

# The role of job characteristics in people preferences to retire early

Author : Alena Sabaleuskaya

Thesis Director : Vincent Vandenberghe

Thesis Reader : David De la Croix

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## **Abstract**

This paper tests the association between job characteristics and retirement preferences across 19 European countries. I estimate logistic regression models based on data from the Survey of Health, Aging and Retirement in Europe (SHARE) project. I hypothesize that older individuals are less likely to retire early the more favorable working environment they have. By working environment, I mean both type of occupation and labour conditions. I suspect that, *ceteris paribus*, individuals will prefer to remain at jobs which are characterized by less physical effort, less time pressure, more opportunity to develop new skills, and will more likely to retire early from jobs which are physically demanding, characterized by strong peer pressure or involve undesirable working conditions. Controlling for basic demographics, health, and other personal characteristics, I find that work conditions do influence the early retirement decision. Respondents dissatisfied with their jobs are considerably more likely than others to report the desire to retire early (OR = 2.62; 95% C.I. 0.31 – 1.11). The only sector, which is significantly associated with decrease in the likelihood of retirement, is “health and social work” (OR = 0.66; 95% C.I. 0.50 – 0.86). Mental health variables such as the loneliness scale and the depression scale are not significantly related to retirement intentions. High evaluation of quality of life decreases probability of early retirement (OR = 0.69; 95% C.I. 0.47 – 1.01). With regard to the interaction between job characteristics and mental health, individuals who experienced poor quality of work are more likely to report reduced mental health.

## **Keywords**

Early retirement, job characteristics, Europe

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## 1. Introduction

The retirement age is the subject of much debate. The increase in life expectancy in combination with decreasing fertility rates is leading to an ageing population. Old-age dependency ratio is rising over time, thus increasing financial liabilities related to pensions. This is the main rationale for a bleak outlook on economic development, especially in countries most impacted by ageing, like Japan, Italy, Finland, Portugal, and Germany. Many recent pension reforms have been carried out with the aim to raise the retirement age. Such a delay seems to be important since population ageing makes it a necessity to ensure the financial stability of pension system and a sufficiently large labor force. In this connection, studies on factors influencing retirement timing have begun to attract increasing interest among researchers.

What shapes retirement paths for different people has not yet been completely revealed. While Social Security rules (Gruber & Wise, 2004), employer-provided pension benefits (Lumsdaine & Mitchell, 1999), labor market rigidities (Garcia Perez & Sanchez-Martin, 2008) and poor health (Currie & Madrian, 1999), are used in the literature as being the main predictors of retirement timing, there exists relatively small number of papers analyzing the extent to which the work conditions in themselves affect this decision. Undesirable working environment may adversely influence one's motivation and willingness to continue to pursue their career job, especially for individuals on the verge of retirement. Conceivably, work conditions are linked to and affected by specific personality traits and cognitive skills.

The goal of this project is to investigate the relationships between occupations and retirement expectations. First, I investigate characteristics of occupations that encourage early retirement. By characteristics of occupations I mean both the nature of job and work environment. Second, I examine the interaction between job characteristics and mental health at old ages, since work related factors may predict mental health in work settings.

I study retirement preferences of older workers by exploiting the wealth of information about individuals aged 50 to 64 and various characteristics of occupations provided by the SHARE database. Using logistic regression models, I examine the relationship between individual demographics, job characteristics and retirement preferences. This method was chosen due to the dichotomous structure of the dependent variable; namely, whether or not the individual would like to retire as early as possible.

The findings suggest that the conditions under which the work is performed are important drivers influencing early retirement decision. Among the characteristics analyzed, the strongest effect is related to job satisfaction. Respondents who describe themselves as strongly dissatisfied with their jobs are considerably more likely than others to report the desire to retire early (OR = 3.84, 95% C.I. 1.61 – 9.16). Health appears to play an important role in forming individuals preferences to retire as early as possible. Poor health increases the probability of early retirement (OR = 2.14, 95% C.I. 1.14 - 4.04). The only sector, which is significantly associated with decrease in the likelihood of retirement, is “health and social work” (OR = 0.66; 95% C.I. 0.50 – 0.86). Mental health variables such as the loneliness scale

and the depression scale are not significantly related to retirement decision. High evaluation of quality of life decreases probability of early retirement (OR = 0.69; 95% C.I. 0.47 – 1.01). People who experienced undesirable working conditions are more likely to report reduced mental health.

This paper contributes to the current literature on early retirement incentives. There is a little research documenting the extent to which the work environment influences the decision to retire early in Europe. This type of research has been conducted mainly for the US population. Therefore, this paper shed some new light on trends in occupational composition and how occupation and occupational characteristics may be related to retirement intention in European countries. Second, I include into investigation the variables related to the nature of job (i.e. sectors) and cognitive skills, which were neglected in most previous research papers on this topic. Third, I use aggregate mental health variables instead of a single-item measures. I speculate that taking a closer look at the detail held within aggregate mental health categories may yield more insight into retirement intentions.

However, the limitations should be acknowledged. The cross-sectional design of the study means that causal inferences cannot be made; longitudinal evidence is necessary to establish whether a causal relationship is likely. Additionally, the sample analyzed in the model cannot be considered representative of all elderly adults, as it did not include institutionalized populations. The low number of observations restricts the number of explanatory variables (for instance, I could not use in the investigation the variable reflecting the number of grandchildren). It also should be noted that variables are based on self-report data. Therefore, it may happen that, for example, individuals with a lower level of well-being are more likely to perceive and report their work as being stressful, or individuals with intended early retirement can justify their reasoning by attributing low quality to their work.

This work provides substantive results and suggestions for future researchers studying job characteristics in European countries. In 2017, the SHARE database introduced modules related to job characteristics and personality traits, which largely facilitate the use of these data. However, data preparation for 2017 has not yet been finished. In this paper, I use data from the year 2015. Nevertheless, we can expect the emergence of this type of research in the near future, what will be a great contribution to the analysis of people retirement incentives in European countries.

Summing up, I do not suggest that characteristics of occupations are the most important retirement determinants. Nevertheless, identifying its associating with early retirement may point the way to policy interventions that are beneficial to both individuals and system finances.

## 2. Literature review

There is a considerable amount of literature on **determinants of early retirement**. The dimensions involved are individuals' characteristics such as gender, educational level or health, contextual factors such as family or workplace, the characteristics of the national pension system or macro-economic conditions. Gerke & Lauridsen (2013) investigated the factors of early retirement in Denmark. They show that the strongest factors encouraging the decision to take early retirement are unemployment, chronic illness or disability, the existence of grandchildren. These findings are supported by the results of Hochman & Lewin-Epstein (2013), Bavel & De Winter (2013), which focused on the role of grandparenthood in people's decision to retire early. They show that becoming a grandparent is strongly linked to preferences to retire as early as possible in European countries. Van den Berg et al. (2010), Christensen & Kallestrup-Lamb (2012), Banks & Smith, (2006), Dentinger & Clarkberg (2002) confirm the result that poor health is an important factor in early retirement. The presence of children is also marked as a determinant of retirement preferences and the timing of retirement. Research indicate that men having young children tend to delay retirement. Conversely, caring for children was found to encourage early retirement among women (Dentinger & Clarkberg, 2002; Forma, 2009; Henkens and Tazelaar, 1997).

Few researchers have addressed the question of **the role of occupations and their characteristics on the retirement choices** of older workers. This type of investigations has been conducted mainly for the US population. Quinn (1978) shows that individuals are more likely to retire from jobs with undesirable job attributes. He investigated actual retirement situation (not individuals' preferences regarding retirement timing) and highlighted the importance of health and retirement income status. He found that individuals, which were currently eligible for Social Security or pension benefits were more able to respond to and withdraw from an undesirable workplace. He also revealed that respondents which had a health condition limiting the kind or amount of work are much more sensitive to the job environment than those in good health, and are more likely to retire early. Finally, he suggested that the effects of job characteristics must be analyzed within health and economic framework. Quinn used two data sources: the Retirement History Study (RHS) and the Dictionary of Occupational Titles (DOT). The RHS sample, which was conducted from 1969 to 1979, did not ask about health or physical and mental function, all of which can affect the decision and ability to retire. Therefore, this project was replaced by the Health and Retirement Study (HRS) (Rodgers, 1992). Based on this database, there have been conducted the studies by McFall et al. (2015), Aaron & Callan (2011). Aaron & Callan did not find the link between the type of occupation and the probability of retiring. However, they report that stress in the work is a significant predictor of leaving work in contrast to physical effort. McFall et al. (2015) linked occupational categories to work characteristics in order to find which occupations might encourage or discourage individuals to work longer. The authors also looked at compositional changes in employment of older workers over time. The results show that white-collar, especially creative or labor-of-love-type jobs such as clergy or writers/authors and/or those that are not physically demanding, common in longer-working occupations. Jobs that entail less physical effort, less stress, and jobs that have not increased

in difficulty in recent decades, and those in which people can reduce hours if desired, are associated with longer work.

However, almost all of the above studies investigated actual retirement patterns [with the exception of Hochman & Lewin-Epstein (2013)]. In contrast, **the relationships between occupations and retirement expectations** are poorly represented in academic literature. Previous review of the literature on this topic [Angrisani et al., 2015] reveals that the only studies on job characteristics and expectations for future retirement in the United States were conducted by Hurd & McGarry (1993) and Angrisani et al. (2013). Both investigations were conducted using the data from the Health and Retirement Study (HRS). Hurd et al. (1993) present only a weak relationships between self-reported job characteristics and intentions to work after ages 62 and 65. On the other hand, Angrisani et al. (2013) find that some job characteristics are strong predictors of labor force transitions. For instance, the presence of physical activity and poor quality of the relationship with colleagues and chiefs has a strong influence on the full-time workers desire to switch to part-time or to retire. Interestingly, employees with higher wages are more likely to transit into retirement. Moreover, respondents who report that their job interfere with their personal life are less likely to move from full-time employment to retirement. In addition, the authors included into analysis **personality traits**. Following the study by Almlund et al. (2011), they present hypotheses about how the personality traits can affect labor force transitions at older ages:

1. *Openness to experience* may be related to higher likelihood of retirement if retirement is perceived as a new experience, but also a lower likelihood in case when the work environment frequently generates new experiences. Thus, there may be a main effect as well as an interaction with job characteristics.
2. *Conscientiousness* is associated with delay of gratification, ambition, and work ethic, and thus may be associated with later retirement. However, it is also related with better preparation for retirement (see below), which has the opposite effect.
3. A facet of *extraversion* is excitement seeking or being adventurous, but also being sociable. These may again be associated with both earlier and later retirement, depending on whether the work environment provides these kinds of stimulation.
4. *Agreeableness* includes the modesty and “not demanding” facets, the association of which with retirement may again depend on job characteristics.
5. *Neuroticism* or emotional stability is associated with worrying, depression, and vulnerability to stress, as well as impulsiveness. This appears to point at earlier retirement, unless the individual is not well prepared for retirement as a result of these characteristics.

The above personal qualities are called "The Big Five personality traits". The question of how personality should best be conceptualised and measured has received much attention <sup>[1]</sup><sub>SEP</sub> over the last few decades. Several variable sets and taxonomies of personality structure have been

proposed to reflect the complexity of personality. Since the 1940s, an effort has been made to create a parsimonious yet comprehensive taxonomy of personality traits that would allow for the research of personality in a systematic fashion, including across age groups and across cultures. By the late 1980s, the five-factor model of personality had emerged as the dominant schema (Bergmann et al., 2019). This five-factor paradigm is, to date, the most widely used and empirically best-validated framework of individual differences in personality (John and Srivastava, 1999).

Angrisani et al. (2013) did not find a significant, direct effect of personality traits on labor supply decisions at older ages. The only trait that is significantly related to labor force transitions is openness to experience. Specifically, the authors reveal that the probability of remaining in full-time employment decreases with the level of openness to experience, while the probability of retirement increases. However, they show that the impact of job characteristics on labor supply decisions at older ages varies according to the “intensity” of each personality trait. For instance, the results show that age discrimination is less important for employment transitions the more individuals describe themselves as being conscientious.

Angrisani et al. (2013) did not account for **cognitive skills**. They presented this fact as an important limitation of their research, since cognitive ability is strongly related to economic outcomes and it is likely correlated with job characteristics, and in a less degree with personality traits (Roberts et al., 2007). In 2015 the authors included cognitive skills into analysis. Angrisani et al. (2015) investigated not only subjective perceptions of job conditions, but also objective characteristics of the work environment. They find that objective measures are more strongly associated with transitions from full-time work to retirement, as well as with retirement preferences. Subjective measures are more often related to the decision of moving to part-time work. In addition, they did not observe any relationship between cognitive skills and labor-force transitions. However, higher levels of required cognitive abilities make respondents more likely to move to part-time and less-likely to retire.

Apart from "The Big Five personality traits", there are other methods to evaluate the well-being of respondents: for instance, the EURO-D scale (Prince et al., 1999), the original CASP-19 scale (Hyde et al., 2003) and the Loneliness Scale (Hughes et al., 2004). Siegrist et al. (2006) used CASP-12 questionnaire in order to evaluate the influence of well-being on the preferences to retire early. They show that poor quality of work and reduced well-being are independently associated with the intention to retire from work. Kolodziej & García-Gómez (2017) analyzed the causal effect of retirement on mental health basing on the EURO-D scale of depressive symptoms. The results indicate that, on average, retirement improves mental health. However, there are unequal effects across the mental health distribution. In particular, the authors find that the effect is not statistically significant for those that have a relatively good mental health status (reporting fewer than four depressive symptoms).

The Loneliness Scale is a frequently used and validated indicator of loneliness (Boss et al., 2015; Samuel et al., 2015). Dikla et al. (2016) aimed to examine the relationship between loneliness and depressive symptoms following retirement, in comparison to continuous employment. For people who suffer from loneliness, the transition to retirement could result

in increased depressive symptoms due to the lack of structured daily routine. The authors find that the effect of loneliness on depressive symptoms was stronger for people who retired in comparison to those who stayed employed. This result has further strengthened my hypothesis that people who suffer from loneliness are less likely to retire early.

Only recently, studies on early retirement incentives have become popular also for the European countries. In 2018, David Cantarero-Prieto, Marta Pascual-Sáez and Carla Blázquez-Fernández from University of Cantabria in Spain have published a research paper "Well-being and intended early retirement among older European workers: Does job satisfaction matter?". This study examines the effects of different factors on early retirement decisions among workers from Europe aged 50-65, based on the latest available data (waves 1-6: 2004-2015) from the Survey of Health, Ageing and Retirement in Europe (SHARE). The authors have tested the association between indicators of well-being and the early retirement decision. The empirical findings suggest that socioeconomic and well-being factors often affect the decision to retire early. Job satisfaction plays significant role - it increases the chance of staying at work by 60%. This result was previously found in studies like the ones of Dendinger et al. (2005) or Carr et al. (2016). In addition, the study conducted by three Spanish researchers confirms previous results that health is an important driver for early retirement, as already mentioned before.

Intuitively, job characteristics should predict retirement preferences. For instance, generous financial rewards are likely to keep people on the job, but they might also lead to early exit from the workforce, if they contribute to the accumulation of wealth to finance retirement. The interactions among work environment, mental health, cognitive skills and labor supply decisions are rather complex. Angrisani and co-workers (2013) demonstrated that individual preferences shaping labor supply decisions are responsible for self-selection into specific jobs or occupations. Aspects that encourage some to retire prevent others from doing so: what is stimulating or challenging for some individuals is demanding for others.

It is worth emphasizing that, in addition to the fact that characteristics of work, physical and mental health can influence people's preferences for retirement, job characteristics can also affect physical and mental health in themselves. The impact of work environment on health has been investigated extensively over the last two decades. Most studies have focused on the relation with cardiovascular disease (Siegrist et al., 1990; Karasek et al., 1988), but several other health outcomes have also been examined, including self-rated health, psychiatric disorder and depression. Pikhart et al. (2004) demonstrated that effort-reward imbalance at work is related to prevalence of depression in the Central and Eastern European populations. Stansfeld et al. (1999) showed that low social support at work and low decision authority and high job demands are associated with increased risk of psychiatric disorder.

Because of the richness of information, the SHARE database allows to include personality traits and cognitive skills in the research. I assume that the determinants that affect people's desire to retire early are individual demographics, health, cognitive abilities and job characteristics. I want to answer the question which occupations and associated characteristics might encourage or discourage people to work longer.

### **3. Data**

For the current study, I use data from the Survey of Health, Aging and Retirement in Europe (SHARE) database, which is a multidisciplinary and cross-national panel study that collects micro-data on individuals aged 50 or over in 27 European countries and Israel. The SHARE database permits an analysis of the effects of job characteristics, while accounting for many other determinants, such as economic, social and health factors, and individual traits and preferences. It allows for measuring changes over time. The data is presented in 7 waves. Each wave includes a different number of countries (see Appendix 1).

The present study investigates retirement intentions rather than actual retirement patterns. Following previous empirical research (Siegrist et al., 2006, Hochman & Lewin-Epstein, 2013), a preference to retire early is measured with the question: «Thinking about your present (main/secondary) job, would you like to retire as early as you can from this job?» This variable is present in the waves 1,2,4,5,6,7. Therefore, I limit the analysis to respondents aged 50 to 64 who were still working. All the waves provide information on job characteristics. However, the largest number of variables related to this factor is represented in the waves 3 and 7. The data on cognitive skills is present in the waves 1,2,4,5,6,7. All the waves provide measures of personality. To facilitate the use of these data, five generated personality trait variables were derived. Specifically, in the wave 7, it was introduced an established personality inventory measuring the “Big Five” personality traits: openness, conscientiousness, extraversion, agreeableness, and neuroticism (emotional stability). Therefore, the wave 7 would be an ideal dataset for my research project. However, data preparation for this wave is not yet complete. In order to investigate the relationships between job characteristics and preferences to retire early, I use data from the wave 6. It was collected during 2015 and includes a representative sample of non-institutionalised individuals born in 1964 or earlier who had their regular domicile in the respective country (Austria, Belgium, Croatia, Czech Republic, Denmark, Estonia, France, Germany, Greece, Israel, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovenia, Spain, Sweden and Switzerland).

#### **3.1 Core questionnaire**

The process of analysis is carried out in a structured way. Firstly, I collect general information on respondents. Previous studies (Quinn, 1978; Hardie et al., 2019) indicate that the effects of job characteristics must be analyzed within health and economic framework. The SHARE database provides the possibility of such a study.

The DN (Demographics) module provides basic socio-demographic characteristics. I control for gender (1 if male). With regard to the family factors, I control for the respondents' marital status (married, separated or divorced, never married, or widowed), and number of children. Research suggests that married women are likely to depart work at younger ages compared to unmarried men and women and married men (Heyma, 2004; Desmette & Gaillard, 2008; Szinovacz, 2010). Due to the insufficient data on the existence of grandchildren, this variable had to be excluded from the analysis. Age of the respondent is also collected and saved as a

number.

Education is measured using the 1997 International Standard Classification of Education (ISCED-97) and divided into low (pre-primary, primary, or lower secondary education), medium (secondary or post-secondary education) and high (first and second stage of tertiary education). Respondents with lower secondary education or less are compared to those with secondary education and higher.

Additionally, I account for respondents' cognitive functioning, namely memory skills. The SHARE database uses the 10-words recall test to assess cognitive impairment and dementia (Harris & Dowson, 1982). In this learning test the respondents are asked to learn a list of ten words and recall them immediately as well as after a delay time. On the basis of the memory score, the generated variable is created. It varies from 1 to 5, meaning, respectively, excellent and poor memory skills.

I also include into analysis variable associated with the use of a computer. The evolution of computer use suggests that most workers, old or young, learn to use computers as needed, and further that older workers use computers less not because they are old, but because they are nearing retirement. In turn, we might expect older workers who do not use computers to retire sooner (Friedberg, 2003). In this paper, I use "computer skills" variable which takes values from 1 to 6, where 1 means that the respondent has excellent computer skills, and 6 means that the respondent has never used a computer before. The most appropriate question for this kind of analysis would be "How often do you use a computer at work?" Nevertheless, we can expect that people who often use a computer at work have better computer skills.

I use data on the respondents' health, represented by self-reported health status measured on a scale ranging from bad health (1) to excellent health (5). Respondents who reported bad health are compared to others. Vandenberghe (2019) studying health, cognition and work capacity at an older age, underlines that values of health and cognition are partially driven by people status on the labour market: for instance, unemployed individuals tend to report lower level of health to justify their absence of employment (Baker et al., 2004). In this paper, the sample is limited to working people. Accordingly, we exclude underestimation of the unemployed people.

Financial incentives are important factors in retirement decisions. Specifically, a higher hourly wage is associated with a lower probability of retirement. Interestingly, sometimes people with higher wages are also more likely to retire. This can be attributed to the income effect: keeping household overall financial resources constant, those with a taste for leisure and a better paid job are in a better situation to retire. However, in the SHARE database there is no variable associated with hourly wage. Therefore, to account for the economic factors, I refer to respondents' income. Income information is based on the total annual household income consisting of the sum of different income components assessed in the questionnaire. I expect that good health, higher education, and earnings will be associated with remaining longer in the workforce.

### **3.2 Job characteristics**

The EP (Employment and Pensions) module collects information about the respondents' current work activities and job characteristics. The main goal of these questions is to tap into the perceived ability to work with respect to a job's physical and mental requirements. They capture different aspects of job satisfaction, measure various stress factors, and convey information about how employees relate to and cope with their working environment. Therefore, the EP module can be used as a tool for subjective assessment of job conditions. Specifically, respondents are requested to use a 4-point scale (where 1 corresponds to "strongly agree" and 4 means "strongly disagree") to describe their work environment. The answers "disagree" and "strongly disagree" are compared to the remaining ones. Variables used to describe the work environment are related to satisfaction, time pressure, freedom to decide how to work, opportunity to develop new skills, support, recognition, wage adequacy, prospects, and security. Additionally, I use the information on job sectors to identify which of them are strongly related to the desire to retire early. Summing up, I use the EP module to study the relationship between individuals' perception of working life and their subsequent retirement decisions.

### **3.3 Mental health**

As I already mentioned before, I cannot use The Big Five Inventory, firstly introduced in the Wave 7, due to the data constraints. Within the next few years, The Big Five Inventory is likely to become an important component in studying the influence of job characteristics on people preferences to retire early. Currently, the use of this factor is not possible. In this paper, I focus on other measures using to assess the mental health of respondents: the EURO-D scale, the original CASP-19 scale and the Loneliness Scale. The choice of these measures is motivated by the results of previous studies (Siegrist et al., 2006; Kolodziej & García-Gómez, 2017; Pikhartova et al., 2014).

The EURO-D scale was originally developed in an effort to derive a common depression symptoms scale from various instruments on late-life depression used in different European countries. The resulting scale consists of the following items: depression, pessimism, suicidality, guilt, sleep, interest, irritability, appetite, fatigue, concentration (on reading or entertainment), enjoyment, and tearfulness. Specifically, EURO-D scale includes 16 questions. Some questions are a continuation of the previous ones, so the list of 16 items is reduced to 12 final items. Therefore, the maximum score a respondent can get is 12 "very depressed" and the minimum score is 0 "not depressed". The attainment of a scale score of 4 or higher is categorized as "case of depression" and a scale score below 4 as "not depressed" (Mehrbrodt et al., 2017).

The CASP-12 scale is a theoretically grounded and commonly used measure for quality of life (QoL). According to this approach, the quality of life is dependent on four conceptual types of personal needs: control (C), autonomy (A), self-realization (S), and pleasure (P). The 12 questions and statements presented to survey participants are assessed using a four point Likert scale ("often", "sometimes", "rarely", "never"). The result is the sum of these 12 items,

and ranges from the minimum of 12 to the maximum of 48. Following previous research (Cantarero-Prieto et al., 2018), it is interpreted as follows: low QoL, <35; moderate, 35–37; high, 38–39; and very high, > 39.

The Three-Item Loneliness Scale is a short version of the R-UCLA Loneliness Scale (Russell et al., 1978). It measures indirect loneliness based on the three following questions: how much of the time do you feel a lack of companionship; how often do you feel left out; how much of the time do you feel isolated from others? The answers are recorded with the use of a three point Likert scale (“often”, “some of the time”, “hardly ever or never”), resulting in a theoretical range from 3 (“not lonely”) to 9 (“very lonely”). Previous research has often treated the measure as continuous (Hughes et al., 2004), however, the distribution of responses is not normal. Therefore, I converted it to a binary measure. The resulting score between 3 and 5 is interpreted as “not lonely” and those between 6-9 as “lonely”, similar to the method used in a previous paper (Pikhartova et al., 2014).

I used the short form UCLA loneliness scale instead of a single-item loneliness measure (one question from CES-D questionnaire “Have you felt lonely much of the time during the past week?” with possible answers yes or no) because of questionable reliability of this measure in case of older people (Cattan et al., 2005) as they may try to mask their loneliness as a result of its stigmatization (Victor et al., 2000). The question may also be misleading, because it is focused on loneliness in the last seven days and can be a potential source of under- or over-reporting. This problem concerns not only the UCLA loneliness scale, but also EURO-D scale, which uses analogous question - “In the last month, have you been sad or depressed?” Therefore, in the analysis I used short forms of both measures.

All variables used in the analysis are presented in table 1. The Appendices 1 - 4 provide the details about how these questionnaire items are combined into indexes describing specific personality traits.

**Table 1. Variables used in the empirical analysis**

<b>Module</b>	<b>Name of dependent variable in the SHARE database</b>	<b>Description of dependent variable</b>	<b>Code in the SHARE database</b>
EP (Employment and Pensions)	ep036_	Look for early retirement in (main) job	Yes = 1 No = 5
<b>Module</b>	<b>Name of independent variables in the SHARE database</b>	<b>Description of independent variables</b>	<b>Code in the SHARE database</b>
DN (Demographics)	age_int	Age of respondent at the time of interview	Number
	gender	Male or female	Male = 1 Female = 2
	dn014_	Marital status	1 = Married and living together with spouse 2 = Registered partnership 3 = Married, living separated from spouse 4 = Never married 5 = Divorced
Gv_ISCID (Generated Variables_ISCID)	isced2011_r	Education	1 = ISCED-97 code 1 2 = ISCED-97 code 2 3 = ISCED-97 code 3 4 = ISCED-97 code 4 5 = ISCED-97 code 5 6 = ISCED-97 code 6
CH (Children)	ch001_	Number of children	Number
EP (Employment and Pensions)	ep005_	Current job situation	1 = Retired 2 = Employed or self-employed 3 = Unemployed (including working for family business) 4 = Permanently sick or disabled 5 = Homemaker
	ep018_	Current main job – [SEP]What kind of business, industry or	1. Agriculture, hunting, forestry, fishing[SEP] 2. Mining and

		services do you work in?	quarrying <sup>[L]</sup> <sub>[SEP]</sub> 3. Manufacturing 4. Electricity, gas and water supply 5. Construction <sup>[L]</sup> <sub>[SEP]</sub> 6. Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods 7. Hotels and restaurants 8. Transport, storage and communication <sup>[L]</sup> <sub>[SEP]</sub> 9. Financial intermediation 10. Real estate, renting and business activities 11. Public administration and defence; compulsory social security 12. Education <sup>[L]</sup> <sub>[SEP]</sub> 13. Health and social work <sup>[L]</sup> <sub>[SEP]</sub> 14. Other community, social and personal service activities
ep026_	Satisfied with (main) job	1 = Strongly agree 2 = Agree 3 = Disagree 4 = Strongly disagree	
ep027_	My job is physically demanding		
ep028_	I am under constant time pressure due to a heavy workload		
ep029_	Little freedom to decide how I do my work in (main) job		
ep030_	Opportunity to develop new skills in (main) job		
ep031_	I receive adequate support in difficult situations		
ep032_	I receive the recognition I deserve for my work		
ep033_	Considering all my efforts and achievements, my salary is/ my earnings are adequate		

	ep034_	My job promotion prospects/ prospects for job advancement/ job promotion prospects are poor	
	ep035_	My job security is poor	
HH (Household Income)	hh017e	Total income received by all hh members an average month last year	Number
	hh010_	Income from other sources	Yes = 1 No = 5
	hh011e	Additional income received by all hh-members last year	Number
PH (Physical Health)	ph003_	Health	1 = Excellent 2 = Very good 3 = Good 4 = Fair 5 = Poor
CF (Cognitive function)	cf103_	Memory	1 = Excellent 2 = Very good 3 = Good 4 = Fair 5 = Poor
IT (IT module) <sub>SEP</sub>	it003_	Computer skills	1 = Excellent 2 = Very good 3 = Good 4 = Fair 5 = Poor 6 = I never used a computer
Gv_Health (Generated Variables_Health) / MH (Mental health)	eurod	Depression scale EURO-D - high is depressed	0 - 3 = Not depressed 4 - 12 = Case of depression
	casp	CASP index for quality of life and well-being	12 - 34 = Low 35 - 37 = Moderate 38 - 39 = High 40 - 48 = Very high
	loneliness	Loneliness scale	3 - 5 = Not lonely 6 - 9 = Lonely

Source: Authors' elaboration based on Wave 6: 2015.

## **4. Model and Methodology**

The research proceeds in three main stages, each with somewhat different objectives and, therefore, different samples. First, I provide and discuss descriptive statistics for all variables used in the research. Second, to examine the relationship between individual demographics, job characteristics and retirement preferences, I estimate two logistic regression models. This estimation method was chosen due to the dichotomous structure of the dependent variable; namely, whether or not the individual would like to retire as early as possible. Model I includes baseline variables as gender, age, education, income, number of children, physical health, cognitive and IT skills. The sample of participants with available data consisted of 881 men and 889 women. Model II includes sectors, job characteristics and the three indicators of mental health. I could not use all the data in one model due to the lack of completed data. The sample of respondents with full data consists in 1802 individuals. As we can see, analyses were performed on a relative small sample of respondents (i.e. those aged 50 to 64, who were working, participated in the job characteristics and psychological assessment, and provided full data). Taking into account the complexity of the sampling structure and the possibility of estimating individual preferences of people who may be part of the same household, I use the Huber-White Sandwich method to derive strong standard errors. While using robust (Huber-White sandwich) estimators in logistic models, I take into account the clustering into households. It was assumed that observations were independent across clusters (households) but not necessarily independent within clusters. Third, I explore the interaction between job characteristics and mental health. This allows us to refine the interpretation of the models for early retirement intentions and gain insights into the relationship between work conditions and mental health.

In this type of research, the problem of endogeneity often occurs. Endogeneity means that a variable that is not included in the model is associated with a variable included in the analysis. To control for endogeneity problem, I use link test. This method is based on the notion that if a regression model is properly specified, we should not be able to find any additional explanatory variables that are statistically significant except by chance (Pregibon, 1980). The results show that there is no endogeneity problem in this study. The analyses were performed using Stata IC/13.0

## **5. Empirical results**

### **5.1 Early retirement and individual demographics**

Before focusing on job characteristics and mental health, it is useful to firstly investigate the relationship between basic demographics and preferences for early retirement. This will contribute to our understanding of the relative importance of job characteristics and mental health in people's preferences to retire. The baseline set of controls includes individuals' age, gender, health, education, number of children, marital status, total household income, memory skills and using a computer. Therefore, I begin with a simple explanation about the sample of respondents that with full data consists in 1770 individuals being 50.23% females. Descriptive

statistics for the analytical sample investigated in Model 1 are presented in Table 2.

**Table 2. Descriptive statistics of the analytical sample (sample size (n) = 1770 )**

Discrete variable	Total			
	N		%	
Early retirement				
Early retirement intention	882		49.83	
No early retirement intention	888		50.17	
	1770		100	
Discrete variables	Total		Early retirement intention	
	n	%	n	%
Gender				
Female	889	50.23	433	24.46
Male	881	49.77	455	25.71
Marital status				
Married	1144	64.63	609	34.41
Unmarried	626	35.37	279	15.76
Children				
Having children	1524	86.10	775	43.79
Not having children	246	13.90	133	7.51
Education				
Low education	353	19.94	224	12.66
Medim education	838	47.34	441	24.92
High education	579	32.71	223	12.60
Health				
Excellent	257	14.52	100	5.65
Very good	536	30.28	259	14.63
Good	616	34.80	323	18.25
Fair	309	17.46	171	9.66
Poor	52	2.94	35	1.98

Memory skills				
Excellent	304	17.18	121	6.84
Very good	597	33.73	288	16.27
Good	662	37.40	352	19.89
Fair	190	10.73	114	6.44
Poor	17	0.96	13	0.73
IT skills				
Excellent	173	9.77	66	3.73
Very good	295	16.67	124	7.01
Good	524	29.60	260	14.69
Fair	404	22.82	207	11.69
Poor	201	11.36	112	6.32
I never used a computer	173	9.77	119	6.72
Continuous variables	Mean	Median	Standard Deviation	
Age	53.88	53	3.31	
Number of children	1.85	2	1.21	
Household income	4529.10	1975.13	9557.91	

*Source:* Author's calculations based on Wave 6: 2015. Population of workers aged 50-64. N – total number of observations; n – number of observations; % - percentage of total number of observations (N).

The average age of respondents is approximately 54. The division into men and women is about 50%. Almost half of individuals expressed a desire to retire as early as possible, approximately 50% of which are women. With respect to family-related characteristics, most of the respondents is married and have children. The average number of children is a little above 2. In terms of education, secondary or post-secondary education is more prevalent. The average household income is €4529. Concerning health, the majority of respondents reported having good health and very good health. Only 3% of people reported poor health: most of them expressed intention for early retirement. With regard to cognitive skills, 37% of respondents have good memory, 34% - very good memory. 61% of individuals having fair and poor memory skills prefer to retire early. As to IT skills, almost 69% of those who had never used a computer expressed a desire to retire as early as possible.

Table 3 shows the results for logistic regression model where odds ratios of intended early retirement are used. This method is used to present the possibility of the occurrence of an

outcome. For each variable, the likelihood is compared with the reference group. Statistically significant results are obtained for being married, educational and health statuses, memory and IT skills. The gender variable (being female) is not significant. 1.46 (odds ratio) means that the odds of retiring early represent a 46% higher for married people, compared to unmarried. One explanation for this outcome could be the social meaning that single people derive from their work. The smaller odds are obtained for the most educated individuals: medium education decrease probability of early retirement on average at about 52%; high education decrease probability of early retirement on average at about 27% comparing to low-educated workers. As was expected, higher education is associated with remaining longer in the workforce.

Health appears to play an important role in forming respondents' preferences to retire as early as possible. Poor health increases the probability of retirement by 114%. Having fair health increases probability of early retirement on average at about 42%, having good health - at about 45%, having very good health - at about 31% comparing to having excellent health. With regard to IT skills, statistically significant results are obtained only for individuals never used a computer. They are 97% more likely to retire early than respondents having excellent IT skills. Fair memory skills have a strong statistically significant effect on respondents' retirement preferences. Household income does not appear to play an important role in forming respondents' preferences to retire as early as possible. Higher income is associated with lower odds of wanting to retire (OR = 0.96), however, the effect is not significant.

**Table 3. Associations of individual demographics and early retirement intentions: logistic regressions models (odds ratios and 95% confidence intervals) for all countries (n = 1783)**

Independent variables	OR	95% CI
Gender		
Female	0.95	[0.78 - 1.15]
Married	1.46***	[1.17 - 1.82]
Children	1.04	[0.76 - 1.41]
Education		
Medium education	0.73**	[0.56 - 0.95]
High education	0.48***	[0.35 - 0.64]
Household income	0.96	[0.88 - 1.05]
Health		
Very good	1.31*	[0.95 - 1.79]
Good	1.45**	[1.06 - 1.98]
Fair	1.42*	[0.99 - 2.06]
Poor	2.14**	[1.14 - 4.04]
Memory skills		

Very good	1.30*	[0.97 - 1.74]
Good	1.44**	[1.07 - 1.94]
Fair	1.79***	[1.20 - 2.68]
Poor	3.09*	[0.92 - 10.42]
IT skills		
Very good	1.11	[0.75 - 1.65]
Good	1.25	[0.86 - 1.82]
Fair	1.17	[0.79 - 1.74]
Poor	1.26	[0.80 - 1.99]
I never used a computer	1.97***	[1.21 - 3.22]

Notes: \*\*\*, \*\* and \* indicate significance at 1%, 5% and 10%, respectively. CI=confidence interval; n=number of observations; OR=odds ratio.

Source: Author's calculations based on Waves 6: 2015.

## 5.2 The effects of job characteristics and personality traits on retirement intentions

We now turn to an investigation of the extent to which job characteristics and mental health influence the subjective probabilities to retire as early as possible. I use eleven variables to describe personal assessment of the work environment. Each variable corresponds to one statement. Answers are provided on a 1 to 4 scale, where 1 and 4 indicate strong agreement and strong disagreement with these statements, respectively. Table 4 presents descriptive statistics for the work environment and variables related to mental health used in the analysis. A total of 1802 individuals were included in the analysis: 56.4 % of them expressed the desire to retire early. Most people work in the health sector (about 18%). Approximately 15% of respondents reported "other community, social and personal service activities" as sector where they work. About 11% of people work in the education sector. 6.6% of individuals reported early retirement intention work in the "other community, social and personal service activities" sector. This is approximately 45% of all workers in this sector. As regards health and social work sector, 35.8% of employees want to retire as early as possible. The leading sector where most workers want to retire early (among workers in this particular sector) is "agriculture, hunting, forestry, fishing". 55.8% of workers in this sector (29 individuals from 52) have intention to retire early. The possible explanation for this result could be that this sector requires considerable physical effort, what is especially difficult for older workers. In second place is the manufacturing sector - with 51.8% of workers wanting to retire early. In third place is the electricity, gas and water supply sector – with 48.4%.

With regard to job characteristics, 1632 people reported satisfaction from jobs they work. 29.9% of people strongly satisfied with main job (250 from 834 people), and 51.8% of

individuals satisfied with main job expressed the desire to retire as early as possible. Most people considered their work to be not physically demanding. Approximately 51% of those who reported their jobs to be physically demanding wanted to retire early. Most of the respondents are not under constant time pressure due to a heavy workload. Almost 52% of people considered themselves as being under constant time pressure, reported the desire to retire early. 27.4% of respondents have little freedom to decide how to work, almost half of them had intention to retire early. The majority of respondents have opportunity to develop new skills, receive adequate support in difficult situations, receive the recognition their deserve for their work, find their salary to be adequate, have no job security claims. Around 52% of those who are dissatisfied with their wages wanted to retire earlier.

In relation with mental health, the great majority of people do not feel lonely (91.8% of the entire sample), is not depressed (77.8%), have high quality of life (65.7%). 53.8% of respondents who were depressed, and 52.7% of individuals who considered themselves as being lonely, had intention to retire as early as possible. 19.7% of respondents reported low quality of life. Approximately 60% of them had incentives to retire early.

**Table 4. Descriptive statistics of the analytical sample (sample size (n) = 1802 )**

Discrete variable	Total			
	N		%	
Early retirement				
Early retirement intention	1016		56.38	
No early retirement intention	786		43.62	
	1802		100	
Discrete variables	Total		Early retirement intention	
	n	%	n	%
Sector				
1. Agriculture, hunting, forestry, fishing	52	2.89	29	1.61
2. Mining and quarrying <sup>SEP</sup>	7	0.39	2	0.11
3. Manufacturing	193	10.71	100	5.55
4. Electricity, gas and water supply	31	1.72	15	0.83
5. Construction	112	6.22	46	2.55
6. Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	147	8.16	68	3.77

7. Hotels and restaurants	65	3.61	28	1.55
8. Transport, storage and communication <sup>[1]</sup>	103	5.72	48	2.66
9. Financial intermediation	77	4.27	34	1.89
10. Real estate, renting and business activities	47	2.61	15	0.83
11. Public administration and defence; compulsory social security	184	10.21	83	4.61
12. Education	197	10.93	85	4.72
13. Health and social work	321	17.81	115	6.38
14. Other community, social and personal service activities	266	14.76	118	6.55
Satisfied with (main) job				
1. Strongly agree	834	46.28	250	13.87
2. Agree	798	44.28	413	22.92
3. Disagree	131	7.27	92	5.11
4. Strongly disagree	39	2.16	31	1.72
My job is physically demanding				
1. Strongly agree	376	20.87	208	11.54
2. Agree	456	25.31	214	11.88
3. Disagree	546	30.30	211	11.71
4. Strongly disagree	424	23.53	153	8.49
I am under constant time pressure due to a heavy workload				
1. Strongly agree	286	15.87	164	9.10
2. Agree	542	30.08	265	14.71
3. Disagree	714	39.62	271	15.04
4. Strongly disagree	260	14.43	86	4.77
Little freedom to decide how I do my work in (main) job				

1. Strongly agree	162	8.99	92	5.11
2. Agree	332	18.42	181	10.04
3. Disagree	791	43.90	343	19.03
4. Strongly disagree	517	28.69	170	9.43
Opportunity to develop new skills in (main) job				
1. Strongly agree	465	25.80	147	8.16
2. Agree	850	47.17	356	19.76
3. Disagree	342	18.98	195	10.82
4. Strongly disagree	145	8.05	88	4.88
I receive adequate support in difficult situations				
1. Strongly agree	440	24.42	154	8.55
2. Agree	922	51.17	378	20.98
3. Disagree	314	17.43	181	10.04
4. Strongly disagree	126	6.99	73	4.05
I receive the recognition I deserve for my work				
1. Strongly agree	400	22.20	129	7.16
2. Agree	920	51.05	375	20.81
3. Disagree	353	19.59	201	11.15
4. Strongly disagree	129	7.16	81	4.50
Considering all my efforts and achievements, my salary is/ my earnings are adequate				
1. Strongly agree	249	13.82	85	4.72
2. Agree	802	44.51	312	17.31
3. Disagree	522	28.97	259	14.37
4. Strongly disagree	229	12.71	130	7.21
My job promotion prospects/ prospects for job advancement/ job promotion prospects are poor				
1. Strongly agree	504	27.97	254	14.10

2. Agree	693	38.46	314	17.43
3. Disagree	471	26.14	177	9.82
4. Strongly disagree	134	7.44	41	2.28
My job security is poor				
1. Strongly agree	160	8.88	89	4.94
2. Agree	314	17.43	150	8.32
3. Disagree	712	39.51	300	16.65
4. Strongly disagree	616	34.18	247	13.71
Depression scale EURO-D				
1. Not depressed	1402	77.80	571	31.69
2. Case of depression	400	22.20	215	11.93
Loneliness scale				
1. Not lonely	1654	91.79	708	39.29
2. Lonely	148	8.21	78	4.33
CASP index for quality of life and well-being				
1. Low	355	19.70	212	11.76
2. Moderate	263	14.59	125	6.94
3. High	215	11.93	92	5.11
4. Very high	969	53.77	357	19.81

*Source:* Author's calculations based on Waves 6: 2015. Population of workers aged 50-64. N – Total number of observations, n – number of observations; % - percentage of total number of observations (N).

Table 5 shows the associations of job characteristics, mental health and early retirement intentions. Firstly, I performed logistic regression model for early retirement and sectors to determine which of them are significantly related to the desire to retire early. As a result, these sectors were “real estate, renting and business activities”, “health and social work” and “construction”. Second, I used the information on sectors, job characteristics and mental health in second logistic regression model. The presence of all job characteristics made almost all the results statistically insignificant. Therefore, I excluded the most insignificant job characteristics from the analysis. The final outcomes are presented in table 5. I find that work conditions do influence the early retirement decision. Respondents who describe themselves as strongly dissatisfied with their jobs are considerably more likely than others to report they

would like to retire early (OR = 3.84). Being dissatisfied with main job increases probability of early retirement on average at about 162%. Having not demanding job decreases probability of early retirement on average at about 33%. Strongly having not demanding job decreases probability of early retirement on average at about 35%. If the employee is not under time pressure due to a heavy workload, his desire to retire decreases by an average of 35%. Respondents who do not consider their job prospects to be poor are 24% less likely to retire early. People who strongly disagree that their prospects are poor are 41% less likely to retire as early as possible.

The results show that mental health variables such as the loneliness scale and the depression scale are not strongly related to retirement intentions. On the the other hand, high evaluation of quality of life decreases probability of early retirement on average at about 31%. Very high evaluation of quality of life decreases probability of early retirement on average at about 44%.

Work in the “real estate, renting and business activities” sector decreases probability of early retirement on average at about 41% comparing to other sectors. Work in the “construction” sector decreases probability of early retirement on average at about 29% comparing to other sectors. However, the effects are not significant. The only sector which is significantly associated with decrease in the likelihood of retirement is “health and social work” (at about 34% comparing to other sectors).

It would be interesting to present the above listed relationships for the “health and social work” sector in order to understand why this sector is significantly related with unwillingness to retire early. However, due to the small sample, it is currently impossible to answer this question. We can expect an increase in the amount of data in the near future (the number of countries has already increased significantly in the wave 7). Then, it will be possible to go deeper into this issue. Currently, we can assume what the possible reasons may be. One possible explanation why people do not have intention to retire early from the human health and social work sector could be, for instance, the fact that physicians, on average start their careers later than other people. In the CompHealth survey (2019), physicians identified losing social interactions at work, a loss of purpose and boredom/loneliness/depression as their top concerns about retirement. However, as I already mentioned before, we are currently unable to answer this question for European countries.

**Table 5. Associations of job characteristics, mental health and early retirement intentions: logistic regressions models (odds ratios and 95% confidence intervals) for all countries (n = 1803)**

<b>Independent variables</b>	<b>OR</b>	<b>95% CI</b>
Sector		
Real estate, renting and business activities	0.59	[0.31 – 1.11]
Health and social work	0.66***	[0.50 – 0.86]
Construction	0.71	[0.46 – 1.08]
Satisfied with (main) job		
Disagree	2.62***	[1.73 – 3.97]
Strongly disagree	3.84***	[1.61 – 9.16]
My job is physically demanding		
Disagree	0.67***	[0.53 – 0.84]
Strongly disagree	0.65***	[0.50 – 0.84]
I am under constant time pressure due to a heavy workload		
Disagree	0.65***	[0.543 – 0.81]
Strongly disagree	0.53***	[0.39 – 0.73]
My job promotion prospects/ prospects for job advancement/ job promotion prospects are poor		
Disagree	0.76**	[0.61 – 0.96]
Strongly disagree	0.59***	[0.40 – 0.87]
Depression scale EURO-D	1.18	[0.91 – 1.52]
Loneliness scale	0.82	[0.55 – 1.22]
CASP index for quality of life and well-being		
Moderate	0.76	[0.54 – 1.08]
High	0.69*	[0.47 – 1.01]
Very high	0.56***	[0.42 – 0.76]

Notes: \*\*\*, \*\* and \* indicate significance at 1%, 5% and 10%, respectively. CI=confidence interval; n=number of observations; OR=odds ratio.

Source: Author's calculations based on Waves 6: 2015

### **5.3 The interaction between job characteristics and mental health**

In this section, I relate job characteristics to mental health. When interpreting the results, it is important to remember on which scale the characteristics were evaluated. The results indicate that individuals who experienced poor quality of work are more likely to report reduced mental health. In almost all cases the correlation is significant at 1% level, however the effect is weak. We observe sufficiently high and significant correlation between job satisfaction and receiving adequate support in difficult situations. Analogously, the positive and significant association is observed between job satisfaction and wage adequacy, opportunity to develop new skills, receiving recognition. Adequate support is strongly and negatively correlated with time pressure and little freedom to decide how to work. Receiving recognition is strongly and positively correlated with support adequacy (with a correlation coefficient of 0.51).

We see that higher depression is associated with lower job satisfaction, lower opportunity to develop new skills, lower support, receiving less recognition and lower wage adequacy. The higher effect is observed for job satisfaction (the more depressed you are, the less you are satisfied with your job), with a correlation coefficient of 0.20. Loneliness is also strongly associated with many characteristics: less job satisfaction, less opportunity to develop new skills, less support, less recognition, less wage adequacy, more physical demand, more time pressure, less freedom to decide how to work, less job prospects and less job security. Quality of life is positively related to job satisfaction, opportunity to develop new skills, support adequacy, receiving recognition and wage adequacy (positive coefficients for negative characteristics, negative coefficients for positive characteristics).

**Table 6. Correlation matrix: Interaction between quality of work and mental health**

	Satisfied with job	Job is physically demanding	Under time pressure	Little freedom to decide how to work	Opportunity to develop new skills	Adequate support	Receiving recognition	Salary is adequate	Poor job prospects	Poor job security	EURO-D	Loneliness	CASP
Satisfied with job	1,00												
Job is physically demanding	-0,07***	1,00											
Under time pressure	-0,21***	0,16***	1,00										
Little freedom to decide how to work	-0,24***	0,24***	0,24***	1,00									
Opportunity to develop new skills	0,35***	-0,14***	-0,02**	-0,27***	1,00								
Adequate support	0,41***	-0,03	-0,18***	-0,19***	0,33***	1,00							
Receiving recognition	0,40***	-0,09***	-0,17***	-0,20***	0,30***	0,51***	1,00						
Salary is adequate	0,28***	-0,21***	-0,11***	-0,15***	0,19***	0,23***	0,38***	1,00					
Poor job Prospects	-0,13***	0,10***	-0,03	0,12***	-0,21***	-0,11***	-0,16***	-0,17***	1,00				
Poor job security	-0,19***	0,13***	0,05*	0,19***	-0,17***	-0,14***	-0,18***	-0,15***	0,11***	1,00			
EURO-D	0,20***	-0,07***	-0,11***	-0,08***	0,14***	0,13***	0,15***	0,09***	-0,09***	-0,06***	1,00		
Loneliness	0,14***	-0,07***	-0,07***	-0,11***	0,09***	0,11***	0,14***	0,07***	-0,06**	-0,12***	0,27***	1,00	
CASP	-0,28***	0,17***	0,10**	0,22***	-0,25***	-0,22***	-0,23***	-0,22***	0,16***	0,24***	-0,35***	-0,31***	1,00

Notes: \*\*\*, \*\* and \* indicate significance at 1%, 5% and 10%, respectively.

Source: Author's calculations based on Waves 6: 2015.

## 6. Conclusion

In this paper I used individual self-reports in order to investigate the impact of job characteristics on early retirement decision. Specifically, I examined people's preferences for retirement rather than actual retirement patterns. The analysis covered a variety of dimensions including, but not limited to, respondents' income, physical and mental health, skill variety, and job characteristics. By leveraging the wealth of information about older workers available in the Survey of Health, Ageing and Retirement in Europe (SHARE), I investigated whether job characteristics influence people preference to retire early.

Controlling for basic demographics, cognitive ability, and other personal characteristics, I find strong and statistically significant relationships between job characteristics and retirement preferences. The empirical results based on logistics regressions suggest that people who are dissatisfied with their jobs, would have more intentions of early retirement (OR = 2.62; 95 % C.I. 1.73, 3.97). Having not demanding job and having no time pressure due to a heavy workload decreases probability of early retirement at about 33% (OR = 0.67; 95 % C.I. 0.53, 0.84) and 35% (OR = 0.65; 95 % C.I. 0.43, 0.81), respectively. Work in "health and social work" sector decreases probability of early retirement at about 34% comparing to other sectors (OR = 0.66; 95 % C.I. 0.50, 0.86).

As regards mental health variables, high evaluation of quality of life decreases probability of early retirement on average at about 31% (OR = 0.69; 95 % C.I. 0.47, 1.01). Quality of life is positively related to job satisfaction, opportunity to develop new skills, support adequacy, receiving recognition and wage adequacy. Depression and loneliness are not significantly related to people desire to retire as early as possible, however, the results indicate that individuals who experienced undesirable working conditions are more likely to report reduced mental health. Higher depression is associated with lower job satisfaction, lower opportunity to develop new skills, lower support, receiving less recognition and lower wage adequacy. Higher loneliness is strongly associated with less job satisfaction, less opportunity to develop new skills, less support, less recognition, less wage adequacy, more physical demand, more time pressure, less freedom to decide how to work, less job prospects and less job security.

The results on associations of poor quality of work with reduced well-being are in line with those reported in earlier studies on physical and mental health (Vandenberghe, 2019; Pikhart et al., 2004; Cantarero-Prieto et al., 2018; Dendinger et al., 2005; Carr et al., 2016). Knowledge of these parameters will inform the debate on how improvements in working conditions may prolong attachment to the labor force and contribute to the sustainability of Social Security programs and economic growth.

However, it is important to identify and address the barriers that elderly people may face in order to increase their social participation, especially among disadvantaged groups; for instance, whether employers are willing to hire older people. Therefore, as already stated by Culter et al. (2013), it is imperative that decision makers take into account the needs of older individuals and, for example, provide well-developed disability insurance and active labour market programs that can reliably assess the absence or limited ability to work.

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