < 0.01, as well as they have *Poorer prospects for job advancement*, r = 0.07, p < 0.01. *Physical job demands* are negatively and significantly related to *Adequate salary/earnings at work* r = -0.21, p < 0.01. In addition, the more they older people experience *Physical job demands*, the more they *Perceive* worse *health conditions,* r = -0.15, p < 0.01, less *Optimistic future* and less *Opportunities to develop new skills*, r = -0.15, p < 0.01, as well as receive less *Work recognition*, r = -0.13, p < 0.01.

Higher levels of *time pressure due to heavy workload* in job experienced among older people lead to higher level of perceived lack of *Work autonomy,* r = 0.25, p < 0.01, higher experience of *Poor job security*, r = 0.08, p < 0.01, and higher experience of poor prospects for job advancement, r = 0.03, p < 0.05. However, higher levels of *Time pressure related to heavy workload* have led to lower level of *Job recognition*, r = -0.20, p < 0.01, less received *Support in difficult situations in job*, r = -0.19, p < 0.01, as well as to the less *Adequate salary/earnings at job*, r = -0.17, p < 0.01, less *Optimistic future*, r = -0.09, p < 0.01, *Poorer job security*, r = -0.08, p < 0.01, and less *Opportunity to develop new skills in job*, r = -0.03, p < 0.05.

When older people experience higher levels of lack of *Job autonomy*, they see less *Opportunities to develop their new skills*, r = -0.23, p < 0.01, they receive less *Work recognition,* r = -0.21, p < 0.01, have less *Adequate salary/earnings in job*, r = -0.17, p < 0.01, are less *Optimistic for their future,* r = -0.14, p < 0.01, *Receive less support in difficult situations in their job*, r = -0.12, p < 0.01, and *Perceive worse health conditions*, r = -0.10, p < 0.01. In addition,

higher level of lack of *Job autonomy* lead also to higher level of *Poor job security*, r = 0.20, p < 0.01, as well as to higher levels of *Poor prospects for job advancement*, r = 0.16, p < 0.01.

Increased levels of *opportunity for older people to develop new skills* are related to the increased *support they Receive in difficult work situations*, r = 0.30, p < 0.01, to higher level of *Work recognition* they receive, r = 0.32, p < 0.01, to their higher *Adequate salary/earnings* in job, r = 0.23, p < 0.01, to better perceived *Optimistic future*, r = 0.21, p < 0.01, as well as to better *Self-perceived health*, r = 0.12, p < 0.01. Furthermore, older people perceive less *Opportunities to develop new skills in job* when they face higher levels of *Poor job prospects for advancement,* r = -0.18, p < 0.01, as well as higher levels of *Poor job security*, r = -0.13, p < 0.01.

Furthermore, correlation analysis show that when older people receive higher *Support in difficult situations in job*, there is tendency for *higher work recognition* for them, r = 0.47, p < 0.01, for higher *Adequate salary/earnings* in job for , r = 0.26, p < 0.01, thus they perceive better *Optimistic future*, r = 0.17, p < 0.01, as well as they *Perceive better health*, r = 0.04, p < 0.01. However, when they have *Received higher support in difficult situations at work*, the level of their *Poor job security* decreases r = -0.15, p < 0.01, as well as they face lower *Poor prospects for job advancement*, r = -0.08, p < 0.01.

Older people perceive that they receive better *Work recognition* when they also receive more *Adequate salary/earnings in job*, r = 0.44, p < 0.01, when they are more *Optimistic for their future*, r = 0.20, p < 0.01, and when *Perceive better health*, r = .11, p < 0.01. On the other side *Work recognition* is negatively related to *Poor prospects for job advancement*, r = -0.16, p < 0.01, and to *Poor job security*, r = -0.15, p < 0.01. That is high work recognition decreases poor prospects for job advancement and decreases poor job security.

Adequate salary/earnings in job is significantly and positively related with *Optimistic future*, r = 0.20, p < 0.01, and *Self-perceived health*, r = 0.14, p < 0.01, suggesting that older people receiving higher salary/earnings in job, have better perception of their health as well as are more optimistic for their future. On the other side, *Adequate salary/earnings in job* are negatively and significantly associated with *Poor prospects for job advancement*, r = -0.18, p < 0.01, and *Poor job security*, r = -0.14, p < 0.01, that is, older people with less salary and earnings in job experience higher poor prospects for their job advancement and higher poor job security.

Poor prospects for job advancement is negatively and significantly correlated with *Self-perceived health*, r = -0.08, p < 0.01, and with *Optimistic future*, r = -0.13, p < 0.01, suggesting that older people who experience higher levels of poor prospects for job advancement, they are less optimistic for their future as well as perceive worse health conditions. *Poor prospects for job advancement* is positively and significantly correlated with *Poor job security,* r = 0.11, p < 0.01, suggesting that older people who have poorer prospects for job advancement, they also have poorer job security.

Finally, *poor job security* is negatively and significantly correlated with *Optimistic future*, r = -0.17, p < 0.01, and *with Self-perceived health*, r = -0.10, p < 0.01, suggesting that older people who experience higher levels of poor job security, they perceive worse health for themselves as well as are less optimistic for their future.

Table 3.17. Frequency, means, standard deviations, and correlations coefficients of continuous variables of data collected in wave 2021

	N	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Satisfied with social network	7199	9.06	1.10													
2. Satisfied with life	7338	8.15	1.40	.28**												
3. Satisfied with job	5600	3.38	0.66	.12**	.30**											
4. Job physically demanding	5603	2.43	1.05	-.02	-.13**	-.15**										
5. Time pressure due to a heavy workload in job	5597	2.37	0.91	-.06**	-.12**	-.23**	.24**									
6. Little freedom to decide how I do my work in job	5598	2.06	0.93	-.03*	-.16**	-.24**	.22**	.25**								
7. Opportunity to develop new skills in job	5590	2.86	0.87	.05**	.17**	.31**	-.15**	-.03*	-.23**							
8. Receive support in difficult situations in job	5557	2.97	0.78	.11**	.17**	.34**	-.08**	-.19**	-.12**	.30**						
9. Receive recognition for work in job	5569	2.92	0.79	.07**	.23**	.42**	-.13**	-.20**	-.21**	.32**	.47**					
10. Salary or earnings are adequate in job	5590	2.69	0.85	.06**	.22**	.33**	-.21**	-.17**	-.17**	.23**	.26**	.44**				
11. Poor prospects for job advancement	5493	2.83	0.92	.02	-.10**	-.17**	.07**	.03*	.16**	-.18**	-.08**	-.16**	-.18**			
12. Poor job security	5546	1.88	0.87	-.08**	-.16**	-.22**	.13**	.08**	.20**	-.13**	-.15**	-.15**	-.14**	.11**		
13. Self-perceived health	7367	3.27	0.96	.11**	.33**	.15**	-.15**	-.02	-.10**	.12**	.04**	.11**	.14**	-.08**	-.10**	
14. Future looks good	7310	3.35	0.74	.17**	.44**	.25**	-.15**	-.09**	-.14**	.21**	.17**	.20**	.20**	-.13**	-.17**	.20**

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Z-test analyses were performed to examine between groups differences of correlation coefficients of associations between individual, social and work-related factors, thus further testing the H2 hypothesis. As for the 2016 data cohort, the majority of correlations of same variable interactions showed non-significant difference between groups. Z-test analysis between groups of older people who intended early and late retirement (see table no. I.3 in appendix I) showed significant difference between L*ife satisfaction* and Job *satisfaction*, r (early retirement) = 0.29 (p < 0.001) & r (late retirement) = 0.24 (p < 0.001), z = 2.01, p < 0.05 (2-tailed); *Life satisfaction* and J*ob physically demanding*, r (early retirement) = -0.15 (p < 0.001) & r (late retirement) = -0.07 (p < 0.001), z = -2.82, p < 0.01 (2-tailed); *Life satisfaction* and *Time pressure due to a heavy workload in job*, r (early retirement) = -0.14 (p < 0.001) & r (late retirement) = -0.05 (p < 0.001), z = -3.33, p < 0.001 (2-tailed); *Life satisfaction* and *Receive support in difficult situations in job*, r (early retirement) = 0.18 (p < 0.001) & r (late retirement) = 0.12 (p < 0.01), z = 2.06, p < 0.05 (2-tailed); *Job satisfaction* and *Little freedom to decide how to do the work in job*, r (early retirement) = -0.24 (p < 0.001) & r (late retirement) = -0.18 (p < 0.001), z = -2.19, p < 0.05 (2-tailed); *Job satisfaction* and *Opportunity to develop new skills in job*, r (early retirement) = 0.31 (p < 0.001) & r (late retirement) = 0.24 (p < 0.001), z = 2.85, p < 0.05 (2-tailed); *Job satisfaction* and *Receive support in difficult situations in job*, r (early retirement) = 0.37 (p < 0.001) & r (late retirement) = 0.24 (p < 0.001), z = 5.29, p < 0.001 (2-tailed); *Job satisfaction* and *Receive recognition for work in job*, r (early retirement) = 0.42 (p < 0.001) & r (late retirement) = 0.33 (p < 0.001), z = 3.66, p < 0.001 (2-tailed); *Job satisfaction* and *Poor prospects for job advancement*, r (early retirement) = -0.18 (p < 0.001) & r (late retirement) = -0.11 (p < 0.001), z = -2.87, p < 0.01 (2-tailed); *Job physically demanding* and *Time pressure due to a heavy workload in job*, r (early retirement) = 0.28 (p < 0.001) & r (late retirement) = 0.17 (p < 0.001), z = 4.02, p < 0.001 (2-tailed); J*ob physically demanding* and *Receive support in difficult situations in job*, r (early retirement) = -0.10 (p < 0.001) & r (late

retirement) = -0.03 (p > 0.05), z = -2.35, p < 0.05 (2-tailed); *Job physically demanding* and *Receive recognition for work in job*, r (early retirement) = -0.14 (p < 0.001) & r (late retirement) = -0.07 (p < 0.001), z = -2.40, p < 0.05 (2-tailed); *Job physically demanding* and *Salary or earnings are adequate in job*, r (early retirement) = -0.23 (p < 0.001) & r (late retirement) = -0.16 (p < 0.001), z = -2.93, p < 0.01 (2-tailed); *Job physically demanding* and *Optimistic future*, r (early retirement) = -0.17 (p < 0.001) & r (late retirement) = -0.09 (p < 0.001), z = -2.68, p < 0.01 (2-tailed); *Time pressure due to a heavy workload in job* and *Optimistic future*, r (early retirement) = -0.09 (p < 0.001) & r (late retirement) = -0.03 (p > 0.05), z = -2.09, p < 0.05 (2-tailed); L*ittle freedom to decide how to do the work in job* and *Receive support in difficult situations in job*, r (early retirement) = -.13 (p < 0.001) & r (late retirement) = -0.07 (p < 0.001), z = -2.12, p < 0.05 (2-tailed); *Little freedom to decide how to do the work in job* and *Poor prospects for job advancement*, r (early retirement) = 0.19 (p < 0.001) & r (late retirement) = 0.13 (p < 0.001), z = 2.27, p < 0.05 (2-tailed); *Opportunity to develop new skills in job* and *Receive recognition for work in job*, r (early retirement) = 0.33 (p < 0.001) & r (late retirement) = 0.27 (p < 0.001), z = 2.44, p < 0.05 (2-tailed); *Receive support in difficult situations in job* and *Receive recognition for work in job*, r (early retirement) = 0.49 (p < 0.001) & r (late retirement) = 0.41 (p < 0.001), z = 3.63, p < 0.001 (2-tailed); *Receive support in difficult situations in job* and *Poor job security*, r (early retirement) = -0.19 (p < 0.001) & r (late retirement) = -0.10 (p < 0.001), z = -3.31, p < 0.001 (2-tailed); *Receive support in difficult situations in job* and *Optimistic future*, r (early retirement) = 0.19 (p < 0.001) & r (late retirement) = 0.12 (p < 0.001), z = 2.99, p < 0.01 (2-tailed); *Receive recognition for work in job* and *Poor prospects for job advancement*, r (early retirement) = -0.18 (p < 0.001) & r (late retirement) = -0.11 (p < 0.001), z = -2.74, p < 0.01 (2-tailed); *Receive recognition for work in job* and *Poor job security*, r (early retirement) = -0.18 (p < 0.001) & r (late retirement) = -0.11 (p < 0.001), z = -2.68, p < 0.01 (2-tailed); *Adequate salary or earnings are adequate in job* and

Poor job security, r (early retirement) = -0.16 (p < 0.001) & r (late retirement) = -0.10 (p < 0.001), z = -1.93, p < 0.05 (2-tailed); *Salary or earnings are adequate in job* and *Self-perceived health*, r (early retirement) = 0.15 (p < 0.001) & r (late retirement) = 0.10 (p < 0.001), z = 2.09, p < 0.05 (2-tailed); *Poor prospects for job advancement* and *Optimistic future*, r (early retirement) = -0.08 (p < 0.001) & r (late retirement) = -0.15 (p < 0.001), z = 2.42, p < 0.05 (2-tailed*); Poor job security* and *Self-perceived health*, r (early retirement) = -0.05 (p < 0.05) & r (late retirement) = -0.12 (p < 0.001), z = 2.61, p < 0.01 (2-tailed); and *Poor job security* and *Optimistic future*, r (early retirement) = -0.20 (p < 0.001) & r (late retirement) = -0.13 (p < 0.001), z = -2.69, p < 0.01 (2-tailed).

Significant differences examined with z-test analysis were found also between men and women on several correlation coefficient comparisons between associations of individual, social and work-related factors (see table no. I.4, in appendix I) such as between *Life satisfaction* and *Adequate salary or earnings in job*, r (early retirement) = 0.25 (p < 0.001) & r (late retirement) = 0.19 (p < 0.001), z = 2.31, p < 0.05 (2-tailed); *Job satisfaction* and *Time pressure due to a heavy workload in job*, r (early retirement) = -0.17 (p < 0.001) & r (late retirement) = -0.27 (p < 0.001), z = 3.97, p < 0.001 (2-tailed); *Job satisfaction* and *Receive support in difficult situations in job*, r (early retirement) = 0.30 (p < 0.001) & r (late retirement) = 0.37 (p < 0.001), z = -2.56, p < 0.01 (2-tailed); *Time pressure due to a heavy workload in job* and *Little freedom to decide how to do the work in job*, r (early retirement) = 0.22 (p < 0.001) & r (late retirement) = 0.28 (p < 0.001), z = -2.39, p < 0.05 (2-tailed); *Time pressure due to a heavy workload in job* and *Receive support in difficult situations in job*, r (early retirement) = -0.12 (p < 0.001) & r (late retirement) = -0.24 (p < 0.001), z = 4.62, p < 0.001 (2-tailed); *Time pressure due to a heavy workload in job* and *Receive recognition for work in job*, r (early retirement) = -0.14 (p < 0.001) & r (late retirement) = -0.24 (p < 0.001), z = 3.83, p < 0.001 (2-tailed); *Time pressure due to a heavy workload in job* and *Salary or earnings are adequate in*

164

job, r (early retirement) = -0.12 (p < 0.001) & r (late retirement) = -0.21 (p < 0.001), z = 3.34, p < 0.001 (2-tailed); O*pportunity to develop new skills in job* and *Poor prospects for job advancement*, r (early retirement) = -0.22 (p < 0.001) & r (late retirement) = -0.16 (p < 0.001), z = -2.22, p < 0.05 (2-tailed); *Receive support in difficult situations in job* and *Receive recognition for work in job*, r (early retirement) = 0.42 (p < 0.001) & r (late retirement) = 0.51 (p < 0.001), z = -4.12, p < 0.001 (2-tailed); *Receive recognition for work in job* and *Salary or earnings are adequate in job*, r (early retirement) = 0.47 (p < 0.001) & r (late retirement) = 0.42 (p < 0.001), z = 2.09, p < 0.05 (2-tailed); S*alary or earnings are adequate in job* and *Optimistic future*, r (early retirement) = 0.24 (p < 0.001) & r (late retirement) =0 .17 (p < 0.001), z = 2.95, p < 0.01 (2-tailed).

3.5.2.3 Between subjects differences among individual, social and work related factors

To test H2 & H3, 2x2 ANOVAs were conducted with *Retirement* (yes and no) and *Gender* (female and male) as the between subject factors, for all individual, social and work-related factors included in this study. ANOVA plots with error bars for all interactions are presented in Figure J.2, Appendix J.

Individual factors. The scores for *Life satisfaction* were submitted to a 2 x 2 ANOVA with *Retirement* (yes and no) and *Gender* (female and male) as between subject factor. Results showed significant main effects of Retirement and Gender, F(1, 14025.42) = 156.99, p < 0.001, η² = 0.021, and F(1, 14025.42) = 6.97, p < 0.01, η² = 0.001, respectively. That is the group of older people for both men and women who intended to retire later scored higher in *Satisfaction with their life* than the group who intended to retire earlier. In addition, men scored slightly higher than women in both retire and non-retire groups. Thus, the interaction between gender and retirement groups did not reach statistical significance F(1, 14025.42) = 0.162, p = 0.69, η² < 0.001.

165

The scores for *Optimistic future* were submitted to a 2 x 2 ANOVA with Retirement (yes and no) and Gender (female and male) as between subject factor. Results showed significant main effects of Retirement, $F(1, 3932.47) = 170.398$, $p < 0.001$, $\eta^2 = 0.023$, and non-significant main effects of *Gender*, $F(1, 3932.47) = 3.69$, $p = 0.055$, $\eta^2 = 0.001$. That is, older people who intended later retirement scored higher in *Optimistic future* than older people who intended earlier retirement. While there is no significant difference whether male or female perceive more or less optimistic future. Further, results show a non-significant interaction between *Gender* and *Retirement*, $F(1, 3932.47) = 0.034$, $p = 0.85$, $\eta^2 < 0.001$.

The scores for *Self-perceived health* were submitted to a 2 x 2 ANOVA with Retirement (yes and no) and Gender (female and male) as between subject factor. Results showed significant main effects of Retirement, $F(1, 6657.165) = 133.51$, $p < 0.001$, $\eta^2 = 0.018$, and non-significant main effects of *Gender*, $F(1, 6657.165) = 0.44$, $p = .51$, $\eta^2 < 0.001$. That is, older people who intended later retirement scored higher in *Self-perceived health* than older people who intended earlier retirement. While there is no significant difference whether male or female participants perceived better health. Further, results show a non-significant interaction between *Gender* and *Retirement*, $F(1, 6657.165) = 1.94$, $p = 0.16$, $\eta^2 < 0.001$.

Social factors. The scores for *Satisfied with social network* were submitted to a 2 x 2 ANOVA with Retirement (yes and no) and Gender (female and male) as between subject factor. Results showed non-significant main effects of Retirement, $F(1, 8715.684) = 1.114$, $p = 0.29$, $\eta^2 < 0.001$, but significant main effects of *Gender*, $F(1, 8715.684) = 12.95$, $p < 0.001$, $\eta^2 = 0.002$. That is, women older participants scored higher in *Satisfaction with social network* than their older counterparts. While there is no significant difference whether the group of older people who intend to retire earlier is more or less satisfied with their social network than the group of older people who intend to retire later. Further, results show a non-significant interaction between *Gender* and *Retirement*, $F(1, 8715.684) = 0.488$, $p = 0.49$, $\eta^2 < 0.001$.

Work-related factors. The scores for *Job satisfaction* were submitted to a 2 x 2 ANOVA with Retirement (yes and no) and Gender (female and male) as between subject factor. Results showed significant main effects of Retirement, $F(1, 2131.124) = 721.21$, $p < 0.001$, $\eta^2 = 0.114$, and non-significant main effects of *Gender*, $F(1, 6657.165) = 1.224$, $p = 0.27$, $\eta^2 < 0.001$. That is, older people who intended later retirement scored higher in *Job satisfaction* than older people who intended earlier retirement. While there is no significant difference whether male or female participants are more satisfied with their job. Further, results show a non-significant interaction between *Gender* and *Retirement*, $F(1, 6657.165) = 3.01$, $p = 0.083$, $\eta^2 = 0.001$.

The scores for *Job physically demanding* were submitted to a 2 x 2 ANOVA with Retirement (yes and no) and Gender (female and male) as between subject factor. Results showed significant main effects of Retirement, $F(1, 6033.265) = 129.97$, $p < 0.001$, $\eta^2 = 0.023$, and non-significant main effects of *Gender*, $F(1, 6033.265) = 2.298$, $p = 0.13$, $\eta^2 < 0.001$. Results suggest that older people who intended later retirement scored lower in *Job physically demanding* than older people who intended earlier retirement. While there is no significant difference whether male or female participants face more physical job demands. Further, results show a non-significant interaction between *Gender* and *Retirement*, $F(1, 6033.265) = 0.001$, $p = 0.97$, $\eta^2 < 0.001$.

The scores for *Time pressure due to heavy workload in job* were submitted to a 2 x 2 ANOVA with *Retirement* (yes and no) and *Gender* (female and male) as between subject factor. Results showed significant main effects of Retirement, $F(1, 4429.141) = 253.74$, $p < 0.001$, $\eta^2 = 0.043$, and non-significant main effects of *Gender*, $F(1, 4429.141) = 1.47$, $p = 0.225$, $\eta^2 < 0.001$. Results suggest that older people who intended later retirement scored lower in *Heavy workload-related time pressure* than older people who intended earlier retirement. While there is no significant difference whether male or female participants face more time pressure at work. Further, as presented in figure 3.4, results show a marginally significant interaction

between *Gender* and *Retirement*, $F(1, 4429.141) = 3.587$, $p = 0.058$, $\eta^2 = 0.001$. That is, women participants group scored lower in no-retirement group, while men participants group scored lower on yes-retirement group.

Figure 3.4. *Means of interaction of Gender and Retirement groups scoring for Time pressure due to heavy workload in job.*

The scores for *Job autonomy (Little freedom to decide how to do work in job)* were submitted to a 2 x 2 ANOVA with *Retirement* (yes and no) and *Gender* (female and male) as between subject factor. Results showed significant main effects of Retirement and Gender, $F(1, 4671.964) = 138.138$, $p < 0.001$, $\eta^2 = 0.024$, and $F(1, 4671.964) = 18.035$, $p < 0.001$, $\eta^2 = 0.003$, respectively. That is the group of older people for both men and women who intended to retire later scored lower in *Job autonomy* than the group who intended to retire earlier. In addition, women scored slightly higher than men in both retire and non-retire groups. Thus, the interaction between gender and retirement groups did not reach statistical significance $F(1, 4671.964) = 0.767$, $p = 0.38$, $\eta^2 < 0.001$.

The scores for *Opportunity to develop new skills in job* were submitted to a 2 x 2 ANOVA with *Retirement* (yes and no) and *Gender* (female and male) as between subject factor.

168

Results showed significant main effects of Retirement, $F(1, 4113.672) = 189.142$, $p < 0.001$, $\eta^2 = 0.033$, and non-significant main effects of *Gender*, $F(1, 4113.672) = 0.47$, $p = 0.49$, $\eta^2 < 0.001$. Results suggest that older people who intended later retirement scored higher in *Opportunity to develop new skills in job* than older people who intended earlier retirement. While there is no significant difference whether male or female participants have more opportunities to develop themselves at work. Further, results show a non-significant interaction between *Gender* and *Retirement*, $F(1, 4113.672) = 0.435$, $p = 0.51$, $\eta^2 < 0.001$.

The scores for *Receive support in difficult situations in job* were submitted to a 2 x 2 ANOVA with *Retirement* (yes and no) and *Gender* (female and male) as between subject factor. Results showed significant main effects of Retirement and Gender, $F(1, 3297.144) = 162.397$, $p < 0.001$, $\eta^2 = 0.028$, and $F(1, 3297.144) = 3.912$, $p = 0.048$, $\eta^2 = 0.001$, respectively. That is the group of older people for both men and women who intended to retire later scored higher in *Receive support in difficult situations in job* than the group who intended to retire earlier. In addition, men scored slightly higher than women in both retire and non-retire groups. Thus, the interaction between gender and retirement groups did not reach statistical significance $F(1, 3297.144) = 1.65$, $p = 0.199$, $\eta^2 < 0.001$.

The scores for *Receive recognition for work in job* were submitted to a 2 x 2 ANOVA with *Retirement* (yes and no) and *Gender* (female and male) as between subject factor. Results showed significant main effects of Retirement, $F(1, 3243.668) = 362.559$, $p < 0.001$, $\eta^2 = 0.061$, and non-significant main effects of *Gender*, $F(1, 3243.668) = 0.131$, $p = 0.71$, $\eta^2 < 0.001$. Results suggest that older people who intended later retirement scored higher in *Receive recognition for work in job* than older people who intended earlier retirement. While there is no significant difference whether male or female participants have more opportunities to receive recognition for their work. Further, results show a non-significant interaction between *Gender* and *Retirement*, $F(1, 3243.668) = 0.264$, $p = 0.61$, $\eta^2 < 0.001$.

169

The scores for *Adequate salary/earnings in job* were submitted to a 2 x 2 ANOVA with *Retirement* (yes and no) and *Gender* (female and male) as between subject factor. Results showed significant main effects of Retirement and Gender, $F(1, 3840.679) = 178.478$, $p < 0.001$, $\eta^2 = 0.031$, and $F(1, 3840.679) = 46.643$, $p < 0.001$, $\eta^2 = 0.008$, respectively. That is the group of older people for both men and women who intended to retire later scored higher in *Adequate salary/earnings in job* than the group who intended to retire earlier. In addition, men scored higher than women in both retire and non-retire groups. Thus, the interaction between *Gender* and *Retirement* groups did not reach statistical significance $F(1, 3840.679) = 0.136$, $p = 0.71$, $\eta^2 < 0.001$.

The scores for *Poor prospects for job advancement* were submitted to a 2 x 2 ANOVA with *Retirement* (yes and no) and *Gender* (female and male) as between subject factor. Results showed significant main effects of Retirement and Gender, $F(1, 4587.864) = 69.414$, $p < 0.001$, $\eta^2 = 0.012$, and $F(1, 4587.864) = 4.494$, $p = 0.034$, $\eta^2 = 0.001$, respectively. That is the group of older people for both men and women who intended to retire later scored lower in *Poor prospects for job advancement* than the group who intended to retire earlier. In addition, women scored slightly higher than men in both retire and non-retire groups. Thus, the interaction between *Gender* and *Retirement* groups did not reach statistical significance $F(1, 4587.864) = 0.034$, $p = 0.85$, $\eta^2 < 0.001$.

Finally, the scores for *Poor job security* were submitted to a 2 x 2 ANOVA with *Retirement* (yes and no) and *Gender* (female and male) as between subject factor. Results showed significant main effects of Retirement $F(1, 4196.565) = 22.677$, $p < 0.001$, $\eta^2 = 0.004$, and Gender, $F(1, 4196.565) = 5.432$, $p = 0.02$, $\eta^2 = 0.001$. That is the group of older people for both men and women who intended to retire later scored lower in *Poor job security* than the group who intended to retire earlier. In addition, men scored slightly higher than women in both

retire and non-retire groups. Thus, the interaction between *Gender* and *Retirement* groups did not reach statistical significance $F(1, 4196.565) = 0.029$, $p = 0.87$, $\eta^2 < 0.001$.

All results of two-way ANOVA for 2021 data cohorts are presented in the table no. 3.18 below:

Table 3.18. Tests of Between-Subjects Effects. Two Way ANOVA for 2021 cohort.

Dependent variable	Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
How satisfied with life	Corrected Model	315.007a	3	105.002	54.907	<.001	0.022
	Intercept	473224.5	1	473224.5	247452.7	0	0.971
	Gender	13.319	1	13.319	6.965	0.008	0.001
	Intention to retire	300.227	1	300.227	156.991	<.001	0.021
	Gender * Intention to retire	0.31	1	0.31	0.162	0.687	0
	Error	14025.42	7334	1.912			
	Total	501167	7338				
	Corrected Total	14340.43	7337				
	a R Squared = .022 (Adjusted R Squared = .022)						
Satisfied with social network	Corrected Model	18.666a	3	6.222	5.137	0.002	0.002
	Intercept	578709.2	1	578709.2	477737.9	0	0.985
	Gender	15.69	1	15.69	12.952	<.001	0.002
	Intention to retire	1.35	1	1.35	1.114	0.291	0
	Gender * Intention to retire	0.591	1	0.591	0.488	0.485	0
	Error	8715.684	7195	1.211			
	Total	600199	7199				
	Corrected Total	8734.351	7198				
	a R Squared = .002 (Adjusted R Squared = .002)						
Future looks good	Corrected Model	93.894a	3	31.298	58.148	<.001	0.023
	Intercept	79269.59	1	79269.59	147272.2	0	0.953
	Gender	1.984	1	1.984	3.686	0.055	0.001
	Intention to retire	91.717	1	91.717	170.398	<.001	0.023
	Gender * Intention to retire	0.018	1	0.018	0.034	0.854	0
	Error	3932.47	7306	0.538			
	Total	85872	7310				
	Corrected Total	4026.364	7309				
	a R Squared = .023 (Adjusted R Squared = .023)						
Self-perceived health	Corrected Model	124.369a	3	41.456	45.852	<.001	0.018
	Intercept	76203.58	1	76203.58	84283.17	0	0.92
	Gender	0.398	1	0.398	0.44	0.507	0
	Intention to retire	120.709	1	120.709	133.508	<.001	0.018
	Gender * Intention to retire	1.756	1	1.756	1.942	0.164	0
	Error	6657.165	7363	0.904			
	Total	85549	7367				
	Corrected Total	6781.534	7366				
	a R Squared = .018 (Adjusted R Squared = .018)						
Satisfied with job	Corrected Model	278.731a	3	92.91	243.968	<.001	0.116
	Intercept	59901.23	1	59901.23	157291.3	0	0.966
	Gender	0.466	1	0.466	1.224	0.269	0
	Intention to retire	274.658	1	274.658	721.209	<.001	0.114
	Gender * Intention to retire	1.147	1	1.147	3.011	0.083	0.001

		Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
	Error	2131.124	5596	0.381			
	Total	66515	5600				
	Corrected Total	2409.856	5599				

a R Squared = .116 (Adjusted R Squared = .115)

Job physically demanding	Corrected Model	143.249a	3	47.75	44.313	<.001	0.023
	Intercept	32707.9	1	32707.9	30353.63	0	0.844
	Gender	2.476	1	2.476	2.298	0.13	0
	Intention to retire	140.003	1	140.003	129.926	<.001	0.023
	Gender * Intention to retire	0.001	1	0.001	0.001	0.974	0
	Error	6033.265	5599	1.078			
	Total	39377	5603				
	Corrected Total	6176.514	5602				

a R Squared = .023 (Adjusted R Squared = .023)

Time pressure due to a heavy workload in job	Corrected Model	207.359a	3	69.12	87.283	<.001	0.045
	Intercept	31143.32	1	31143.32	39326.95	0	0.875
	Gender	1.165	1	1.165	1.471	0.225	0
	Intention to retire	200.942	1	200.942	253.744	<.001	0.043
	Gender * Intention to retire	2.841	1	2.841	3.587	0.058	0.001
	Error	4429.141	5593	0.792			
	Total	36108	5597				
	Corrected Total	4636.5	5596				

a R Squared = .045 (Adjusted R Squared = .044)

Little freedom to decide how I do my work in job	Corrected Model	131.278a	3	43.759	52.395	<.001	0.027
	Intercept	23413.6	1	23413.6	28034.39	0	0.834
	Gender	15.063	1	15.063	18.035	<.001	0.003
	Intention to retire	115.37	1	115.37	138.138	<.001	0.024
	Gender * Intention to retire	0.641	1	0.641	0.767	0.381	0
	Error	4671.964	5594	0.835			
	Total	28613	5598				
	Corrected Total	4803.242	5597				

a R Squared = .027 (Adjusted R Squared = .027)

Opportunity to develop new skills in job	Corrected Model	140.932a	3	46.977	63.791	<.001	0.033
	Intercept	42901.69	1	42901.69	58256.67	0	0.913
	Gender	0.346	1	0.346	0.47	0.493	0
	Intention to retire	139.289	1	139.289	189.142	<.001	0.033
	Gender * Intention to retire	0.32	1	0.32	0.435	0.51	0
	Error	4113.672	5586	0.736			
	Total	49982	5590				
	Corrected Total	4254.604	5589				

a R Squared = .033 (Adjusted R Squared = .033)

Receive support in difficult situations in job	Corrected Model	102.016a	3	34.005	57.271	<.001	0.03
	Intercept	46168.47	1	46168.47	77756.25	0	0.933
	Gender	2.323	1	2.323	3.912	0.048	0.001
	Intention to retire	96.425	1	96.425	162.397	<.001	0.028
	Gender * Intention to retire	0.978	1	0.978	1.647	0.199	0

Error	3297.144	5553	0.594			
Total	52433	5557				
Corrected Total	3399.16	5556				
a R Squared = .030 (Adjusted R Squared = .029)						

Receive recognition for work in job	Corrected Model	212.957a	3	70.986	121.787	<.001	0.062
	Intercept	44486.04	1	44486.04	76322.49	0	0.932
	Gender	0.076	1	0.076	0.131	0.717	0
	Intention to retire	211.348	1	211.348	362.599	<.001	0.061
	Gender * Intention to retire	0.154	1	0.154	0.264	0.607	0
	Error	3243.668	5565	0.583			
	Total	51101	5569				
	Corrected Total	3456.626	5568				
a R Squared = .062 (Adjusted R Squared = .061)							

Salary or earnings are adequate in job	Corrected Model	155.449a	3	51.816	75.363	<.001	0.039
	Intercept	38209.65	1	38209.65	55573.28	0	0.909
	Gender	32.069	1	32.069	46.643	<.001	0.008
	Intention to retire	122.714	1	122.714	178.478	<.001	0.031
	Gender * Intention to retire	0.093	1	0.093	0.136	0.713	0
	Error	3840.679	5586	0.688			
	Total	44580	5590				
	Corrected Total	3996.128	5589				
a R Squared = .039 (Adjusted R Squared = .038)							

Poor prospects for job advancement	Corrected Model	62.052a	3	20.684	24.747	<.001	0.013
	Intercept	42930.28	1	42930.28	51362.53	0	0.903
	Gender	3.756	1	3.756	4.494	0.034	0.001
	Intention to retire	58.018	1	58.018	69.414	<.001	0.012
	Gender * Intention to retire	0.028	1	0.028	0.034	0.854	0
	Error	4587.864	5489	0.836			
	Total	48755	5493				
	Corrected Total	4649.916	5492				
a R Squared = .013 (Adjusted R Squared = .013)							

Poor job security	Corrected Model	21.458a	3	7.153	9.446	<.001	0.005
	Intercept	19046.05	1	19046.05	25152.29	0	0.819
	Gender	4.113	1	4.113	5.432	0.02	0.001
	Intention to retire	17.172	1	17.172	22.677	<.001	0.004
	Gender * Intention to retire	0.022	1	0.022	0.029	0.865	0
	Error	4196.565	5542	0.757			
	Total	23818	5546				
	Corrected Total	4218.022	5545				
a R Squared = .005 (Adjusted R Squared = .005)							

3.5.2.4   Factors associated with retirement intentions

The stepwise binary logistic regression in four blocks was conducted to test the H4 hypothesis also for 2021 cohort data, and providing answers to research question Q3. The table 3.19 below shows model fits based on chi-square tests.

Table 3.19. Chi-square tests of Model Coefficients. Data cohort from 2021.

		Chi-square	df	Sig.
Model 1	Step	270.481	2	<.001
	Block	270.481	2	<.001
	Model	270.481	2	<.001
Model 2	Step	215.181	3	<.001
	Block	215.181	3	<.001
	Model	485.662	5	<.001
Model 3	Step	15.648	1	<.001
	Block	15.648	1	<.001
	Model	501.310	6	<.001
Model 4	Step	554.150	10	<.001
	Block	554.150	10	<.001
	Model	1055.460	16	<.001

As in 2016 cohort data, all four models are significantly fit, however the model 4 presents the best significant model fit for included predictors, with the highest cumulative chi-square value, $\chi^2(16) = 1055.46$, $p < 0.001$. Thus, the model 4 was selected for further data interpretation and testing the hypothesis, containing 14 predictors, of which one is binary (gender) and the other predicting variables are continuous.

The logistic regression analysis indicate that the overall model is statistically significant, $\chi^2(16) = 1055.46$, $p < 0.001$, showing a good fit of the model to data. Analysis show that the goodness-of-fit of the model has also been confirmed with the Hosmer-Lemeshow test, $\chi^2(8) =$

7.168, p= 0.519, showing that there is not a statistical difference between predicted and observed models, which is presented in the table no. 3.20 below.

Table 3.20. Predicted and observed models of data tested with Hosmer and Lemeshow Test. Data cohort from 2021.

		Look for early retirement in job = Yes		Look for early retirement in job?		
		YES		NO		
		Observed	Expected	Observed	Expected	Total
Model 4	1	417	423.658	110	103.342	527
	2	350	337.774	177	189.226	527
	3	300	293.339	227	233.661	527
	4	257	256.416	270	270.584	527
	5	218	220.120	309	306.880	527
	6	176	183.595	351	343.405	527
	7	154	150.868	373	376.132	527
	8	128	122.457	399	404.543	527
	9	76	92.613	451	434.387	527
	10	56	51.162	469	473.838	525

Observing for the Nagelkerke R Square values I note that there is a 24.5% of variance explanation of the model for non-early retirement intentions from the included predictor variables, leaving around three fourth of amount of prediction of the retirement intentions outside the observed predictors.

The data fit model correctly classifies around 70,2% of the cases overall towards the later retirement intentions of older participants, with a cut value at 0.500, as presented on table no. 3.21, which is pretty higher than the model classification without predictors included, which classified 59.5% of the cases towards later retirement intentions. The model specificity (negative rate) accounts for 54,1% of the classified cases that chose the early retirement option. While, 81.1% were classified respondents choosing the non-early retirement at the time of the interview, thus presenting the model sensitivity (positive rate).

Table 3.21. Classification table[a] for the predicted and observed cases in the testing model. Data cohort from 2021.

			Predicted		
			Look for early retirement in job		
	Observed		Yes	No	*Correct %*
Model 4	Look for early retirement in job	Yes	1154	978	54.1
		No	593	2543	81.1
		Overall %			*70.2*

[a] *The cut value is .500*

3.5.2.4.1 Association of individual factors with retirement intentions

The binary logistic regression analysis show that there is negative but non-significant association of probability of *Satisfaction with life* with later *Retirement intentions* among older participants, B = 0.04, SE = 0.028, p = 0.158. The results support no significant likelihood for any significant prediction of the outcome variable, thus confirming the null hypothesis.

Self-perceived health is a positive and significant predictor of probability of late *Retirement intentions*, B = 0.152, SE = 0.035, p > 0.001. The odds ratio indicate that one unit higher of health self-perception increases the odds for 1.164 times towards later retirement, Exp(B) = 1.164, CI(95%) = 1.086 to 1.247, p < 0.001. The results suggest that *Self-perceived health* is a significant predictor of later retirement intentions among older people.

Optimistic future (Future looks good) showed a positive and significant prediction of probability of late *Retirement intentions*, B = 0.156, SE = 0.048, p > 0.001, with odds ratio indicating a likelihood of 1.17 times higher for later retirement for a unit increase of optimistic future among older people, Exp(B) = 1.168, CI(95%) = 1.063 to 1.284, p < 0.001.

In addition, Gender and Age were also included as predictors in the model, for testing the hypothesis H4. *Gender* associates positively and significantly with predicting probability of late *Retirement intentions*, B = 0.015, SE = 0.064, p = 0.019. The odds ratio shows that there is

1.16 times higher likelihood for older women to retire later than for older men (Male coded as 1, and Female coded as 2), Exp(B) = 1.162, CI(95%) = 1.026 to 1.316, p = 0.019.

Age as well showed positive and significant predicting probability with late *Retirement intentions*, B = 0.102, SE = 0.008, p > 0.001. Odds ratio show that one year increase among older people provides 1.11 times more likelihood to retire later, Exp(B) = 1.107, CI(95%) = 1.09 to 1.126, p < 0.001.

In conclusion, all individual factors, but *Satisfaction with life*, significantly predicted retirement intentions, with Gender, Age, Self-perceived health, and Optimistic future predicting later retirement intentions. Therefore, these findings confirm the hypothesis H4, for significant prediction of retirement intentions by the individual factors, besides the predictor variable 'Satisfaction with life', which confirms the null hypothesis, thus predicting early retirement intentions.

3.5.2.4.2 Association of social factors with retirement intentions

Social factors, represented with '*Satisfaction with social network*', show negative and significant predicting probability with late *Retirement intentions*, B = -0.146, SE = 0.031, p < 0.001. The odds ratio results suggest that for one unit higher of satisfaction with social network, older people's likelihood increases for 0.86 times towards later retirement intentions, Exp(B) = 0.864, CI(95%) = 0.813 to 0.919, p < 0.001. That is, the likelihood for late retirement intentions decreases when older people are more satisfied with their social network.

3.5.2.5   Association of work-related factors with retirement intentions

Satisfaction with job is positively and significantly predicting the probability of late *Retirement intentions*, B = 0.783, SE = 0.059, p < 0.001. The odds ratio shows that for one unit of increase of satisfaction among older people, there is an increase of 2.19 times of likelihood for later retirement intentions, Exp(B) = 2.187, CI(95%) = 1.95 to 2.453, p < 0.001.

Job physically demanding is significantly but negatively associated with the predicting probability of late *Retirement intentions*, B = -0.114, SE = 0.032, p < 0.001. The odds ratio indicates that the likelihood of later retirement intentions among older people increases for 0.89 times higher for every unit increase of physical demands in job, Exp(B) = 0.892, CI(95%) = 0.838 to 0.95, p < 0.001. The results suggest that when older people face higher physical demands in their job, they will opt more for early retirement.

The predictor variable *Time pressure due to a heavy workload in job* is significantly and negatively related with the predicting probability of late *Retirement intentions*, B = -0.25, SE = 0.038, p < 0.001. The odds ratio shows that for every unit of heavy workload-related time pressure increase, the likelihood for later retirement intentions among older people increase for 0.78 times, Exp(B)= 0.779, CI(95%) = 0.723 to 0.838, p < 0.001. Thus, the results suggest that older people's later retirement intentions will decrease when they face more time pressure in their work.

The lack of *Job autonomy* (Little freedom to decide how I do my work in job) is negatively but non-significantly associated with the predicting probability of late *Retirement intentions*, B = -0.05, SE = 0.037, p = 0.186. The results suggest that there is no significant likelihood of whether older people decide for early or late retirement when their work autonomy increases.

The predictor variable *Opportunity to develop new skills in job* is significantly and positively related with late *Retirement intentions*, B = 0.144, SE = 0.04, p < 0.001. The odds ratio indicates that for every unit increase of opportunity to develop in job, the likelihood of later retirement intentions increases for 1.56 times more, Exp(B) = 1.155, CI(95%) = 1.067 to 1.25, p < 0.001.

The predictor variable *Receive support in difficult situations in job* is positively but non-significantly related with the predicting probability of late *Retirement intentions*, B = 0.081, SE = 0.048, p = 0.089. These results suggest that there is no significant likelihood of whether older people decide for early or late retirement when they receive support in difficult situations in their job.

Work recognition (Receive recognition for work in job) is positively and significantly related with the predicting probability of late *Retirement intentions*, B = 0.209, SE = 0.051, p < 0.001. The odds ratio shows that for every unit increase of work recognition for older people in their job, the likelihood for later retirement intentions increases for 1.23 times, Exp(B) = 1.233, CI(95%) = 1.116 to 1.361, p < 0.001.

The predictor variable *Salary or earnings are adequate in job* is negatively but non-significantly related to the predicting probability of late *Retirement intentions*, B = -0.029, SE = 0.043, p = 0.5. The results suggest that there is no significant likelihood of whether older people decide for early or late retirement when they receive better salaries/earnings in their job.

Poor prospects for job advancement is negatively and significantly associated with predicting probability of late Retirement intentions, B = -0.101, SE = 0.036, p = 0.006. The odds ration shows that there is a likelihood of 0.9 times higher for older people to retire later for every unit of increase of poor prospects for job advancement, Exp(B) = 0.904, CI(95%) = 0.842 to 0.971, p = 0.006. The results suggest that older people's intention for late retirement decrease when they face poor prospects to advance in their job.

Finally, the predictor variable *Poor job security* is positively and significantly related to the predicting probability of late *Retirement intentions*, B = 0.102, SE = 0.039, p = 0.008. The odds ratio indicate that for every unit of increase of poor job security among older people, the likelihood for late retirement intentions increases for 1.11 times, Exp(B) = 1.108, CI(95%) =

1.027 to 1.195, p = 0.008. Interestingly, the finding suggests that older people who face with higher poor job security, seem to have more likelihood for their later retirement.

In conclusion, the hypothesis H4 is also confirmed by the majority of work-related factors, such as: *Job satisfaction, Job physically demanding, Time pressure due to a heavy workload in job, Opportunity to develop new skills in job, Receive recognition for work in job*, and *Poor job security*; thus showing a significant predicting likelihood for non-early retirement intentions among older people. However, the following work-related factors, *Little freedom to decide how to do the work in job, Receive support in difficult situations in job, Salary or earnings are adequate in job*, and *Poor prospects for job advancement*, did not show significant predicting level for retirement intentions, therefore confirming the null hypothesis. The four testing models and all predictor variables included in the models for 2021 data cohort are presented in table no. 3.22 below.

Table 3.22. Association between retirement intentions and gender, age, and individual, social and work-related factors among older people 55+ years old: Adjusted odds ratios of working with level of significance, confidence intervals (CI 95 %). Data from 2021 cohort.

Model	Variable	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Model 1[a]	Gender	0.136	0.058	5.473	1	0.019	1.146	1.022	1.284
	Age	0.116	0.008	232.2	1	<.001	1.123	1.106	1.14
	Constant	-6.755	0.468	208.717	1	<.001	0.001		
[a]Variable(s) entered on step 1: Gender, Age.									
Model 2[a]	Gender	0.133	0.06	5.005	1	0.025	1.142	1.017	1.284
	Age	0.123	0.008	247.24	1	<.001	1.13	1.113	1.148
	How satisfied with life	0.123	0.025	23.364	1	<.001	1.13	1.076	1.188
	Future looks good	0.326	0.045	53.592	1	<.001	1.385	1.269	1.511
	Self-perceived health	0.18	0.033	30.329	1	<.001	1.198	1.123	1.277
	Constant	-9.845	0.532	342.867	1	<.001	0		
[a]Variable(s) entered on step 2: How satisfied with life, Future looks good, Self-perceived health.									
Model 3[a]	Gender	0.149	0.06	6.193	1	0.013	1.16	1.032	1.304
	Age	0.123	0.008	249.478	1	<.001	1.131	1.114	1.149
	How satisfied with life	0.15	0.026	32.271	1	<.001	1.162	1.103	1.224
	Future looks good	0.333	0.045	55.752	1	<.001	1.396	1.279	1.523
	Self-perceived health	0.18	0.033	30.215	1	<.001	1.197	1.123	1.277
	Social network satisfaction	-0.115	0.029	15.37	1	<.001	0.892	0.842	0.944

181

		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
	Constant	-9.112	0.562	263.026	1	<.001	0		

ᵃVariable(s) entered on step 3: Social network satisfaction.

		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Model 4ᵃ	Gender	0.15	0.064	5.542	1	0.019	1.162	1.025	1.316
	Age	0.102	0.008	150.186	1	<.001	1.107	1.09	1.126
	How satisfied with life	0.04	0.028	1.988	1	0.158	1.041	0.984	1.101
	Future looks good	0.156	0.048	10.414	1	0.001	1.168	1.063	1.284
	Self-perceived health	0.152	0.035	18.651	1	<.001	1.164	1.086	1.247
	Social network satisfaction	-0.146	0.031	21.505	1	<.001	0.864	0.813	0.919
	Satisfied with job	0.783	0.059	178.702	1	<.001	2.187	1.95	2.453
	Job physically demanding	-0.114	0.032	12.645	1	<.001	0.892	0.838	0.95
	Time pressure due to a heavy workload in job	-0.25	0.038	44.214	1	<.001	0.779	0.723	0.838
	Little freedom to decide how to do the work in job	-0.05	0.037	1.75	1	0.186	0.952	0.884	1.024
	Opportunity to develop new skills in job	0.144	0.04	12.666	1	<.001	1.155	1.067	1.25
	Receive support in difficult situations in job	0.081	0.048	2.885	1	0.089	1.085	0.988	1.191
	Receive recognition for work in job	0.209	0.051	17.073	1	<.001	1.233	1.116	1.361
	Salary or earnings are adequate in job	-0.029	0.043	0.454	1	0.5	0.971	0.892	1.057
	Poor prospects for job advancement	-0.101	0.036	7.675	1	0.006	0.904	0.842	0.971
	Poor job security	0.102	0.039	7.032	1	0.008	1.108	1.027	1.195
	Constant	-8.665	0.661	171.789	1	<.001	0		

ᵃVariable(s) entered on step 4: Satisfied with job, Job physically demanding, Time pressure due to a heavy workload in job, Little freedom to decide how I do my work in job, Opportunity to develop new skills in job, Receive support in difficult situations in job, Receive recognition for work in job, Salary or earnings are adequate in job, Poor prospects for job advancement, Poor job security.

3.6 Discussion

3.6.1 Discussion of study findings

Determinants of retirement intentions among older people have raised considerable research interest among many scholars worldwide, which were investigated in single occupational as well as mixed occupational samples. The aim of this study was to investigate the determinants of retirement intentions grouped in individual, social and work-related factors, in a cross-country and cross-occupational sample, from two cohorts of data collected in 2016 and in 2021 under the framework of Survey of Health, Ageing and Retirement in Europe (SHARE) project. Further, the study aimed to investigate those factors with focus on between

groups differences, such as among gender (male and female) and retirement (aiming to retire or not early from job).

In achieving the study aims, I first hypothesized that (H1) older women have intentions to retire earlier than older men, because of gender role they are preoccupied around that time. Analyses employing chi-square and binary logistic regression were conducted to test this hypothesis. Chi-square analysis conducted with 2016 data cohort provided no evidence to support the hypothesis, since there was not found a significant relationship between gender and retirement intentions. In addition, the difference of percentage between men (44.6%) and women (45%) who reported early retirement intentions is extremely low. Similarly, chi-square analysis from 2021 data cohort fail to evidence the confirmation of the H1 hypothesis, because of non-significant association of gender with retirement intentions. In this cohort, too, women (43.2%) had very slightly higher percentage than men (42.9%) for reporting early retirement intentions. However, analyses conducted using the stepwise binary logistic regression evidences the confirmation of alternative hypothesis than H1, confirming that women older participants are more likely than their male counterparts to decide for later retirement. Likewise, logistic regression results from 2021 data cohort confirm the alternative hypothesis than H1, evidencing higher likelihood of older women for later retirement decisions than for their male counterparts. Finally, comparing results from two different data cohorts (2016 and 2021) there were no significant differences on findings between the cohorts in regard to hypothesis H1. These findings contradict the previous research evidence, noting that older woman tend to retire than their male counterpart, because of caring role that they are preoccupied in family at that time (Dingemans, Henkens, and Solinge, 2017).

In addition, while investigating gender differences in retirement intentions I hypothesized (H1a) that older men tend to retire earlier due to health complains than older women. Chi-square analyses were conducted with 2016 data cohort to test the hypothesis,

183

which evidence a significant relationship between gender and health complaints limiting work ability. However, the group of men opting for earlier retirement intentions and reporting health complaints was smaller (23.9%) than the group of women (28.1%). Similarly, results from chi-square analysis from 2021 data cohort showed significant relationship between gender and health complaints limiting work ability, but with the older men belonging to the smaller size of group (22.3%) with reported early retirement intentions and complaining about their health limitations towards their ability to work than older women group (26.3%). The results from both data cohorts thus evidence failure to confirm the hypothesis H1a.

Another aim of the study was to investigate between group differences for gender (male/female) and retirement intentions (early/late retire) in relation to individual, social and work-related factors. I further tested the hypothesis H2 examining differences of relationship among individual, social and work-related factors between gender and retirement groups. The hypothesis was tested employing bivariate correlation analysis for all variables and for each group. While between group differences of inter-variable relationship were tested using z-test. The results derived from analysing data from 2016 cohort provided partial evidence for significant difference between both groups. For example, between Retirement (early/late retirement) group significant differences were found between individual factors (optimistic future, self-perceived health) and work-related factors (receive support in difficult situations, poor prospects for job advancement, time pressure related to workload); between social factors (satisfaction with social network) and work-related factors (receive support in difficult situations in job); and between work-related factors themselves (job satisfaction, receive support in difficult situations in job, job physically demanding, time pressure related to workload, work autonomy, work recognition, opportunity to develop in job, and poor prospects for job advancement).

Similarly, between gender (male/female) group differences of inter-variable relationships showed partial evidence for limited significant interaction between the factors. Hence, between groups differences were found between individual factors themselves (life satisfaction with optimistic future, and self-perceived health); between individual factors (life satisfaction, optimistic future) and social factors (satisfaction with social network); between individual factors (life satisfaction, optimistic future, and self-perceived health) and work-related factors (poor job security, adequate salary/earnings, opportunity to develop in job, and job physically demanding); between social factors (satisfaction with social network) and work-related factors (adequate salary/earnings, and poor job security); and between all work-related factors themselves.

Likewise, between group analysis of inter-variable relationships were examined also for 2021 data cohort. Results from z-test analysis showed partial evidence of differences of relationships between Retirement group, such as between individual factors (life satisfaction, self-perceived health, and optimistic future) with work-related factors (job satisfaction, job physically demanding, time pressure related to workload, receive support in difficult situations in job, adequate salary/earnings in job, poor prospects for job advancement, and poor job security); and between all work-related factors themselves. Finally, between gender (male/female) group analysis have also showed evidence for several significant differences between relationships of variables, such as between individual factors (life satisfaction, and optimistic future) and individual factors (adequate salary/earnings in job; and between work-related factors themselves. With 2021 data cohort there were no significant difference between social factors and other factors, compering between gender groups. Furthermore, between gender group differences of relationships of individual and other factors were poor. To conclude, the results from bivariate correlations and z-test analyses provided partial evidence to confirm the H2 hypothesis. While, stronger evidence was found from 2016 data cohort, five

years later (2021) the results-based evidence is weaker for between group differences (both for Gender and Retirement groups), though presenting more homogeneity of findings in single cohorts.

Through testing the hypothesis H3 the study aimed to shed light on the influence of retirement intentions in relation to whether older people have better physical health, are more satisfied with life, and are more optimistic for their future. The hypothesis was tested employing a two-way ANOVA with Retirement and Gender as factors, with both 2016 and 2021 data cohorts. The results from 2016 data cohorts evidenced confirmation of hypothesis H3, with the group of older people who reported later retirement intentions scoring higher on Satisfaction with life. The H3 hypothesis was also confirmed with results evidenced from ANOVA analysis for both Retirement groups scoring for Optimistic future. A significant difference was found for higher scoring on Optimistic future among the group who reported later retirement intentions. Similarly, the ANOVA results showed evidence for confirming H3 hypothesis for both Retirement groups scoring for Self-perceived health. Results evidenced a higher scoring of better Self-perceived health among the group of older people reporting non-early Retirement.

Following the direction of assumption of the H3 hypothesis, I performed ANOVA analysis also with social and work-related factors to investigate the effects of retirement and gender on them. Social factors measured through Satisfaction with social network, was found to be affected by Retirement, therefore having received higher scores from the older people group who reported later retirement intentions. Furthermore, all work-related factors were found to be affected by Retirement. The group of older people who reported later retirement intentions scored higher for Job satisfaction, Opportunity to develop in job, Receiving support in difficult job situations, Work recognition, and Adequate salary/earnings in job. Conversely, the group of older people who reported earlier retirement intentions scored higher on Poor job security, Poor prospects for job advancement, limited Work autonomy, Time pressure related

to workload, and Job physically demanding. The later factors instead confirmed the alternative hypothesis rather than H3.

Likewise, the H3 hypothesis was tested also with data from 2021 cohort for the three individual factors, as well as for the other social and work-related factors. ANOVA results evidenced confirmation of the hypothesis for the individual factor, Life satisfaction, getting higher scores from the group of older participants (both men and women) who reported later retirement intentions. In addition, Optimistic future was found to gain higher scores among the older people group opting for later retirement, thus supporting the H3 hypothesis. This hypothesis was confirmed also with better Self-perceived health which received higher scores from the group of older people who reported later retirement intentions. Retirement was not found to have a significant effect on the social factors represented with Satisfaction with social network. On the other side, all work-related factors were found to be significantly affected by Retirement groups. The individual factors such as Job satisfaction, Opportunity to develop in job, Receiving support in difficult job situations, Work recognition, and Adequate salary/earnings in job, showed confirming evidence with hypothesis H3. Conversely, the rest of individual factors such as Poor job security, Poor prospects for job advancement, limited Work autonomy, Workload related time pressure, and Job physically demanding, received higher scores among the older people group opting for earlier retirement, thus confirming the alternative hypothesis rather than H3.

ANOVA analysis were conducted also to examine the effects of Gender on individual, social and work related factors. For 2016 data cohort results evidenced significant effects of Gender on Life satisfaction, Social network satisfaction, Self-perceived health, Job physically demanding, limited Work autonomy, Receiving support in difficult job situations, Adequate salary/earnings in job, Poor prospects for job advancement, and for Poor job security. Male older participants scored higher on Poor job security, Adequate salary/earnings in job, Job

physically demanding, Self-perceived health, and Life satisfaction. While females scored higher on Poor job prospects for job advancement, Receiving support in difficult job situations, limited Work autonomy, and Social network satisfaction. Similarly, results from 2021 data cohort evidenced significant gender effects on Life satisfaction, Social network satisfaction, limited Work autonomy, Receive support in difficult job situations, Adequate salary/earnings in job, Poor prospects for job advancement, and Poor job security. Male older participants scored higher on Life satisfaction, Adequate salary/earnings in job, and Poor job security. While, female older participants scored higher on Social network satisfaction, limited Work autonomy, Receive support in difficult job situations, and Poor prospects for job advancement.

To sum up, the two-way ANOVA revealed important findings in regard to the gender groups and retirement intention groups on the dependent variables clustered into the individual, social and work related factors of older participants. Retirement intentions was the most influential factor with significant main effects in almost all dependent variables in both data cohorts. Gender was found to have less but substantial effect in the majority of dependent variables in both cohorts. However, interactions between both factors, Gender and Retirement, were found to be significant only in 2016 data cohorts in the variables such as Poor job security (marginal), Adequate salary/earnings in job, Receiving support in difficult job situations, and Time pressure related to workload.

In further pursuing the study aims, the hypothesis H4 looked to investigate individual, social and work-related factors as predictors of later retirement intentions in two different time points. Because of binary nominal measurement of the outcome variable, Retirement intentions, I employed a stepwise binary logistic regression to test the hypothesis. The logistic regression testing model for 2016 data cohort included sixteen predictor variables which altogether shared 19.9% of variance explanation. From all participants (11 325), 66.6% were classified from the model to the non-early retirement group. All 5 individual factors (including here also gender

and age of participants) significantly predicted retirement intentions. Gender was a significant predictor of later retirement intentions, with older female group prevailing. Similarly, later retirement was predicted also by the Age of participants, suggesting the older the participants are the later retirement decisions they would choose.

Self-perceived health predicted significantly retirement intentions suggesting that the better health the older people perceive, the later retirement option they would go for. Optimistic future also was positively associated with later retirement intentions, suggesting the higher likelihood for later retirement intentions among the older people having higher levels of optimism for their future. Conversely, Satisfaction with life was the only individual factor that predicted early retirement intentions among older people, thus confirming the alternative hypothesis from H4. This suggests that older people who have higher levels of satisfaction with life their likelihood for later retirement is smaller.

In addition, there was found no significant association between Retirement intentions and social factors, represented through Satisfaction with social network, suggesting that whether older people are satisfied or not with their social network, it does not have any influence on whether they decide for late or early retirement, therefore confirming the null hypothesis instead.

Furthermore, from ten work-related factors included in the regression model, five from them significantly predicted non-early retirement intentions. That is older people with higher Job satisfaction, having more Opportunities to develop in their job, Receive more work recognition, having more Adequate salary/earnings in job, and having Poorer job security, have higher likelihood for later retirement. This evidence is partially in line with previous studies (von Bonsdorff, 2009). Conversely, four other work-related predicted significantly early retirement intentions. These finding suggest that when older people face in their job increased

levels of Physical demands, increased levels of Time pressure related to workload, increased levels of limited work autonomy, and increased levels of Poor prospects for job advancement, their likelihood decreases for later retirement intentions, thus all four factors supporting the alternative hypothesis rather than H4. Finally, the work-related factor, Receive support in difficult situations in job, did not reach statistical significant level of prediction for retirement intentions, therefore supporting the null hypothesis instead.

The binary logistic regression model tested with 2021 data cohort classifies 70.2% of all cases (7369 participants) into the group of later retirement intentions. Furthermore, from sixteen variables entered into the model, their shared variance accounts for around one fourth (24.5%) of predicting the retirement intentions. Under the five included individual factors, including gender and age of participants, Optimistic future, Self-perceived health, Gender and Age of participants significantly predicted retirement intentions. The results show that all of these four factors confirm the H4 hypothesis. That is, Gender of older participants predicted later retirement intentions, with female prevailing. As reported earlier, these results were confirmed the same as in 2016 data cohort. Age of participants also predicted later retirement intentions, that is the older that older people get, their likelihood for later retirement intentions increases. In addition, the study findings suggest that older people's likelihood for later retirement intentions increases when their future optimism increases, too. Likewise, when older people's perception about better health increases, the likelihood for later retirement intentions is higher. However, differently form 2016 data cohort, Satisfaction with life was not found to be a significant predictor of retirement intentions, which confirmed the null hypothesis.

Differently from 2016 data cohort, social factors, represented with Satisfaction with social network, significantly predicted retirement intentions. However, the results showed contradictory finding with formulated H4 hypothesis, which confirm that older people's likelihood for later retirement decreases when their level of satisfaction with their life increases.

190

Out of ten work-related factors included in the regression model, seven of them predicted significantly retirement intentions. Job satisfaction, Opportunity to develop in job, Work recognition, and Poor job security significantly predicted later retirement intentions. That is, the likelihood of later retirement intentions increased among older people when they have higher level of job satisfaction, more opportunity to develop in their job, when they receive higher work recognition, and have poorer job security. These findings confirm the H4 hypothesis. Conversely, Job physically demanding, Time pressure related to workload, and Poor prospects for job advancement showed significant predicting levels for early retirement intentions. The results thus suggest that when older people face higher physical demands in their job, have more time pressure dealing with workloads, as well as when they face with higher lack of prospects to advance in their job, the likelihood for their late retirement decreases. Thus, the finding confirms the alternative hypothesis instead. Finally, the three remaining work-related factors, Work autonomy, Receiving support in difficult job situations, and Adequate salary/earnings in job, showed no significant association with retirement intentions, which confirm the null hypothesis.

3.6.2 Study strengths

This study brings an alternative approach to the present research literature on treating the active ageing phenomenon through examining retirement intentions, and factors that influence them. This approach lists a few elements which makes this study distinctive from other similar research work.

First, this study takes a longitudinal perspective using cohort data in two points of time, and tends to provide comparing results and marking differences of results from one cohort to the other cohort. This approach enabled a better opportunity to observe how older people shaped their way towards retirement intentions in relation to various aspects they experience in life, work, and their network, across the time.

Second, the majority bulk of research investigating retirement intentions in the present literature had taken a narrower contextual perspective, therefore having less possibility to provide a wider context investigation of the phenomenon. Hence, this study investigated active ageing through examining retirement intentions, using a large cross-national (Europe-wide) and cross-occupational sample systematically selected, thus being able to provide an immense generalization of findings across the nations and occupations. Additionally, the larger sized sample provides more power to the analysis to investigate differences and provide better effect sizes on various measurements. Furthermore, the approach that SHARE adapted in data collection, through several waves over almost two decades (since 2004) has been standardized and fine-tuned over the time, therefore ensuring a better reliability and validity of variable measurements, included in the study.

Finally, the study was designed by taking into consideration findings from previous qualitative research under chapter two (Study 1), from which several found and concluded themes were observed with quantitative data under this study, therefore providing a better foundation for theoretical testing of the observed phenomena.

3.6.3   Study limitations

In addition to the contribution of the study to the active ageing research literature, there were a few study limitations identified. The study was designed taking into consideration the availability and format of the data and measures that SHARE had included. This has led to a different approach of measuring retirement intentions, for example only through a single forced question, which was scaled as binary type of variable, hence limiting the possibility for more appropriate statistical analysis in observing changing paradigms over e period of time, using repeated measures. Thus, the study instead adapted a cohort approach and investigating same factors in two period of time. Besides that, the data were affected by considerable non-responses and attritions in various variables, therefore being able to analyse the targeted variables with

different sample sizes. This also considerably impacted a few variables, such as education and computer skills in job, which variables were excluded from the analysis because of high data attrition they faced.

3.6.4   Future research

This study brought complementary findings in regard to further understanding active ageing through the examination of retirement intentions among older people. Although the study adopted a comprehensive measurement model predicting retirement intentions from sixteen variables with individual, social and work-related nature, their suggested share of variance is still low (around 20% from the 2016 data cohort, and around 24.5% from the 2021 data cohort), thus leaving considerable options for further investigation. There is quite evidence from previous research examining other factors with economic, social, work and organizational nature (Wijeratne, Earl, Peisah, Luscombe, and Tibbertsma, 2017; Armstrong-Stassen, Schlosser, and Zinni, 2012). However, there still is insufficient research focused on retirement intentions investigated, on the one side in relation to psychological factors including personality characteristics, and to some extend also in relation to the mental health variables. While, on the other side retirement intentions particularly, and active ageing more generally, need to be investigated in relation to socio-economic systems of societies, with focus also on different models of welfare states.

4   CHAPTER 4 – General Discussion

4.1   Summary

The overall aim of the thesis was to investigate active ageing phenomenon through the examination of the retirement intentions in two cohort samples, using a mixed study design combining qualitative and quantitative approaches, thus responding to a two-fold purpose.

First, in two independent cohort samples of older participants 55 years and above the thesis explored new themes and elements coming from their experiencers and perceptions regarding their work activity before, around and after regular retirement time. The sample of participants in both cohorts, 2016 and 2021 respectively, included older people who were still actively working at the time of interview. This was achieved through the qualitative studies, which are presented in Chapter 2, as Study 1-A and Study 1-B.

Second, the thesis aimed to test theoretical models of relationships among identified and previously research evidenced factors grouped as individual, social and work-related factors, with intentions to retire of older people. This was achieved using data from two independent samples, in 2016 and in 2021, collected through the SHARE project in 28 European countries and Israel. Data from two independent samples among the same variables allowed the possibility to observe for possible change of the investigated theoretical paradigms over half decade of time. This was achieved through the quantitative studies, which are presented in Chapter 3, as Study 2-A and Study 2-B.

This chapter provides a summary discussion of research findings, discussed under each thesis aim and research question, in comparison with similar research evidence. Furthermore, the chapter summarizes the key research contributions that the thesis adds to the research knowledge, the research limitations identified, as well as key future research suggestions as important to further follow up in this research line.

4.2   Identification of new themes at the older people's work activity

The qualitative study overally aimed to explore any important new themes from work practices that older people have reflected from their daily work experiences in the dimension of completing work duties and task, and in the direction of interacting with others at work. This was achieved from observing and analysing qualitative-based data collected with semi-structured interviews in a homogenous socio-economic context, but in a cross-occupational sample of 37 Albanians 55 years old and above, living and working in Kosovo. The data were collected in two independent cohorts with similar sample characteristics, with 15 interviews conducted in the first cohort in 2016, and 22 interviews conducted in the second cohort in 2021. For the data analysis I followed a thematic analysis approach with the aim to identify important themes and elements that are meaningful in older people's work. The data analysis process followed a six-step procedure (Braun and Clarke, 2006), from the interview transcribing and familiarizing with the data, to the identification of codes, generation of new themes, which procedure followed further in theme categorization and naming, as well as writing the analysis report. The research questions of the study one guided the data analysis patterns to derive the study results, which are briefly summarized and discussed in the sections below. This represented a theory-driven approach. Themes were also identified based on observing the data patterns, from the codes that appeared in different research questions and among participants. This presented the data-driven approach of data analysis.

4.2.1   What kind of individual, social and work-related issues older people perceive as important elements for their work activity? Which of these elements are perceived to have positive or negative effect to their work?

Older people participants were first asked a few open ended questions to stimulate discussion about the issues such as their willingness to work longer in life and the reasons that would keep them or not active in work. The thematic analysis revealed a numerous of themes identified, which were grouped as individual, social and work related themes/factors that older

people brought in their discussion context during the interviews. Thematic analysis under the individual factors revealed *Being healthy fit* as one of curtail factors important for older people to be able to remain active longer at work. That included both elements of physical and mental health. In the 2021 data cohort, the issue of Covid-19 affecting older people was examined, which was highly ranked as most influential factor on the work of older people. Furthermore, the second key theme identified was *Gain respect at work*. Older people who receive respect from colleagues, managers, and even clients at their work, they seem to like more their job, therefore in turn increasing their opportunity to remain longer active in work. Moreover, *Loving/ling the job/profession*, and *Desire to remain active* were the other identified factors that older people participants stressed as key reason why they remain active on their work. This finding has suggested that when older people work on tasks and scopes that they like, as well as on the work area that they love to be engaged in, their internal motivation to continue to work longer in life seem to be stronger. The finding is in line with previous research suggesting research evidence of older people's passion to work on the old age (Shacklock, 2005; Sterns, 2010). In addition, though lower ranked than previously listed factors, *Financial need* seems to be another individual factor why older people aim to stay longer in work. Older people's needs for finances in their older age seem to be considerably present (Sterns, 2010), particularly in the socio-economic context of low level of family incomes, such as Kosovo is, seems to be an important factor that shall push older people not to retire early from paid work. Finally, the identified theme such as *Getting appreciation at work* was another aspect that has meaningful importance on the work of older people as additional drives to stimulate them reaming longer in work.

The thematic analysis revealed several other themes grouped under social factors, which were related to the interest and activity of older people participants with others at the work place and beyond. *Maintaining social network* revealed to be supported by quite a number of codes

identified among interviews in regard to how older people see it in their work activity. That was related closely also with other identified social themes/factors, such as *Collaborating with others* at work, *Supporting others*, as well as *Transferring the knowledge/experiences* to younger employees at work. That is, older people value their "investment" in the social network (allocating time to maintain and extend it), which seemed to be a multi-fold beneficial to them, such as in providing a better possibility for collaborating with social network individuals, creates the possibility for them to share knowledge and transfer work experiences, thus also allowing them to share mutual respect with co-workers and other parties that they interact in the work-place. In this regard, *Sharing respect with co-workers*, both in the direction of taking respect from others as well as giving respect to others, was identified as another important social theme in the interviews with older people.

Work-related identified themes were in higher number than the other two groups of factors. Elements of *Work motivation* and *Work satisfaction* have been revealed among interviewed older participants as important aspects for choosing towards work continuation. Work motivation appeared in both intrinsic and extrinsic types. Older people showed internal drive to contribute to society by sharing their gained experience and knowledge, which they would be achieving this if they continue to work longer in their life. External drive pushing older people to work was mainly related on the one side to the financial need that they continued to have; and on the other side by getting work reward through appreciation and gratitude, both from people internal to their organization, such as co-workers and management, as well as from people external to organization they work such as partner organizations and clients. Work satisfactions was emphasized in the context of liking the job as a profession and the possibility for exercising that profession, which as mentioned above under this section, poses a passion of older people for exercising their professional work. *Work feedback* is another work-related factor which appeared in discussions across many interviewed older participants. Work

feedback was reported to appear as a critique received from both hierarchy and clients in regard to enhancing the working practice on various work omissions. Although with a negative connotation, this type of feedback was reported to be positively accepted by the older participants in terms of enhancing their work practice. On the other side, work feedback was also reported to appear as a reward. As a positive feedback, it was mainly reported to have been provided by co-workers, managers and clients in the form of appraisal, gratitude and acknowledgement for good work performance. Accordingly, it was previously evidenced that when older people receive feedback at work, it supports older people's commitment to achieve work goals as well as increases their motivation (Wild-Wall et al., 2009). Nevertheless, participants reported also aspects where there was lack of feedback on the work they were doing. They mainly reported aspects when they lacked feedback in relation to receive appreciation and respect in the workplace, which to them turned to create monotonous working atmosphere. Furthermore, other work-related field, which revealed from thematic analysis, relate also to aspects which were considered by older people having an inappropriate impact in their work. These themes include the *Need for using technology in work*, *Lack of work conditions*, such as working tools/means, *Change of work methods*, *Lack of support from organization*, and *Pressure from others at work* (staff, managers, clients).

The identified themes/factors were also analysed in the context that they may have been perceived to have a positive or negative impact on the older people in the workplace. The factors that were reported to have a negative impact were listed as barriers, while the other factors that were reported to have a positive impact on the work of older people were listed as facilitators. Facilitating factors were identified quite high in number, which include: Good cooperation at work; Supporting others; Feedback as a reward - positive feedback; Feedback as critique; Satisfied with the work; Love/like the job/profession; Teamwork; Desire to remain active; Transferring/sharing knowledge/experiences with others; Doing the work properly; Sharing

198

respect with colleagues - giving and taking; Maintaining social contacts/network; Motivation (both intrinsic and extrinsic); Achieved success at work; Being active continuously; Being healthy fit; Committed at work; Learning through experience; and Gain respect at work;

On the other side, identified themes with negative impact on the work of older people, listed as barriers, such as: Stress (particularly from sensitive cases at work) / facing with stressful situations; Work overload/pressure; Difficulties using technology; Health problems (chronical and acute); Being affected from COVID; Pandemics - dealing with work during pandemics; Inappropriate/ lack of feedback; Dealing with difficult people at work; Issues using technology; Lack of work conditions (working tools/means); Lack of collaboration, including work conflicts; Lack of reward (appreciation/respect); Lack of support - from organization and others; Changing work methods; Age discrimination; Difficulty to adapt with work demands-requirements; and Struggling to keeping work-life balance.

To conclude, the findings of this thesis from the study one employing qualitative and explorative approach suggest a comprehensive list of identified themes/factors which have important roles in the work of older people 55 years old and above. Based on their characteristics of manifestation among older people, these factors were grouped on the one side as of individual, social, and work-related nature. While on the other side they were listed as barriers or facilitators, based on the modalities that they affected the work of older people. The identified list of these factors have been supporting the more systematic research investigation patterns in the study two, employing a quantitative and theory testing approach.

4.2.2 What kind of strategies older people perceive as beneficial for keeping them active at work?

A secondary aim of the qualitative study was to identify strategies that older people either use or see as helpful to them to support their work activity and effectiveness. The interview questions that drove the discussion with participants, related to aspects about whether

older people expected to remain longer in the labour market, and how older people described and explained their work strategies to become effective in their work. In addition, in the 2021 cohort older people were also asked questions about examining the impact of Covid in their work activity and work effectiveness.

The thematic analysis revealed a number of aspects that older participants emphasized that they either practice or estimate them as important to use in their work. Based on the nature of their manifestation among older people, the identified working strategies were grouped in relation to: a) individual behaviour and style towards keeping themselves fit with the work; and b) based on the interaction that older people have with others at work. In the first group, the key identified working strategies among interviewed older participants revealed to be: Being active continuously, Being healthy fit, Learning through experience, Good coordination skills, Finding solutions, Knowing work barriers and challenges, Being fair, Being patient, Enhance working methods, Love/like the job-profession, and Do a leisure activity. While, in the second group, fewer working strategies, but important ones, were identified such as Good cooperation with others at work, Teamwork (in form of consultations), and Asking (others) for support.

To sum up, the older people perpetuate with different working strategies that they see supportive towards their effective work at the workplace. The findings from study one reveal several aspects that older people translate into their working strategies to facilitate them being active at work. The thesis findings in this point are in line with the theoretical model (Baltes et al.,1997) of Selecting Optimization, and Compensation (SOC) strategies, which further explain the self-management behaviours that older people adapt in relation with successful ageing (Freund and Baltes, 1999).

4.2.3 To what extent the change of experience and perceptions of older people is present regarding their work activity before, around and after their regular retirement in two time points?

As explained at the beginning of this chapter, the thesis investigated through the study one also how the changes appear between half a decade cohorts, and whether new factors reveal from the one to the other cohort.

4.2.3.1 Differences and similarities in identified themes

In regard to the first aim of the study one, two identified themes grouped as individual factors appeared in the 2016 and 2021 cohorts, such to be healthy fit, as well as getting respect and appreciation at work. In 2021 several more individual related themes revealed such as financial need, desire to remain active, and loving/ liking the job and profession to exercise. In the second cohort, Covid impact in health was heavily reported, however not posing drawbacks among older participants to continue working.

Similar patterns of findings revealed also among social related themes/factors in both cohorts. For example, the themes Transferring knowledge to others, Social contribution, and Maintaining social networks revealed in both study cohorts. In addition, in the 2021 study cohort appeared also Cooperation with others at work, and Sharing (giving and taking) respect with others.

Finally, in the work-related revealed themes, similar themes that appeared in both cohorts are Work satisfaction, Work motivation (intrinsic and extrinsic), and Feedback at work (both positive and negative feedback). In 2021 cohort, older participants also reported aspects of lack of feedback at all for their work, which seemed to influence their work motivation and satisfaction on the decreasing direction. Furthermore, in the 2016 data cohort, Teamwork also appeared as important work aspect for older people that facilitates their work effectiveness. In addition, in the 2021 data cohort, additional themes revealed related to work, such as Using

technology posing difficulties, Lack of work conditions (working tools/means), Work methods changing, Pressure from others at work, and Lack of support at work.

4.2.3.2 Differences and similarities in identified barriers and facilitators

Observing the data from the qualitative research there appeared also similar and different findings in both data collection cohorts in regard to the positive or negative role of identified themes/factors that have on the work of older people. The facilitator themes that revealed from 2016 data, were confirmed also with 2021 findings, such as: Stress (particularly from sensitive cases at work), Lack of work conditions (working means/tools), Work overload/pressure, Difficulties using technology, and Health problems. In addition, from 2021 findings several other themes having the role as barriers appeared: Pandemics - dealing with work during pandemics, Inappropriate feedback, Dealing with difficult people, Non-good cooperation – conflicts, Lack of collaboration, Lack of positive feedback (rewards/appreciation/respect), Lack of support at work, Pressure from others (in organization), Changing work methods, Difficulty to adapt with new work demands/requirements, Struggles to keeping work-life balance, and Age discrimination.

Similarly, confirmation of same results revealed from both data cohorts for a number of themes with facilitating role, including: Maintaining social network, Motivation (intrinsic and extrinsic), Work feedback (positive and negative), Satisfied with the work, and Sharing respect with colleagues (giving and taking). However, different from barrier-related themes, in 2016 data cohort there were a few themes identified, which did not appear in 2021 data findings, such as Being active continuously (particularly in work activities different from regular job), Being healthy fit, Work commitment, and Learning through experience. In addition, in 2021 data cohort a list of new themes with facilitating role appeared: Good cooperation at work, Contribution to society/ supporting others, Love/ like the job/ profession, Teamwork (through

consultations), Desire to remain active, Transferring/ sharing knowledge/ experiences to others, and Doing the work properly/ Achieve success.

To sum up, the majority of themes that were identified in 2016 data cohort were confirmed with findings from the 2021 data cohort. However, findings from 2021 data cohered revealed larger list of themes/factors that were estimated important for the work of older people, either having a positive or negative impact in their work. The different results in some stances across the cohorts could have been also for the fact that the sample of participants in 2021 was around 30% larger than in 2016 cohort. Moreover, this change and difference could also be attributed on the one side to changing patterns of the organizational working practices, and on the other side for the reason of impact that Covid had in individuals and organizations during 2020 and 2021 towards the change of work practice adapting to organizational and individual needs and requirements.

4.3   Relation of individual, social and work-related factors with retirement intentions

The second main aim of this thesis was to systematically measure the relationship of selected individual, social and work-related factors with the retirement intentions, and that was achieved through Study 2, Chapter 3. In addition, a comprehensive comparison of measurement of such relationship was conducted in two different point of time, in order to observe for possible variability over a period of time. Aligning with the overall approach of cohort research that was adapted in this thesis, quantitative survey data were observed from 2016 and 2021 data waves collected under the Survey of Health, Ageing and Retirement in Europe (SHARE) project. In achieving this aim, the following sections provide a summary of findings in key research questions of study 2, and compares them with relevant findings of previous research.

4.3.1 What are the differences in intentions to retired among 55 years and above old male *and female across the time?*

The first aim of the thesis under the study 2 was achieved by testing the first hypothesis which assumed that (H1) older women have intentions to retire earlier than older men, because of gender role they are preoccupied around that time. The hypothesis was tested employing Chi-square analysis conducted with both data cohorts. Findings from 2016 data cohort provided no evidence to support the hypothesis, since there was not found a significant relationship between gender and retirement intentions. Similarly, chi-square analysis from 2021 data cohort fail to evidence the confirmation of the H1 hypothesis, because of non-significant association of gender with retirement intentions. However, analyses conducted using the stepwise binary logistic regression from 2016 data cohort evidences the confirmation of alternative hypothesis than H1, suggesting that women older participants are more likely than their male counterparts to decide for non-early retirement. Likewise, logistic regression results from 2021 data cohort confirm the alternative hypothesis than H1, evidencing higher likelihood of older women for non-early retirement decisions than for their male counterparts. In addition, the H1a hypothesis that older men have earlier retirement intentions due to health complains than older women. Results derived from Chi-square analyses with both 2016 and 2021 data cohorts to test this hypothesis showed significant relationship between gender and health complaints limiting work ability, but with the older men belonging to the smaller size of group.

A second aim of the study 2 was to investigate between group differences for gender (male/ female) and retirement intentions (early/late retire), achieved through testing the hypothesis H2 examining differences of relationship among individual, social and work-related factors. The results derived from analysing data from 2016 and 2021 data cohorts provided partial evidence for significant difference between both groups. For example for 2016 cohort, between Retirement (early/late retirement) group significant differences were found between individual factors (optimistic future, self-perceived health) and work-related factors (receive

support in difficult situations, poor prospects for job advancement, time pressure related to workload); between social factors (satisfaction with social network) and work-related factors (receive support in difficult situations in job); and between work-related factors themselves (job satisfaction, receive support in difficult situations in job, job physically demanding, time pressure related to workload, work autonomy, work recognition, opportunity to develop in job, and poor prospects for job advancement). In addition, results from 2021 data cohort employing bivariate correlations and z-test analyses provided partial evidence to confirm the H2 hypothesis. There was no significant difference between social factors and other factors, compering between gender groups. Results from gender (male/female) group analysis have also showed evidence for several significant differences between relationships of variables.

The H1a hypothesis was also tested through examination of gender (male/female) between groups differences. Z-test analysis of relationships between the variables evidenced a few significant differences between male and female participants for individual factors (life satisfaction with optimistic future, and self-perceived health) and work-related factors (adequate salary/earnings, and poor job security, and job physically demanding). Furthermore, group differences of inter-variable relationships showed partial evidence for limited significant interaction between the factors.

4.3.2 Do people who intend to retire and those who don't differ on several measures reflecting individual, social and work-related factors?

The second aim of the study 2 was examined also through testing the hypothesis H3, which stated that there is influence of retirement intentions in relation to whether older people have better physical health, are more satisfied with life, and are more optimistic for their future. The hypothesis was tested employing a two-way ANOVA with Retirement and Gender as factors, with both 2016 and 2021 data cohorts. The group of older people who reported later retirement intentions scored better on Satisfaction with Life, Optimistic future, and in Self-

perceived health, thus confirming H3 hypothesis for both Retirement groups. In this direction, the same approach was undertaken with social and work-related factors. Only the results from 2016 data cohort provided evidence of confirmation that the social factors gained higher scores by the group of participants opting for non-early retirement intentions. Meanwhile, all work-related factors gained higher score by the group of older people who opted for non-early retirement, in both data cohorts (2016 and 2021).

ANOVA analysis were conducted also to examine the effects of Gender on individual, social and work related factors. For 2016 data cohort results evidenced significant effects of Gender on Life satisfaction, Social network satisfaction, Self-perceived health, Job physically demanding, limited Work autonomy, Receiving support in difficult job situations, Adequate salary/earnings in job, Poor prospects for job advancement, and for Poor job security. Results from 2021 data cohort evidenced significant gender effects on Life Satisfaction with work and social network satisfaction. Male participants scored higher on Poor job prospects for career advancement, Receive support in difficult job situations, and Life satisfaction. While, female participants scored higher on Social Network satisfaction, Limited Work Autonomy, and Acceptability in difficult situations.

To sum up, the two-way ANOVA revealed important findings in regard to the gender groups and retirement intention groups on the dependent variables clustered into the individual, social and work related factors of older participants. Retirement intentions was the most influential factor with significant main effects in almost all dependent variables in both data cohorts. Gender was found to have less but substantial effect in the majority of dependent variables in both cohorts. However, interactions between both factors, Gender and Retirement, were found to be significant only in 2016 data cohorts in the variables such as Poor job security (marginal), Adequate salary/earnings in job, Receiving support in difficult job situations, and Time pressure related to workload.

4.3.3 What are the best individual, social and work-related predictors of intentions to retire in older adults?

The third aim of the study 2 wads to investigate the relationship between the intentions to retire and individual, social and work-related factors (H4). In order to examine their predicting role towards retirement intentions, which was measured in a binary scale, stepwise logistic regression was applied for both 2016 and 2021 data cohorts. In general, results from 2021 data cohort evidenced a greater variance (24.5%) explanation of the retirement intentions prediction than results from 2016 data cohort (19.9%). Results evidenced that being an older female increases the likelihood not to retire early. Similarly, the older an individual is, the likelihood for early retirement is smaller, which represent a controversial finding towards the generally posed expectations that older people would continue to retire as they get older. Furthermore, in regard to individual factors, Self-perceived health predicted intentions to not retire early suggesting that the better health the older people perceive, the later retirement option they would go for. Optimistic future also was positively associated with non-early retirement intentions. Satisfaction with life was the only individual factor that predicted early retirement intentions among older people, suggesting that older people who have higher levels of satisfaction with life their likelihood for later retirement is lower. That was evidenced only with 2016 data cohort, while no significant relationship between intentions to retire and satisfaction with life was evidenced with 2021 data cohort.

Social factors represented through Satisfaction with social network was found to predict non-early retirement intentions only with 2021 data cohort, implying that the better social network older people maintain, the lower chances for their early retirement exist.

Finally, work-related factors were evidenced to show partial role in predicting retirement intentions for both data cohorts. Results from 2016 cohort confirmed only five factors predicting non-early retirement intentions, such as: Opportunity to develop in their job; Receiving more work recognition; having more Adequate salary/earnings in job; and having

Poorer job security. Four other factors (Physical demands; increased levels of Time pressure related to workload; increased levels of limited work autonomy; and increased levels of Poor prospects for job advancement) predicted early retirement. And finally one factor (Receive support in difficult situations in job) did not show significant relationship with intentions to retire. Similarly, results from 2021 data analysis showed only 7 factors having a significant relationship with retirement intentions. Four of them Job satisfaction, Opportunity to develop in job, Work recognition, and Poor job security significantly) predicted non-early retirement intentions. The following three ones: Job physically demanding, Time pressure related to workload, and Poor prospects for job advancement, showed significant predicting levels for early retirement intentions. Finally, three remaining work-related factors: Work autonomy, Receiving support in difficult job situations, and Adequate salary/earnings in job, did not show any significant relationship with intentions to retire.

4.4   Strengths of the thesis research & Theoretical contributions

As explained in the last section of chapter one under the Thesis aims and research questions, as well as under the first section of this chapter, this thesis adapted a mix methods design approach as an overarching methodology to contribute to active ageing knowledge. The majority of previous research on active ageing, more specifically on investigating retirement intentions, either had adapted a qualitative approach to investigate retirement intentions among older people, or through a quantitative investigation, mainly in cross-sectional research.

As one main contribution to the research knowledge on the retirement intentions, I note that this thesis provides research evidence, is that it combines on the one side a qualitative exploration of aspects that are meaningful to older people in their work before, around and after retirement, which are of individual, social and work-related nature, based on how they affect people in their work activity. On the other side the thesis provides a systematic investigation of the predicting role of individual, social and work-related aspects/factors towards intentions to

retire. On both approaches, the thesis brought research evidence on examining cohort data were from independent samples, collected in 2016 and 2021, thus providing a better foundation for theoretical testing of the observed phenomena. In this direction, this thesis research deign tends to provide comparing results and marking differences of results from one cohort to the other cohort. This approach enabled a better opportunity to observe how older people shaped their way towards retirement intentions in relation to various aspects they experience in life, work, and their network, across the time.

In addition, the majority bulk of research investigating retirement intentions in the past research work had taken a narrower contextual perspective, therefore having less possibility to provide a wider context investigation of the phenomenon, thus suggested that research needs to take a more global and longitudinal perspective of investigation (Bonsdorff, 2009). Hence, the quantitative part of thesis research, explained in chapter 3, investigated active ageing through examining retirement intentions, using a large cross-national (Europe-wide) and cross-occupational sample systematically selected, thus being able to provide an immense generalization of findings across the nations and occupations. Additionally, the larger sized sample provides more power to the analysis to investigate differences and provide better effect sizes on various measurements. Furthermore, the approach that SHARE adapted in data collection, through several waves over almost two decades (since 2004) has been standardized and fine-tuned over the time, therefore ensuring a better reliability and validity of variable measurements, included in this thesis research.

4.5 Thesis practical contributions and research limitations

In addition to the theoretical contribution to the active ageing research literature, the thesis also provides a number of practical implications, at the country, organizational and individual levels. For national economies, the research highlights the need for flexible retirement regulations that would allow older people to decide to stay longer in employment.

In organizations, older people need to have flexible possibilities to engage at work, with reduced workloads, and more opportunities to share experience and knowledge accumulated over years. Finally, at the individual level, older people need to engage in strategies that support their work activities, such as keeping fit and healthy, working on jobs they like, enhancing working methods, and collaborating with others.

In addition to research contributions and strengths, there were also identified a few research limitations. First, although I adopted a mixed study design combining qualitative and quantitative data collection and analysis approaches, investigating the retirement intentions in two cohort data collection, the socio-economic and cultural contexts where the qualitative and quantitative data were collected are different. In particular, the qualitative data were collected in Albanian speaking samples in Kosovo, representing a homogenous cultural context, whereas the quantitative data were taken from the SHARE project representing 28 European countries and Israel. To some extent, the experiences and perceptions of the work context are likely to reflect where the participants from Kosovo were working at the time of interview. Nevertheless, variability in the experiences and perceptions of the work context is anyhow present among the SHARE sample of older workers across Europe. Furthermore, both the qualitative and quantitative studies used population samples with similar sampling characteristics, that is, older people over 55 years old, representing both genders and coming from different education backgrounds and occupations.

Second, the quantitative part of the thesis research, Study 2, was designed taking into consideration the availability and format of the data and measures that SHARE had included. This has led to a different approach of measuring retirement intentions, for example only through a single forced question, which was coded as a binary variable, hence limiting the possibility for more appropriate statistical analysis in observing changing paradigms over a period of time, using repeated measures. Thus, the study instead adapted a cohort approach,

210

investigating the same factors at two periods of time. Besides that, the data were affected by considerable non-response and attrition in some variables, such as education and computer skills in job. As a result, these variables had to be excluded from data analysis.

4.6 Future research guidance

This thesis research brought complementary findings in regard to further understanding active ageing through the examination of retirement intentions among older people. Although this thesis through the quantitative study adopted a comprehensive measurement model predicting retirement intentions from sixteen individual, social and work-related variables, the amount of variance explained is still low (around 20% from the 2016 data cohort, and around 24.5% from the 2021 data cohort), thus leaving considerable options for further investigation. There is some evidence from previous research highlighting the potential importance of other economic, social, work and organizational factors. In addition to examining a broader range of factors, future research should also focus on the interplay between intrinsic (e.g. motivations) and extrinsic (e.g. financial) factors in shaping older adults' retirement decisions. Further, both retirement intentions in particular, and active ageing more generally, need to be investigated in relation to the socio-economic systems of societies, with a focus also on different models of welfare states.

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Appendices

Appendix A – Interview protocol with 2016 cohort

Age: _____ years

Gender: ☐ M   ☐ F

Work position: _____

Sector: _____

****
***

Interview topics

1. **Could you describe some of the reasons that keep you engaged at work?**
   - Is that a motivation/satisfaction with being active?
   - A need?
   - Satisfaction with your contribution?

2. **What do you think are your contributions at the work, particularly after a long work experience?**
   - To the team?
   - To the organization?

3. **In your work you are commonly giving and receiving feedback. What kind of feedback is more effective in relation to your performance?**

4. **How do you deal with interpersonal relations with your colleagues at work?**
   - Sharing experiences?
   - Contribution to conflict resolution?
   - Other issues?

5. What are the most difficult issues / elements that you face at work?

- (dealing with new) Technology?

- (frequent interaction with) Job complexity?

- Other issues?

6. Do you experience stressful situations in your job?

If yes:

- How do you handle them?

- How do they affect your performance?

7. Are there health related issues that influence your performance?" and if yes, explain more about:

- Physical abilities?

- Cognitive abilities?

- Emotional abilities?

8. Would you suggest that people should work/remain occupied with activities after their retirement?

- If yes, why?

- If no, why not?

9. Could you describe some of the strategies you use to work effectively in your job?

Appendix B – Consent form for interviews in 2016 cohort

4.6.1.1   Participant Consent Form

Title of Research Project: Identifying factors that influence work-related performance in individuals over 55 years

Name of Researcher: **Bujar Gallopeni**

Participant Identification Number for this project:

Please tick the box

1. I confirm that I have read and understand the information letter
   dated ___/___/_____ explaining the above research project and I have had the

   opportunity to ask questions about the project.

2. I understand that my participation is voluntary and that I am free to withdraw
   at any time without giving any reason and without there being any negative
   consequences. In addition, should I not wish to answer any particular
   question or questions, I am free to decline.

3. I understand that my responses will be kept strictly confidential (only if true).
   I give permission for members of the research team to have access to my
   anonymised responses. I understand that my name will not be linked with
   the research materials, and I will not be identified or identifiable in the
   report or reports that result from the research.

4. I agree that the interview is to be recorded and for the data collected from me to be

    used in future research.

5. I agree to take part in the above research project.

_____   _____   _____

Name of Participant   Date   Signature

(*or legal representative*)

_____   _____   _____

Name of person taking consent   Date   Signature

(*if different from lead researcher*)

To be signed and dated in presence of the participant

Bujar Gallopeni_____   _____   _____

 Lead Researcher   Date   Signature

To be signed and dated in presence of the participant

4.6.1.2 Participant Information Sheet

You are being invited to take part in a research project. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with the researcher if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

The research project "*Identifying factors that influence work-related performance in individuals over 55 years*" aims to find out potential factors that are important and have influence at any form on the work performance in people over 55 years. These factors include social, work-related, or individual components.

The research targets individuals over 55 years of age that employed either in full-time jobs or part-time engagements in the public or private sectors in any job profile. The information will be collected via interviews and will be audio-recorded.

The research takes place as part of PhD studies.

You have been chosen as one of potential and relevant participants fitting the needs and scope of the research.

The participation in the interview is voluntary and you will be asked to sign a consent form. You can withdraw from the interview at any time. If that is the case, you do not have to give a reason for your withdrawal.

The participants' data will be strictly confidential. The interviews will be coded, and the collected material will only be used for the analysis and deriving research conclusions.

You will only take part in an interview by answering a set of open-ended questions about how you deal at workplace and at your job in relation of work, social and individual matters. The interview will take about 15-20 minutes and will be recorded with an audio device.

The participants are not at any risk and they will not be exposed to any distressing events during the interviews.

Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will contribute to the knowledge and literature about factors affecting performance in the work-place in individuals over 55 year of age by identifying work related strategies that could be used to improve performance.

In case you feel at any time that you have been mistreated or that the interview process is going inappropriate, you could discuss this with supervisors of this project:

Prof. Rod Nicolson, from University of Sheffield, Department of Psychology (email: r.nicolson@sheffield.ac.uk)

Dr. Antonia Ypsilant, from Department of Psychology at the City College (email: aypsilanti@city.academic.gr)

The project was reviewed and approved by the Ethics Review Committee of the University of Sheffield in the United Kingdom.

In case you need further information or explanation about this research, please do not hesitate to contact me in the contact details as below:

Tel: +377 44 299021

Email: b.gallopeni@yahoo.com   ,   bgallopeni1@sheffield.ac.uk

Age: _____ years

Gender: ☐ M   ☐ F

Work position: _____

Work Sector: _____

Economic sector: _____

****

Interview topics

1. **Could you describe some of the reasons that keep you actively engaged at work?**

   - Is that a motivation/satisfaction with being active?

   - Is that a need (financial, or other reasons)?

   - Or you get satisfaction with your contribution?

2. **What do you think are your contributions at the work, particularly after a long work experience?**

   - To the team?

   - To the organization?

3. **In your work you are commonly giving and receiving feedback. What kind of feedback is more effective in relation to your performance?**

4. **How do you deal with interpersonal relations with your colleagues at work?**

   - Sharing experiences?

   - Contribution to conflict resolution?

   - Other issues?

5. **What are the most difficult issues / elements that you face at work?**

   - (dealing with new) Technology?

   - (frequent interaction with) Job complexity?

   - Cognitive demands?

   - Physical demands?

   - Other issues?

6. **Do you experience stressful situations in your job?**

   If yes:

   - What are more common stressful aspects you find in your job?

   - How do they influence your work activity?

7. **How do you handle stressful situations at work?**

   - How do they affect your work activity?

8. **Are there health related issues that influence your work activity?" and if yes, explain more about:**

   - Physical abilities?

   - Cognitive abilities?

   - Emotional abilities?

9. **Would you suggest that people should work/remain occupied with activities after their retirement?**

   - If yes, why?

   - If no, why not?

10. Could you describe some of the strategies you use to work effectively in your job, particularly if you are active now during coronavirus pandemic?

11. Do you expect to remain longer active in labor market?

- Even after your retirement?

- What are the reasons that push you to leave early your job / stay active in labor market?

12. How much the coronavirus pandemic is affecting you to remain active at your job?

   - To what extend is this situation a concern of your health being affected?

   - How this is affecting your interest and decision to continue work during and after the pandemic?

Consent Form

Identifying factors that influence work-related activity of individuals over 55 years

Please tick the appropriate boxes	Yes	No
Taking Part in the Project		
I have read and understood the project information sheet dated _____ or the project has been fully explained to me. (If you will answer No to this question please do not proceed with this consent form until you are fully aware of what your participation in the project will mean.)	☐	☐
I have been given the opportunity to ask questions about the project.	☐	☐
I agree to take part in the project. I understand that taking part in the project will include an interview taking place via telephone.	☐	☐
I understand that my taking part is voluntary and that I can withdraw from the study at any time. I do not have to give any reasons for why I no longer want to take part and there will be no adverse consequences if I choose to withdraw.	☐	☐
How my information will be used during and after the project		
I understand my personal details such as name, phone number, address and email address etc. will not be revealed to people outside the project.	☐	☐
I understand and agree that my words may be quoted in publications, reports, web pages, and other research outputs. I understand that I will not be named in these outputs unless I specifically request this.	☐	☐
I understand and agree that other authorised researchers will have access to this data only if they agree to preserve the confidentiality of the information as requested in this form.	☐	☐
I understand and agree that other authorised researchers may use my data in publications, reports, web pages, and other research outputs, only if they agree to preserve the confidentiality of the information as requested in this form.	☐	☐
I give permission for the interview that I provide to be deposited and accessed by the researcher so it can be used for future research and learning.	☐	☐
I understand and agree that the interview is to be recorded audially and for the data collected from me to be used in future research.	☐	☐
I agree to assign the copyright I hold in any materials generated as part of this project to The University of Sheffield.	☐	☐

Name of participant [printed]   Signature   Date

Name of Researcher [printed]   Signature   Date

Project contact details for further information:

Researcher	Bujar Gallopeni	bgallopeni1@sheffield.ac.uk	+38344299021
Supervisor	Professor Ana Vivas	vivas@citycollege.sheffield.eu	+302310 224421 (Ext.117)
Supervisor	Professor Rod Nicolson	Rod.Nicolson@edgehill.ac.uk	+441695 657684

Appendix F – Information sheet for participants in 2021 cohort

Participant Information Sheet

Research Project Title: Identifying factors that influence work-related activity in individuals over 55 years"

Dear Participant,

You are being invited to take part in a research project. Before you decide whether or not to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

The aim of this research is to find out potential factors that are important and have influence at any form on the work activity in people over 55 years. These factors include social, work-related, or individual components.

The research targets individuals over 55 years of age who are employed either in full-time jobs or part-time engagements in the public or private sectors in any job profile. The information will be collected via interviews and will be audio-recorded.

The research takes place as part of doctoral studies.

You have been chosen as one of potential and relevant participants fitting the needs and scope of the research. The participation in the interview is voluntary and you will be asked to sign a consent form. It is up to you to decide whether or not to take part. If you do decide to take part, you will be given this information sheet to keep (and be asked to sign a consent form) and you can still withdraw at any time without any negative consequences. You do not have to give a reason in case you decide to withdraw. If you wish to withdraw from the research, please contact me on the contact information provided at the end of the sheet.

Please note that you cannot withdraw from this study after data analysis have taken place.

You will only take part in an interview by answering a set of open-ended questions about how you deal at workplace and at your job in relation of work, social and individual matters. The interview will take about 20 to 25 minutes and **will be recorded with an audio device**. The audio recording will be used only for analysis of the data, and will not be used for anything else.

The interview is going to take place online, via telephone, or any other online form that you may use.

Please be informed that the participants' data will be strictly confidential. The interviews will be coded, and the collected material will only be used for the analysis and deriving research conclusions.

By participating in this interview you are not going to be exposed to any type risk and they will not be exposed to any distressing events during the interviews.

Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will contribute to the knowledge and literature about factors affecting performance in the work-

place in individuals over 55 year of age by identifying work related strategies that could be used to improve performance.

All the information that we collect about you during the course of the research will be kept strictly confidential and will only be accessible to members of the research team. You will not be able to be identified in any reports or publications unless you have given your explicit consent for this. If you agree to us sharing the information you provide with other researchers (e.g. by making it available in a data archive) then your personal details will not be included unless you explicitly request this.

According to data protection legislation in Kosovo (Law no. o6/L-082 for protection of personal information), we are required to inform you that the legal basis we are applying in order to process your personal data is that 'processing is necessary for the performance of a task carried out in the public interest' (Article 6(1)(e)).

Due to the nature of this research it is very likely that other researchers may find the data collected to be useful in answering future research questions. We will ask for your explicit consent for your data to be shared in this way.

This research is organized under the umbrella of the University of Sheffield doctoral program, which also controls how the data is collected, processed, analysed and used. Consequently, the project has been ethically approved via the University of Sheffield's Ethics Review Procedure, as administered by Psychology department.

If you agree to participate in the interview, you will receive a copy of this information sheet and a signed consent form to keep.

Thank you very much for deciding to be part of this project and provide an interview!

In case you feel at any time that you have been mistreated or that the interview process is going inappropriate, you could discuss this with supervisors of this project:

Professor Ana Vivas, from Department of Psychology at the City College (email: vivas@citycollege.sheffield.eu)

Professor Rod Nicolson, from Edge Hill University, Department of Psychology (email: Rod.Nicolson@edgehill.ac.uk)

In case you need further information or explanation about this research, please do not hesitate to contact me in the contact details as below:

Tel: +377 44 299021

Email: b.gallopeni@yahoo.com , bgallopeni1@sheffield.ac.uk

Appendix G – Scatterplots representing inter-variable analysis between individual, social and work-related factors for 2016 and 2021 data cohorts

Figure G.1. *Scatterplot analysis between individual, social and work-related factors. Data cohort from 2016.*

a.

b.

c.

Figure G.2. *Scatterplot analysis between individual, social and work-related factors. Data cohort from 2021.*

a.

b.

c.

Table H.1. Frequency, means, standard deviations, and correlation coefficients of continuous variables in comparison to outcome variable of data collected in wave 2016

	Variables	N	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
	1.How satisfied with life	6100	8.16	1.42													
Look for early retirement in job: No	2.Social network satisfaction	5781	9.05	1.07	**.28****												
	3.Satisfied with job	5498	3.53	.59	**.24****	.13**											
	4.Job physically demanding	5501	2.29	1.04	-.12**	-.002	-.10**										
	5.Time pressure due to a heavy workload in job	5489	2.31	.90	-.03*	-.04**	-.16**	.19**									
	6.Little freedom to decide how I do my work in job	5491	1.97	.92	-.07**	-.01	-.18**	.18**	**.20****								
	7.Opportunity to develop new skills in job	5493	2.98	.84	.16**	.09**	**.23****	-.12**	.02	-.16**							
	8.Receive support in difficult situations in job	5470	3.02	.80	.15**	.13**	**.28****	-.04**	-.12**	-.07**	**.23****						
	9.Receive recognition for work in job	5468	3.04	.77	**.21****	.11**	**.34****	-.07**	-.13**	-.11**	**.23****	**.41****					
	10.Salary or earnings are adequate in job	5491	2.75	.85	**.22****	.03*	**.26****	-.18**	-.13**	-.12**	.16**	**.20****	**.39****				
	11.Poor prospects for job advancement	5427	2.81	.93	-.10**	.001	-.11**	.06**	-.004	.09**	-.10**	-.03*	-.12**	-.16**			
	12.Poor job security	5444	1.9	.89	-.18**	-.04**	-.17**	.12**	.03*	**.20****	-.10**	-.09**	-.14**	-.16**	.11**		
	13.Self-perceived health - us version	6248	3.41	.99	**.34****	.09**	.12**	-.15**	.03*	-.08**	.11**	.05**	.12**	.15**	-.06**	-.18**	
	14.Future looks good	6091	3.4	.73	**.44****	.15**	.18**	-.13**	-.003	-.10**	.19**	.13**	.19**	.19**	-.13**	-.17**	**.21****

	Variables	N	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
	1.How satisfied with life	4958	7.76	1.57													
Look for early retirement in job: Yes	2.Social network satisfaction	4556	8.98	1.14	**.25****												
	3.Satisfied with job	4216	3.15	.71	**.26****	.11**											
	4.Job physically demanding	4217	2.56	1.05	-.11**	.01	-.09**										
	5.Time pressure due to a heavy workload in job	4216	2.58	.92	-.07**	-.03*	-.16**	**.22****									
	6.Little freedom to decide how I do my work in job	4207	2.23	.94	-.11**	-.01	**-.23****	.18**	**.23****								
	7.Opportunity to develop new skills in job	4212	2.63	.89	.17**	.07**	**.28****	-.14**	0.01	-.19**							
	8.Receive support in difficult situations in job	4194	2.77	.83	.16**	.08**	**.35****	-.09**	-.15**	-.15**	**.28****						
	9.Receive recognition for work in job	4199	2.65	.84	.18**	.08**	**.37****	-.10**	-.13**	-.18**	**.28****	**.47****					
	10.Salary or earnings are adequate in job	4206	2.43	.87	**.22****	.06**	**.29****	**-.21****	-.10**	-.13**	.19**	**.24****	**.39****				
	11.Poor prospects for job advancement	4175	3.02	.88	-.06**	.03	-.14**	.05**	-.004	.11**	-.16**	-.08**	-.16**	-.18**			
	12.Poor job security	4167	1.99	.90	-.16**	-.05**	-.16**	.15**	.05**	.18**	-.10**	-.10**	-.13**	-.15**	.10**		
	13.Self-perceived health - us version	5074	3.13	.96	**.31****	.08**	.15**	-.14**	-.02	-.11**	.14**	.10**	.12**	.15**	-.08**	-.13**	
	14.Future looks good	**4942**	**3.15**	**.81**	**.47****	**.12****	**.19****	**-.15****	**-.04***	**-.11****	**.19****	**.18****	**.18****	**.22****	**-.09****	**-.18****	**.23****

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table H.2. Frequency, means, standard deviations, and correlation coefficients of continuous variables in comparison to outcome variable of data collected in wave 2021.

		N	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
	1. Satisfied with social network	4092	9.05	1.14													
	2. Satisfied with life	4177	8.32	1.30	.27**												
	3. Satisfied with job	3346	3.57	0.55	.15**	.24**											
Look for early retirement in job: No	4. Job physically demanding	3347	2.30	1.04	-.02	-.07**	-.08**										
	5. Time pressure due to a heavy workload in job	3345	2.21	0.88	-.06**	-.05**	-.17**	.17**									
	6. Little freedom to decide how I do my work in job	3345	1.94	0.91	-.03	-.12**	-.18**	.21**	.22**								
	7. Opportunity to develop new skills in job	3341	2.99	0.84	.06**	.14**	.24**	-.13**	-1.01	-.20**							
	8.Receive support in difficult situations in job	3318	3.08	0.76	.12**	.12**	.24**	-.03	-.14**	-.07**	.27**						
	9.Receive recognition for work in job	3327	3.09	0.73	.09**	.21**	.33**	-.07**	-.15**	-.18**	.27**	.41**					
	10.Salary or earnings are adequate in job	3339	2.82	0.83	.05**	.18**	.28**	-.16**	-.14**	-.14**	.19**	.23**	.42**				
	11.Poor prospects for job advancement	3269	2.75	0.94	.03	-.09**	-.11**	.05**	.02	.13**	-.16**	-.04*	-.11**	-.16**			
	12.Poor job security	3316	1.83	0.85	-.09**	-.16**	-.19**	.12**	.05**	.20**	-.11**	-.10**	-.11**	-.10**	.10**		
	13.Self-perceived health	4198	3.38	0.96	.10**	.33**	.10**	-.13**	.03	-.07**	.08**	-.001	.08**	.10**	-.08**	-.12**	
	14.Future looks good	4164	3.44	0.69	.18**	.42**	.19**	-.09**	-.03	-.12**	.18**	.12**	.16**	.16**	-.15**	-.13**	.17**

		N	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
Look for early retirement in job: Yes	1. Satisfied with social network	3107	9.08	1.05													
	2. Satisfied with life	3161	7.91	1.49	**.31****												
	3. Satisfied with job	2254	3.11	0.70	.11**	**.29****											
	4. Job physically demanding	2256	2.63	1.04	-.01	-.15**	-.13**										
	5. Time pressure due to a heavy workload in job	2252	2.60	0.91	-.05*	-.14**	-.18**	**.28****									
	6. Little freedom to decide how I do my work in job	2253	2.24	0.92	-.05*	-.16**	-**.24****	**.20****	**.24****								
	7. Opportunity to develop new skills in job	2249	2.67	0.88	.03	.15**	**.31****	-.13**	.02	-**.21****							
	8. Receive support in difficult situations in job	2239	2.81	0.79	.10**	.18**	**.37****	-.10**	-.18**	-.13**	**.29****						
	9. Receive recognition for work in job	2242	2.69	0.81	.05*	.19**	**.42****	-.14**	-.17**	-.18**	**.33****	**.49****					
	10. Salary or earnings are adequate in job	2251	2.51	0.84	.07**	**.21****	**.32****	-.23**	-.15**	-.15**	**.23****	**.25****	**.41****				
	11. Poor prospects for job advancement	2224	2.96	0.87	-.01	-.09**	-.18**	.08**	.003	.19**	-.18**	-.08**	-.18**	-.17**			
	12. Poor job security	2230	1.95	0.89	-.06**	-.15**	-.24**	.14**	.09**	.16**	-.14**	-.19**	-.18**	-.16**	.11**		
	13. Self-perceived health	3169	3.12	0.94	.13**	**.31****	.15**	-.14**	-.04	-.10**	.13**	.06**	.10**	.15**	-.05*	-.05*	
	14. Future looks good	3146	3.22	0.78	.16**	**.43****	**.24****	-.17**	-.09**	-.13**	**.21****	**.20****	.19**	.19**	-.08**	-**.20****	.19**

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Appendix I - Bivariate correlations and z-tests for all individual, social and work-related factors for 2016 and 2021 data cohorts, analysed between Retirement (retire / non-retire) and Gender (male / female) groups.

Table I.1. Bivariate correlations and z-tests estimating significant difference of correlations between individual, social and work-related factors among the groups of participants opting for early and late retirement. 2016 data cohort.

| | Look for early retirement in job? | | | | | | |
| | YES | | NO | | | | |
Bivariate associations	N	r	N	r	z	p (1-tailed)	p (2-tailed)
How satisfied with life - Network satisfaction	4535	0.249***	5737	0.283***	-1.84	0.03	0.066
How satisfied with life - Satisfied with job	4139	0.235***	5384	0.243***	-0.41	0.34	0.68
How satisfied with life - Job physically demanding	4139	-0.112***	5385	-0.117***	0.25	0.40	0.80
How satisfied with life - Time pressure due to a heavy workload in job	4138	-0.066***	5375	-0.027*	-1.89	0.03	0.059
How satisfied with life - Little freedom to decide how I do my work in job	4133	-0.112***	5379	-0.073***	-1.9	0.03	0.057
How satisfied with life - Opportunity to develop new skills in job	4134	0.172***	5380	0.156***	0.79	0.22	0.43
How satisfied with life - Receive support in difficult situations in job	4119	0.161***	5357	0.153***	0.4	0.35	0.69
How satisfied with life - Receive recognition for work in job	4123	0.182***	5355	0.214***	-1.61	0.05	0.11
How satisfied with life - Salary or earnings are adequate in job	4132	0.219***	5378	0.219***	0	0.5	1
How satisfied with life - Poor prospects for job advancement	4103	-0.063***	5317	-0.096***	1.6	0.055	0.11
How satisfied with life - Poor job security	4095	-0.158***	5337	-0.179***	1.04	0.15	0.29
How satisfied with life - Self-perceived health - us version	4956	0.312***	6099	0.343***	-1.82	0.03	0.07
How satisfied with life - Future looks good	4938	0.474***	6080	0.441***	2.18	0.02	0.029
Network satisfaction - Satisfied with job	4065	0.107***	5303	0.127***	-0.97	0.17	0.33
Network satisfaction - Job physically demanding	4066	0.007	5304	-0.002	0.43	0.33	0.67
Network satisfaction - Time pressure due to a heavy workload in job	4064	-0.032*	5294	-0.038**	0.29	0.39	0.77
Network satisfaction - Little freedom to decide how I do my work in job	4058	-0.014	5297	-0.013	-0.05	0.48	0.96
Network satisfaction - Opportunity to develop new skills in job	4061	0.069***	5298	0.086***	-0.82	0.21	0.41
Network satisfaction - Receive support in difficult situations in job	4044	0.081***	5276	0.131***	-2.42	0.01	0.015
Network satisfaction - Receive recognition for work in job	4050	0.083***	5274	0.108***	-1.21	0.11	0.23

Network satisfaction - Salary or earnings are adequate in job	4057	0.055***	5296	0.034*	1.01	0.16	0.31
Network satisfaction - Poor prospects for job advancement	4029	0.025	5235	0.001	1.15	0.13	0.25
Network satisfaction - Poor job security	4021	-0.047**	5253	-0.044***	-0.14	0.44	0.89
Network satisfaction - Self-perceived health - us version	4554	0.075***	5780	0.091***	-0.81	0.21	0.42
Network satisfaction - Future looks good	4520	0.118***	5730	0.149***	-1.59	0.056	0.11
Satisfied with job - Job physically demanding	4215	-0.085***	5497	-0.093***	0.39	0.35	0.69
Satisfied with job - Time pressure due to a heavy workload in job	4214	-0.161***	5487	-0.157***	-0.2	0.42	0.84
Satisfied with job - Little freedom to decide how I do my work in job	4205	-0.228***	5489	-0.18***	-2.44	0.01	0.015
Satisfied with job - Opportunity to develop new skills in job	4210	0.283***	5490	0.234***	2.56	0.005	0.01
Satisfied with job - Receive support in difficult situations in job	4192	0.348***	5468	0.282***	3.57	0.0002	0.0004
Satisfied with job - Receive recognition for work in job	4198	0.369***	5465	0.343***	1.45	0.074	0.15
Satisfied with job - Salary or earnings are adequate in job	4205	0.288***	5487	0.264***	1.27	0.10	0.20
Satisfied with job - Poor prospects for job advancement	4173	-0.135***	5421	-0.105***	-1.48	0.07	0.14
Satisfied with job - Poor job security	4165	-0.162***	5440	-0.166***	0.2	0.42	0.84
Satisfied with job - Self-perceived health	4214	0.146***	5497	0.121***	1.24	0.11	0.21
Satisfied with job - Future looks good	4124	0.191***	5377	0.184***	0.35	0.36	0.73
Job physically demanding - Time pressure due to a heavy workload in job	4215	0.222***	5488	0.187***	1.78	0.04	0.075
Job physically demanding - Little freedom to decide how I do my work in job	4206	0.182***	5490	0.176***	0.3	0.38	0.76
Job physically demanding - Opportunity to develop new skills in job	4211	-0.136***	5492	-0.122***	-0.69	0.25	0.49
Job physically demanding - Receive support in difficult situations in job	4193	-0.09***	5469	-0.043***	-2.3	0.01	0.02
Job physically demanding - Receive recognition for work in job	4198	-0.095***	5467	-0.072***	-1.13	0.13	0.26
Job physically demanding - Salary or earnings are adequate in job	4205	-0.209***	5488	-0.177***	-1.62	0.053	0.11
Job physically demanding - Poor prospects for job advancement	4174	0.05***	5424	0.063***	-0.63	0.26	0.53
Job physically demanding - Poor job security	4166	0.148***	5442	0.115***	1.63	0.052	0.10
Job physically demanding - Self-perceived health	4215	-0.135***	5500	-0.153***	0.9	0.18	0.37
Job physically demanding - Future looks good	4124	-0.146***	5378	-0.133***	-0.64	0.26	0.52
Time pressure due to a heavy workload in job - Little freedom to decide how I do my work in job	4205	0.229***	5481	0.2***	1.48	0.07	0.14
Time pressure due to a heavy workload in job - Opportunity to develop new skills in job	4210	0.014	5482	0.017	-0.15	0.44	0.88
Time pressure due to a heavy workload in job - Receive support in difficult situations in job	4192	-0.154***	5460	-0.124***	-1.49	0.07	0.14

250

Time pressure due to a heavy workload in job - Receive recognition for work in job	4197	-0.132***	5457	-0.126***	-0.3	0.38	0.76
Time pressure due to a heavy workload in job - Salary or earnings are adequate in job	4204	-0.099***	5477	-0.126***	1.33	0.09	0.18
Time pressure due to a heavy workload in job - Poor prospects for job advancement	4173	-0.004	5414	-0.004	0	0.5	1
Time pressure due to a heavy workload in job - Poor job security	4165	0.052***	5432	0.034*	0.88	0.19	0.38
Time pressure due to a heavy workload in job - Self-perceived health	4214	-0.021	5488	0.027*	-2.34	0.01	0.02
Time pressure due to a heavy workload in job - Future looks good	4123	-0.039*	5369	-0.003	-1.74	0.04	0.08
Little freedom to decide how I do my work in job - Opportunity to develop new skills in job	4201	-0.193***	5486	-0.161***	-1.61	0.054	0.11
Little freedom to decide how I do my work in job - Receive support in difficult situations in job	4185	-0.154***	5463	-0.07***	-4.14	0	0
Little freedom to decide how I do my work in job - Receive recognition for work in job	4189	-0.177***	5459	-0.112***	-3.23	0.001	0.001
Little freedom to decide how I do my work in job - Salary or earnings are adequate in job	4195	-0.125***	5481	-0.116***	-0.45	0.33	0.65
Little freedom to decide how I do my work in job - Poor prospects for job advancement	4167	0.11***	5417	0.09***	0.98	0.16	0.33
Little freedom to decide how I do my work in job - Poor job security	4159	0.18***	5436	0.197***	-0.86	0.19	0.39
Little freedom to decide how I do my work in job - Self-perceived health - us version	4205	-0.106***	5490	-0.076***	-1.48	0.07	0.14
Little freedom to decide how I do my work in job - Future looks good	4119	-0.114***	5372	-0.095***	-0.93	0.18	0.35
Opportunity to develop new skills in job - Receive support in difficult situations in job	4189	0.278***	5465	0.226***	2.7	0.004	0.01
Opportunity to develop new skills in job - Receive recognition for work in job	4194	0.276***	5461	0.229***	2.44	0.007	0.015
Opportunity to develop new skills in job - Salary or earnings are adequate in job	4200	0.19***	5482	0.157***	1.66	0.05	0.09
Opportunity to develop new skills in job - Poor prospects for job advancement	4171	-0.157***	5418	-0.14***	-0.84	0.20	0.40
Opportunity to develop new skills in job - Poor job security	4162	-0.096***	5437	-0.095***	-0.05	0.48	0.96
Opportunity to develop new skills in job - Self-perceived health	4210	0.135***	5492	0.111***	1.19	0.18	0.23
Opportunity to develop new skills in job - Future looks good	4120	0.185***	5374	0.192***	-0.35	0.36	0.73
Receive support in difficult situations in job - Receive recognition for work in job	4176	0.47***	5441	0.412***	3.5	0.0002	0.001
Receive support in difficult situations in job - Salary or earnings are adequate in job	4182	0.236***	5460	0.203***	1.69	0.045	0.09
Receive support in difficult situations in job - Poor prospects for job advancement	4157	-0.081***	5401	-0.034*	-2.29	0.01	0.02
Receive support in difficult situations in job - Poor job security	4148	-0.102***	5417	-0.092***	-0.49	0.31	0.62
Receive support in difficult situations in job - Self-perceived health	4192	0.099***	5469	0.052***	2.3	0.011	0.02

251

Receive support in difficult situations in job - Future looks good	4104	0.178***	5350	0.128***	2.47	0.007	0.014
Receive recognition for work in job - Salary or earnings are adequate in job	4189	0.389***	5460	0.39***	-0.06	0.48	0.95
Receive recognition for work in job - Poor prospects for job advancement	4160	-0.158***	5399	-0.12***	-1.88	0.03	0.06
Receive recognition for work in job - Poor job security	4150	-0.133***	5414	-0.137***	0.2	0.42	0.84
Receive recognition for work in job - Self-perceived health	4197	0.117***	5467	0.118***	-0.05	0.48	0.96
Receive recognition for work in job - Future looks good	4109	0.178***	5349	0.19***	-0.6	0.27	0.55
Salary or earnings are adequate in job - Poor prospects for job advancement	4169	-0.177***	5416	-0.162***	-0.75	0.23	0.45
Salary or earnings are adequate in job - Poor job security	4158	-0.151***	5435	-0.155***	0.2	0.42	0.84
Salary or earnings are adequate in job - Self-perceived health	4204	0.154***	5490	0.148***	0.3	0.38	0.76
Salary or earnings are adequate in job - Future looks good	4117	0.221***	5372	0.191***	1.51	0.065	0.13
Poor prospects for job advancement - Poor job security	4134	0.095***	5377	0.109***	-0.68	0.25	0.49
Poor prospects for job advancement - Self-perceived health	4173	-0.077***	5426	-0.059***	-0.88	0.19	0.38
Poor prospects for job advancement - Future looks good	4090	-0.086***	5310	-0.132***	2.24	0.013	0.03
Poor job security - Self-perceived health	4165	-0.132***	5443	-0.117***	-0.74	0.23	0.46
Poor job security - Future looks good	4081	-0.175***	5330	-0.172***	-0.15	0.44	0.88
Self-perceived health - Future looks good	4940	0.273***	6090	0.278***	-0.28	0.39	0.78

*p < .05

**p < .01

***p < .001

Table I.2. Bivariate correlations and z-tests estimating significant difference of correlations between individual, social and work-related factors among men and women participants. 2016 data cohort.

| | Gender | | | | | | |
| | Male | | Female | | | | |
Bivariate associations	N	r	N	r	z	P (1-tailed)	P (2-tailed)
How satisfied with life - Network satisfaction	5094	0.30***	5178	0.24***	3.39	0.0003	0.001
How satisfied with life - Satisfied with job	4640	0.27***	4883	0.25***	1.41	0.079	0.16
How satisfied with life - Job physically demanding	4641	-0.12***	4883	-0.14***	1.29	0.099	0.19
How satisfied with life - Time pressure due to a heavy workload in job	4633	-0.06***	4880	-0.06***	-0.15	0.44	0.88
How satisfied with life - Little freedom to decide how I do my work in job	4634	-0.1***	4878	-0.11***	0.34	0.367	0.73
How satisfied with life - Opportunity to develop new skills in job	4636	0.17***	4878	0.19***	-1.46	0.07	0.14
How satisfied with life - Receive support in difficult situations in job	4616	0.16***	4860	0.18***	-1.2	0.12	0.23
How satisfied with life - Receive recognition for work in job	4619	0.23***	4859	0.21***	0.66	0.26	0.51
How satisfied with life - Salary or earnings are adequate in job	4634	0.25***	4876	0.22***	1.24	0.12	0.22
How satisfied with life - Poor prospects for job advancement	4597	-0.09***	4823	-0.095***	0.34	0.37	0.73
How satisfied with life - Poor job security	4592	-0.19***	4840	-0.16***	-1.15	0.13	0.25
How satisfied with life - Self-perceived health	5567	0.31***	5488	0.37***	-3.51	0.0002	0.0004
How satisfied with life - Future looks good	5547	0.45***	5471	0.49***	-3.03	0.001	0.002
Network satisfaction - Satisfied with job	4549	0.13***	4819	0.12***	0.44	0.33	0.66
Network satisfaction - Job physically demanding	4551	-0.001	4819	0	-0.05	0.48	0.96
Network satisfaction - Time pressure due to a heavy workload in job	4543	-0.04**	4815	-0.04*	-0.29	0.39	0.77
Network satisfaction - Little freedom to decide how I do my work in job	4542	-0.03	4813	-0.02	-0.48	0.32	0.63
Network satisfaction - Opportunity to develop new skills in job	4544	0.10***	4815	0.07***	1.7	0.05	0.09
Network satisfaction - Receive support in difficult situations in job	4525	0.114***	4795	0.11***	0.39	0.35	0.69
Network satisfaction - Receive recognition for work in job	4529	0.12***	4795	0.09***	1.51	0.07	0.13
Network satisfaction - Salary or earnings are adequate in job	4541	0.08***	4812	0.03*	2.13	0.02	0.03
Network satisfaction - Poor prospects for job advancement	4504	-0.013	4760	0.03	-1.83	0.03	0.07
Network satisfaction - Poor job security	4499	-0.07***	4775	-0.02	-2.7	0.004	0.01
Network satisfaction - Self-perceived health	5132	0.11***	5202	0.07***	1.74	0.04	0.08
Network satisfaction - Future looks good	5082	0.13***	5168	0.14***	-0.41	0.34	0.68
Satisfied with job - Job physically demanding	4772	-0.11***	4940	-0.14***	1.5	0.07	0.13
Satisfied with job - Time pressure due to a heavy workload in job	4764	-0.16***	4937	-0.29***	3.01	0.001	0.003

Satisfied with job - Little freedom to decide how I do my work in job	4760	-0.22***	4934	-0.24***	1.2	0.12	0.23
Satisfied with job - Opportunity to develop new skills in job	4765	0.29***	4935	0.31***	-0.92	0.18	0.36
Satisfied with job - Receive support in difficult situations in job	4743	0.32***	4917	0.36***	-1.94	0.03	0.05
Satisfied with job - Receive recognition for work in job	4748	0.39***	4915	0.41***	-1.11	0.13	0.27
Satisfied with job - Salary or earnings are adequate in job	4760	0.34***	4932	0.29***	2.89	0.002	0.004
Satisfied with job - Poor prospects for job advancement	4717	-0.15***	4877	-0.14***	-0.15	0.44	0.88
Satisfied with job - Poor job security	4712	-0.18***	4893	-0.16***	-1.16	0.12	0.25
Satisfied with job - Self-perceived health - us version	4773	0.17***	4938	0.16***	0.3	0.38	0.76
Satisfied with job - Future looks good	4628	0.22***	4873	0.21***	0.51	0.31	0.61
Job physically demanding - Time pressure due to a heavy workload in job	4766	0.19***	4937	0.24***	-2.32	0.01	0.02
Job physically demanding - Little freedom to decide how I do my work in job	4762	0.19***	4934	0.20***	-0.87	0.19	0.38
Job physically demanding - Opportunity to develop new skills in job	4767	-0.12***	4936	-0.18***	3.12	0.001	0.002
Job physically demanding - Receive support in difficult situations in job	4745	-0.04*	4917	-0.12***	4.25	0	0
Job physically demanding - Receive recognition for work in job	4751	-0.11***	4914	-0.11***	0.3	0.38	0.76
Job physically demanding - Salary or earnings are adequate in job	4762	-0.22***	4931	-0.21***	-0.77	0.22	0.44
Job physically demanding - Poor prospects for job advancement	4720	0.06***	4878	0.09***	-1.53	0.06	0.13
Job physically demanding - Poor job security	4714	0.17***	4894	0.1***	3.49	0.0002	0.001
Job physically demanding - Self-perceived health	4776	-0.16***	4939	-0.17***	0.3	0.38	0.76
Job physically demanding - Future looks good	4629	-0.18***	4873	-0.14***	-2.1	0.02	0.04
Time pressure due to a heavy workload in job - Little freedom to decide how I do my work in job	4755	0.21***	4931	0.25***	-2.28	0.01	0.02
Time pressure due to a heavy workload in job - Opportunity to develop new skills in job	4760	-0.02	4932	-0.01	-0.59	0.23	0.55
Time pressure due to a heavy workload in job - Receive support in difficult situations in job	4738	-0.13***	4914	-0.18***	2.82	0.002	0.05
Time pressure due to a heavy workload in job - Receive recognition for work in job	4743	-0.14***	4911	-0.17***	1.61	0.05	0.11
Time pressure due to a heavy workload in job - Salary or earnings are adequate in job	4753	-0.12***	4928	-0.15***	1.4	0.08	0.16
Time pressure due to a heavy workload in job - Poor prospects for job advancement	4713	-0.01	4874	0.03*	-1.76	0.04	0.08
Time pressure due to a heavy workload in job - Poor job security	4707	0.09***	4890	0.013	3.73	0.0001	0.0002
Time pressure due to a heavy workload in job - Self-perceived health	4767	-0.02	4935	-0.014	-0.2	0.42	0.84
Time pressure due to a heavy workload in job - Future looks good	4622	-0.04**	4870	-0.04**	-0.05	0.48	0.96
Little freedom to decide how I do my work in job - Opportunity to develop new skills in job	4757	-0.195***	4930	-0.2***	0.26	0.39	0.79

254

Little freedom to decide how I do my work in job - Receive support in difficult situations in job	4736	-0.09***	4912	-0.16***	3.54	0.0002	0.0004
Little freedom to decide how I do my work in job - Receive recognition for work in job	4739	-0.16***	4909	-0.18***	0.61	0.27	0.54
Little freedom to decide how I do my work in job - Salary or earnings are adequate in job	4751	-0.14***	4925	-0.14***	-0.3	0.38	0.76
Little freedom to decide how I do my work in job - Poor prospects for job advancement	4712	0.11***	4872	0.11***	-0.3	0.38	0.76
Little freedom to decide how I do my work in job - Poor job security	4707	0.20***	4888	0.19***	0.66	0.26	0.51
Little freedom to decide how I do my work in job - Self-perceived health	4763	-0.10***	4932	-0.11***	0.6	0.27	0.55
Little freedom to decide how I do my work in job - Future looks good	4622	-0.12***	4869	-0.13***	0.44	0.33	0.66
Opportunity to develop new skills in job - Receive support in difficult situations in job	4742	0.26***	4912	0.29***	-1.38	0.08	0.17
Opportunity to develop new skills in job - Receive recognition for work in job	4746	0.27***	4909	0.3***	-1.71	0.04	0.09
Opportunity to develop new skills in job - Salary or earnings are adequate in job	4756	0.23***	4926	0.18***	2.82	0.002	0.01
Opportunity to develop new skills in job - Poor prospects for job advancement	4716	-0.17***	4873	-0.16***	-0.2	0.42	0.84
Opportunity to develop new skills in job - Poor job security	4710	-0.12***	4889	-0.09***	-1.39	0.08	0.17
Opportunity to develop new skills in job - Self-perceived health	4768	0.13***	4934	0.16***	-1.41	0.08	0.16
Opportunity to develop new skills in job - Future looks good	4625	0.19***	4869	0.23***	-1.94	0.026	0.05
Receive support in difficult situations in job - Receive recognition for work in job	4725	0.42***	4892	0.49***	-4.15	0	0
Receive support in difficult situations in job - Salary or earnings are adequate in job	4734	0.25***	4908	0.24***	0.16	0.44	0.87
Receive support in difficult situations in job - Poor prospects for job advancement	4700	-0.07***	4858	-0.08***	0.54	0.29	0.59
Receive support in difficult situations in job - Poor job security	4693	-0.09***	4872	-0.11***	0.94	0.17	0.35
Receive support in difficult situations in job - Self-perceived health	4746	0.08***	4915	0.11***	-1.19	0.12	0.23
Receive support in difficult situations in job - Future looks good	4605	0.15***	4849	0.19***	-1.85	0.03	0.06
Receive recognition for work in job - Salary or earnings are adequate in job	4741	0.44***	4908	0.4***	2.08	0.02	0.04
Receive recognition for work in job - Poor prospects for job advancement	4702	-0.17***	4857	-0.15***	-0.9	0.18	0.37
Receive recognition for work in job - Poor job security	4693	-0.15***	4871	-0.13***	-0.9	0.37	0.37
Receive recognition for work in job - Self-perceived health	4752	0.15***	4912	0.14***	0.5	0.31	0.62
Receive recognition for work in job - Future looks good	4609	0.22***	4849	0.21***	0.36	0.36	0.72
Salary or earnings are adequate in job - Poor prospects for job advancement	4714	-0.19***	4871	-0.17***	-0.86	0.19	0.39

Salary or earnings are adequate in job - Poor job security	4708	-0.197***	4885	-0.13***	-3.37	0.0004	0.001
Salary or earnings are adequate in job - Self-perceived health	4765	0.17***	4929	0.18***	-0.2	0.42	0.84
Salary or earnings are adequate in job - Future looks good	4623	0.25***	4866	0.20***	2.67	0.004	0.01
Poor prospects for job advancement - Poor job security	4673	0.13***	4838	0.09***	1.78	0.04	0.08
Poor prospects for job advancement - Self-perceived health	4723	-0.09***	4876	-0.07***	-1.08	0.14	0.28
Poor prospects for job advancement - Future looks good	4588	-0.13***	4812	-0.12***	-0.3	0.38	0.76
Poor job security - Self-perceived health	4716	-0.12***	4892	-0.14***	0.65	0.26	0.52
Poor job security - Future looks good	4581	-0.21***	4830	-0.15***	-2.56	0.01	0.01
Self-perceived health - us version - Future looks good	5553	0.27***	5477	0.32***	-2.87	0.002	0.004

*p < .05

**p < .01

***p < .001

Table I.3. Bivariate correlations and z-tests estimating significant difference of correlations between individual, social and work-related factors among the groups of participants opting for early and late retirement. 2021 data cohort.

| | Look for early retirement in job? | | | | | | |
| | Yes | | No | | | | |
Bivariate associations	N	r	N	r	z	*p* (1-tailed)	*p* (2-tailed)
Network satisfaction - How satisfied with life	3102	0.31***	4074	0.27***	1.51	0.07	0.13
Network satisfaction - Satisfied with job	2221	0.11***	3283	0.15***	-1.63	0.05	0.10
Network satisfaction - Job physically demanding	2223	-0.01	3284	-0.02	0.29	0.39	0.77
Network satisfaction - Time pressure due to a heavy workload in job	2219	-0.05*	3282	-0.06***	0.55	0.29	0.58
Network satisfaction - Little freedom to decide how I do my work in job	2220	-0.05*	3282	-0.03	-0.73	0.23	0.47
Network satisfaction - Opportunity to develop new skills in job	2217	0.03	3278	0.06***	-1.2	0.12	0.23
Network satisfaction - Receive support in difficult situations in job	2206	0.10***	3259	0.12***	-0.7	0.24	0.48
Network satisfaction - Receive recognition for work in job	2209	0.05*	3266	0.09***	-1.64	0.05	0.10
Network satisfaction - Salary or earnings are adequate in job	2218	0.07***	3278	0.05**	0.8	0.21	0.42
Network satisfaction - Poor prospects for job advancement	2191	-0.01	3212	0.03	-1.44	0.08	0.15
Network satisfaction - Poor job security	2197	-0.06**	3256	-0.09***	0.84	0.20	0.40
Network satisfaction - Self-perceived health	3105	0.13***	4092	0.10***	1.36	0.09	0.17
Network satisfaction - Future looks good	3086	0.16***	4064	0.18***	-0.65	0.26	0.52
How satisfied with life - Satisfied with job	2251	0.29***	3335	0.24***	2.01	0.02	0.04
How satisfied with life - Job physically demanding	2253	-0.15***	3336	-0.07***	-2.82	0.002	0.005
How satisfied with life - Time pressure due to a heavy workload in job	2249	-0.14***	3334	-0.05**	-3.33	0.0004	0.001
How satisfied with life - Little freedom to decide how I do my work in job	2250	-0.16***	3335	-0.12***	-1.57	0.06	0.12
How satisfied with life - Opportunity to develop new skills in job	2246	0.15***	3331	0.14***	0.49	0.31	0.62
How satisfied with life - Receive support in difficult situations in job	2236	0.18***	3309	0.12***	2.06	0.02	0.04
How satisfied with life - Receive recognition for work in job	2239	0.19***	3317	0.21***	-0.76	0.22	0.45
How satisfied with life - Salary or earnings are adequate in job	2248	0.21***	3329	0.18***	0.91	0.18	0.36
How satisfied with life - Poor prospects for job advancement	2221	-0.09***	3260	-0.09***	0.04	0.48	0.97
How satisfied with life - Poor job security	2228	-0.15***	3307	-0.16***	0.52	0.30	0.60
How satisfied with life - Self-perceived health	3159	0.31***	4177	0.33***	-1.04	0.15	0.29
How satisfied with life - Future looks good	3143	0.43***	4152	0.42***	0.05	0.48	0.96
Satisfied with job - Job physically demanding	2254	-0.13***	3346	-0.08***	-1.52	0.06	0.13
Satisfied with job - Time pressure due to a heavy workload in job	2250	-0.18***	3345	-0.17***	-0.26	0.39	0.79

Satisfied with job - Little freedom to decide how I do my work in job	2251	-0.24***	3344	-0.18***	-2.19	0.01	0.03
Satisfied with job - Opportunity to develop new skills in job	2248	0.31***	3340	0.24***	2.85	0.002	0.004
Satisfied with job - Receive support in difficult situations in job	2238	0.37***	3317	0.24***	5.29	0	0
Satisfied with job - Receive recognition for work in job	2241	0.42***	3326	0.33***	3.66	0.0001	0.0003
Satisfied with job - Salary or earnings are adequate in job	2249	0.32***	3338	0.28***	1.61	0.05	0.11
Satisfied with job - Poor prospects for job advancement	2222	-0.18***	3268	-0.11***	-2.78	0.003	0.01
Satisfied with job - Poor job security	2229	-0.24***	3315	-0.19***	-1.84	0.03	0.07
Satisfied with job - Self-perceived health	2252	0.15***	3346	0.10***	1.86	0.031	0.06
Satisfied with job - Future looks good	2240	0.24***	3318	0.19***	1.84	0.03	0.07
Job physically demanding - Time pressure due to a heavy workload in job	2252	0.28***	3345	0.17***	4.02	0	0.0001
Job physically demanding - Little freedom to decide how I do my work in job	2253	0.20***	3345	0.21***	-0.23	0.41	0.82
Job physically demanding - Opportunity to develop new skills in job	2249	-0.13***	3341	-0.13***	-0.22	0.41	0.83
Job physically demanding - Receive support in difficult situations in job	2239	-0.10***	3318	-0.03	-2.35	0.01	0.02
Job physically demanding - Receive recognition for work in job	2242	-0.14***	3327	-0.07***	-2.4	0.01	0.02
Job physically demanding - Salary or earnings are adequate in job	2251	-0.23***	3339	-0.16***	-2.93	0.002	0.003
Job physically demanding - Poor prospects for job advancement	2224	0.08***	3269	0.05**	1.09	0.14	0.28
Job physically demanding - Poor job security	2230	0.14***	3316	0.12***	0.59	0.28	0.56
Job physically demanding - Self-perceived health	2254	-0.14***	3347	-0.13***	-0.45	0.33	0.65
Job physically demanding - Future looks good	2242	-0.17***	3319	-0.09***	-2.68	0.004	0.01
Time pressure due to a heavy workload in job - Little freedom to decide how I do my work in job	2250	0.24***	3343	0.22***	0.7	0.24	0.48
Time pressure due to a heavy workload in job - Opportunity to develop new skills in job	2247	0.02	3339	-0.01	0.92	0.18	0.36
Time pressure due to a heavy workload in job - Receive support in difficult situations in job	2236	-0.18***	3316	-0.14***	-1.5	0.07	0.13
Time pressure due to a heavy workload in job - Receive recognition for work in job	2239	-0.17***	3325	-0.15***	-0.71	0.24	0.47
Time pressure due to a heavy workload in job - Salary or earnings are adequate in job	2247	-0.15***	3337	-0.14***	-0.41	0.34	0.68
Time pressure due to a heavy workload in job - Poor prospects for job advancement	2221	0.003	3268	0.015	-0.44	0.33	0.66
Time pressure due to a heavy workload in job - Poor job security	2228	0.09***	3315	0.05**	1.25	0.11	0.21
Time pressure due to a heavy workload in job - Self-perceived health	2250	-0.04	3345	0.03	-2.35	0.01	0.02
Time pressure due to a heavy workload in job - Future looks good	2239	-0.09***	3317	-0.03	-2.09	0.02	0.04
Little freedom to decide how I do my work in job - Opportunity to develop new skills in job	2247	-0.21***	3339	-0.20***	-0.08	0.47	0.94

Little freedom to decide how I do my work in job - Receive support in difficult situations in job	2237	-0.13***	3317	-0.07***	-2.21	0.014	0.03
Little freedom to decide how I do my work in job - Receive recognition for work in job	2239	-0.18***	3325	-0.18***	-0.11	0.46	0.91
Little freedom to decide how I do my work in job - Salary or earnings are adequate in job	2248	-0.15***	3337	-0.14***	-0.41	0.34	0.68
Little freedom to decide how I do my work in job - Poor prospects for job advancement	2222	0.19***	3267	0.13***	2.27	0.01	0.02
Little freedom to decide how I do my work in job - Poor job security	2227	0.16***	3314	0.20***	-1.51	0.07	0.13
Little freedom to decide how I do my work in job - Self-perceived health	2251	-0.10***	3345	-0.07***	-1.03	0.15	0.30
Little freedom to decide how I do my work in job - Future looks good	2241	-0.13***	3318	-0.12***	-0.37	0.34	0.71
Opportunity to develop new skills in job - Receive support in difficult situations in job	2234	0.29***	3314	0.27***	0.95	0.17	0.34
Opportunity to develop new skills in job - Receive recognition for work in job	2236	0.33***	3322	0.27***	2.44	0.01	0.015
Opportunity to develop new skills in job - Salary or earnings are adequate in job	2244	0.23***	3334	0.19***	1.53	0.06	0.13
Opportunity to develop new skills in job - Poor prospects for job advancement	2218	-0.18***	3266	-0.16***	-0.93	0.18	0.35
Opportunity to develop new skills in job - Poor job security	2224	-0.14***	3313	-0.11***	-1.18	0.12	0.24
Opportunity to develop new skills in job - Self-perceived health	2247	0.13***	3341	0.08***	1.67	0.05	0.09
Opportunity to develop new skills in job - Future looks good	2236	0.21***	3313	0.18***	1.25	0.11	0.21
Receive support in difficult situations in job - Receive recognition for work in job	2228	0.49***	3302	0.41***	3.63	0.0001	0.0003
Receive support in difficult situations in job - Salary or earnings are adequate in job	2235	0.25***	3312	0.23***	0.81	0.21	0.42
Receive support in difficult situations in job - Poor prospects for job advancement	2212	-0.08***	3248	-0.04*	-1.57	0.06	0.12
Receive support in difficult situations in job - Poor job security	2216	-0.19***	3291	-0.10***	-3.31	0.001	0.001
Receive support in difficult situations in job - Self-perceived health	2238	0.06**	3318	-0.001	2.23	0.013	0.03
Receive support in difficult situations in job - Future looks good	2229	0.19***	3293	0.12***	2.99	0.001	0.003
Receive recognition for work in job - Salary or earnings are adequate in job	2238	0.41***	3321	0.42***	-0.57	0.28	0.57
Receive recognition for work in job - Poor prospects for job advancement	2214	-0.18***	3251	-0.11***	-2.74	0.003	0.01
Receive recognition for work in job - Poor job security	2220	-0.18***	3300	-0.11***	-2.68	0.004	0.01
Receive recognition for work in job - Self-perceived health	2240	0.10***	3327	0.08***	0.88	0.19	0.38
Receive recognition for work in job - Future looks good	2229	0.19***	3301	0.16***	0.9	0.18	0.39
Salary or earnings are adequate in job - Poor prospects for job advancement	2221	-0.17***	3264	-0.16***	-0.37	0.36	0.71

Salary or earnings are adequate in job - Poor job security	2226	-0.16***	3310	-0.10***	-1.93	0.03	0.05
Salary or earnings are adequate in job - Self-perceived health	2249	0.15***	3339	0.10***	2.09	0.02	0.04
Salary or earnings are adequate in job - Future looks good	2238	0.19***	3314	0.16***	1.17	0.12	0.24
Poor prospects for job advancement - Poor job security	2201	0.11***	3249	0.10***	0.11	0.46	0.91
Poor prospects for job advancement - Self-perceived health	2223	-0.05*	3269	-0.08***	1.06	0.15	0.29
Poor prospects for job advancement - Future looks good	2213	-0.08***	3244	-0.15***	2.42	0.01	0.02
Poor job security - Self-perceived health	2228	-0.05*	3316	-0.12***	2.61	0.01	0.01
Poor job security - Future looks good	2217	-0.20***	3290	-0.13***	-2.69	0.004	0.01
Self-perceived health - Future looks good	3144	0.27***	4164	0.26***	0.46	0.32	0.65

*p < .05

**p < .01

***p < .001

Table I.4. Bivariate correlations and z-tests estimating significant difference of correlations between individual, social and work-related factors among men and women participants. 2021 data cohort.

| | Gender | | | | | | |
| | Male | | Female | | | | |
Bivariate associations	N	r	N	r	z	P (1-tailed)	P (2-tailed)
Network satisfaction - How satisfied with life	3396	0.30***	3780	0.27***	1.57	0.06	0.12
Network satisfaction - Satisfied with job	2596	0.11***	2908	0.14***	-1.2	0.12	0.23
Network satisfaction - Job physically demanding	2599	0.004	2908	-0.04*	1.56	0.06	0.12
Network satisfaction - Time pressure due to a heavy workload in job	2597	-0.04*	2904	-0.08***	1.41	0.08	0.16
Network satisfaction - Little freedom to decide how I do my work in job	2598	-0.03	2904	-0.04*	0.37	0.36	0.71
Network satisfaction - Opportunity to develop new skills in job	2592	0.05*	2903	0.06**	-0.3	0.38	0.76
Network satisfaction - Receive support in difficult situations in job	2574	0.09***	2891	0.13***	-1.42	0.08	0.156
Network satisfaction - Receive recognition for work in job	2581	0.07***	2894	0.07***	-0.19	0.42	0.85
Network satisfaction - Salary or earnings are adequate in job	2596	0.08***	2900	0.05*	1.15	0.13	0.25
Network satisfaction - Poor prospects for job advancement	2550	0.02	2853	0.01	0.07	0.47	0.94
Network satisfaction - Poor job security	2571	-0.06**	2882	-0.10***	1.59	0.06	0.11
Network satisfaction - Self-perceived health - us version	3406	0.09***	3791	0.12***	-1.37	0.09	0.17
Network satisfaction - Future looks good	3386	0.17***	3764	0.16***	0.69	0.25	0.49
How satisfied with life - Satisfied with job	2634	0.31***	2952	0.30***	0.49	0.31	0.62
How satisfied with life - Job physically demanding	2637	-0.11***	2952	-0.14***	0.87	0.19	0.38
How satisfied with life - Time pressure due to a heavy workload in job	2635	-0.10***	2948	-0.13***	1.02	0.15	0.31
How satisfied with life - Little freedom to decide how I do my work in job	2636	-0.14***	2949	-0.17***	1.07	0.14	0.29
How satisfied with life - Opportunity to develop new skills in job	2630	0.15***	2947	0.18***	-1.03	0.15	0.30
How satisfied with life - Receive support in difficult situations in job	2611	0.16***	2934	0.18***	-0.84	0.20	0.40
How satisfied with life - Receive recognition for work in job	2619	0.24***	2937	0.22***	0.67	0.25	0.50
How satisfied with life - Salary or earnings are adequate in job	2634	0.25***	2943	0.19***	2.31	0.01	0.02
How satisfied with life - Poor prospects for job advancement	2585	-0.12***	2896	-0.09***	-1.05	0.15	0.29
How satisfied with life - Poor job security	2608	-0.16***	2927	-0.17***	0.5	0.31	0.62
How satisfied with life - Self-perceived health - us version	3480	0.32***	3856	0.34***	-0.53	0.29	0.59
How satisfied with life - Future looks good	3464	0.42***	3831	0.45***	-1.37	0.09	0.17
Satisfied with job - Job physically demanding	2642	-0.14***	2958	-0.15***	0.38	0.35	0.70
Satisfied with job - Time pressure due to a heavy workload in job	2641	-0.17***	2954	-0.27***	3.97	0	0.0001

Satisfied with job - Little freedom to decide how I do my work in job	2641	-0.22***	2954	-0.26***	1.59	0.06	0.11
Satisfied with job - Opportunity to develop new skills in job	2636	0.31***	2952	0.31***	-0.33	0.37	0.74
Satisfied with job - Receive support in difficult situations in job	2616	0.30***	2939	0.37***	-2.56	0.01	0.01
Satisfied with job - Receive recognition for work in job	2624	0.41***	2943	0.44***	-1.18	0.12	0.24
Satisfied with job - Salary or earnings are adequate in job	2638	0.35***	2949	0.32***	1.43	0.08	0.15
Satisfied with job - Poor prospects for job advancement	2589	-0.19***	2901	-0.15***	-1.37	0.09	0.17
Satisfied with job - Poor job security	2612	-0.24***	2932	-0.21***	-1.06	0.15	0.29
Satisfied with job - Self-perceived health - us version	2640	0.14***	2958	0.17***	-0.99	0.16	0.32
Satisfied with job - Future looks good	2620	0.28***	2938	0.23***	1.75	0.04	0.08
Job physically demanding - Time pressure due to a heavy workload in job	2643	0.22***	2954	0.26***	-1.62	0.05	0.11
Job physically demanding - Little freedom to decide how I do my work in job	2644	0.24***	2954	0.21***	1.26	0.10	0.21
Job physically demanding - Opportunity to develop new skills in job	2638	-0.14***	2952	-0.17***	1.11	0.13	0.27
Job physically demanding - Receive support in difficult situations in job	2618	-0.06**	2939	-0.10***	1.38	0.08	0.17
Job physically demanding - Receive recognition for work in job	2626	-0.12***	2943	-0.14***	1.02	0.15	0.31
Job physically demanding - Salary or earnings are adequate in job	2641	-0.19***	2949	-0.23***	1.83	0.03	0.07
Job physically demanding - Poor prospects for job advancement	2592	0.06**	2901	0.09***	-1	0.16	0.32
Job physically demanding - Poor job security	2614	0.15***	2932	0.12***	1.1	0.14	0.27
Job physically demanding - Self-perceived health - us version	2643	-0.13***	2958	-0.16***	1.03	0.15	0.30
Job physically demanding - Future looks good	2623	-0.14***	2938	-0.15***	0.15	0.44	0.88
Time pressure due to a heavy workload in job - Little freedom to decide how I do my work in job	2642	0.22***	2951	0.28***	-2.39	0.01	0.02
Time pressure due to a heavy workload in job - Opportunity to develop new skills in job	2636	-0.01	2950	-0.05**	1.53	0.06	0.13
Time pressure due to a heavy workload in job - Receive support in difficult situations in job	2616	-0.12***	2936	-0.24***	4.62	0	0
Time pressure due to a heavy workload in job - Receive recognition for work in job	2624	-0.14***	2940	-0.24***	3.83	0.0001	0.0001
Time pressure due to a heavy workload in job - Salary or earnings are adequate in job	2639	-0.12***	2945	-0.21***	3.34	0.0004	0.001
Time pressure due to a heavy workload in job - Poor prospects for job advancement	2591	-0.001	2898	0.06***	-2.29	0.01	0.02
Time pressure due to a heavy workload in job - Poor job security	2613	0.09***	2930	0.07***	0.6	0.27	0.55
Time pressure due to a heavy workload in job - Self-perceived health - us version	2641	0.01	2954	-0.05**	2.17	0.02	0.03
Time pressure due to a heavy workload in job - Future looks good	2621	-0.09***	2935	-0.08***	-0.34	0.37	0.73

262

Little freedom to decide how I do my work in job - Opportunity to develop new skills in job	2637	-0.24***	2949	-0.22***	-1.02	0.15	0.31
Little freedom to decide how I do my work in job - Receive support in difficult situations in job	2617	-0.10***	2937	-0.14***	1.7	0.05	0.09
Little freedom to decide how I do my work in job - Receive recognition for work in job	2625	-0.21***	2939	-0.21***	-0.16	0.44	0.87
Little freedom to decide how I do my work in job - Salary or earnings are adequate in job	2640	-0.16***	2945	-0.16***	0.08	0.47	0.94
Little freedom to decide how I do my work in job - Poor prospects for job advancement	2591	0.15***	2898	0.18***	-0.99	0.16	0.32
Little freedom to decide how I do my work in job - Poor job security	2613	0.20***	2928	0.19***	0.15	0.44	0.88
Little freedom to decide how I do my work in job - Self-perceived health - us version	2642	-0.08***	2954	-0.12***	1.36	0.09	0.17
Little freedom to decide how I do my work in job - Future looks good	2623	-0.16***	2936	-0.13***	-1.18	0.12	0.24
Opportunity to develop new skills in job - Receive support in difficult situations in job	2613	0.28***	2935	0.32***	-1.59	0.06	0.11
Opportunity to develop new skills in job - Receive recognition for work in job	2621	0.31***	2937	0.34***	-1.12	0.13	0.26
Opportunity to develop new skills in job - Salary or earnings are adequate in job	2635	0.24***	2943	0.22***	0.79	0.22	0.43
Opportunity to develop new skills in job - Poor prospects for job advancement	2586	-0.22***	2898	-0.16***	-2.22	0.01	0.03
Opportunity to develop new skills in job - Poor job security	2609	-0.13***	2928	-0.13***	0.26	0.39	0.79
Opportunity to develop new skills in job - Self-perceived health - us version	2636	0.13***	2952	0.11***	0.83	0.20	0.41
Opportunity to develop new skills in job - Future looks good	2616	0.22***	2933	0.21***	0.08	0.47	0.94
Receive support in difficult situations in job - Receive recognition for work in job	2604	0.42***	2926	0.51***	-4.12	0	0
Receive support in difficult situations in job - Salary or earnings are adequate in job	2614	0.26***	2933	0.27***	-0.4	0.35	0.69
Receive support in difficult situations in job - Poor prospects for job advancement	2570	-0.07***	2890	-0.09***	0.74	0.23	0.46
Receive support in difficult situations in job - Poor job security	2591	-0.15***	2916	-0.15***	-0.08	0.47	0.94
Receive support in difficult situations in job - Self-perceived health - us version	2617	0.03	2939	0.06***	-1.27	0.10	0.20
Receive support in difficult situations in job - Future looks good	2598	0.17***	2924	0.17***	-0.11	0.46	0.91
Receive recognition for work in job - Salary or earnings are adequate in job	2624	0.47***	2935	0.42***	2.09	0.02	0.04
Receive recognition for work in job - Poor prospects for job advancement	2578	-0.17***	2887	-0.15***	-0.49	0.31	0.62
Receive recognition for work in job - Poor job security	2601	-0.17***	2919	-0.14***	-0.91	0.18	0.36
Receive recognition for work in job - Self-perceived health - us version	2624	0.10***	2943	0.12***	-0.57	0.28	0.57
Receive recognition for work in job - Future looks good	2606	0.22***	2924	0.19***	1.16	0.12	0.25

Salary or earnings are adequate in job - Poor prospects for job advancement	2591	-0.21***	2894	-0.16***	-1.72	0.04	0.09
Salary or earnings are adequate in job - Poor job security	2612	-0.17***	2924	-0.12***	-1.86	0.03	0.06
Salary or earnings are adequate in job - Self-perceived health - us version	2639	0.14***	2949	0.14***	0.34	0.37	0.73
Salary or earnings are adequate in job - Future looks good	2620	0.24***	2932	0.17***	2.95	0.002	0.003
Poor prospects for job advancement - Poor job security	2571	0.13***	2879	0.10***	1.12	0.13	0.26
Poor prospects for job advancement - Self-perceived health - us version	2591	-0.08***	2901	-0.08***	0.22	0.41	0.83
Poor prospects for job advancement - Future looks good	2571	-0.14***	2886	-0.13***	-0.3	0.38	0.76
Poor job security - Self-perceived health - us version	2612	-0.09***	2932	-0.11***	0.9	0.18	0.37
Poor job security - Future looks good	2593	-0.19***	2914	-0.14***	-1.9	0.03	0.06
Self-perceived health - us version - Future looks good	3469	0.27***	3839	0.29***	-0.79	0.22	0.43

*p < .05

**p < .01

***p < .001

Appendix J – ANOVA plots with bar errors for group interactions between Gender and Retirement intentions for 2016 and 2021 cohorts

Figure J.1. *Means of interaction of Gender and Retirement groups scoring for individual, social and work-related factors – 2016 cohort*

a.   b.   c.

d.   e.   f.

g.   h.   i.

j.   k.

Figure J.2. *Means of interaction of Gender and Retirement groups scoring for individual, social and work-related factors – 2021 cohort*

a.

b.

c.

d.

e.

f.

g.

h.

i.

j.

k.

l.

m.