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Why retire?

Socioeconomic status and retirement reason in three different European welfare regimes

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Abstract: Policy makers in most European countries have in recent decades reformed their pension systems with the aim of increasing labor market participation among older workers to solve the problem of an ageing population. The question arises whether delayed retirement is a sustainable solution or if it comes at the cost of certain groups in society. The reasons an individual might choose to retire are not yet fully understood, but must be considered in order to investigate whether there is unused labor capacity among the retired population. Using individual-level data on retired individuals in Scandinavian, Western European, and Southern European welfare regimes, this thesis aims to analyze whether socioeconomic status (SES) influences the likelihood of retiring due to illness or leisure reasons, relative to those who retire purely because they are eligible to receive old-age pension benefits. In addition, this thesis examines whether this influence varies between different types of welfare regime. Multinomial logistic regressions on self-stated retirement reasons were performed to answer the questions. Results indicate that there is an increased likelihood of retiring for leisure reasons among males with high SES, and that this effect is large in Southern welfare regimes, but results are too weak to confirm a relationship between low SES and the risk of retiring due to illness. Further, this thesis found an increased risk of retiring due to illness among highly educated females. This thesis encourages future research to further study the relationship between those with an increased risk of retiring due to illness reasons and the extent of their stated illness.

Key Words: retirement, socioeconomic status, welfare state regimes, Europe

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1 Introduction

The population in Europe is rapidly growing older, mainly as a result of declines in fertility. A decline in mortality rates has also, to some extent, contributed to the ageing population. Health and life expectancy have been improving for a long time but, despite being in better health and living longer, people have continued to retire early. This has resulted in a high dependency ratio, where only a smaller share of the population are in the labor force and need to provide for those who are not (Aysan & Beaujot, 2009; Friedlander, Okun & Segal, 1999; Lee, 2003; Wilmoth, 2000). The ageing population is considered to be a problem for societies, as it leads to increased costs of health care and higher expenditure on retirement benefits, which is difficult for a relatively small and decreasing workforce to sustain. Many European welfare states have in recent decades attempted to solve the problem of an ageing population by shifting the trend away from early retirement and, through reforms, increasing retirement ages (Aysan & Beaujot, 2009; Ebbinghaus & Hofäcker, 2013). Higher labor force participation among older workers can work as welfare-enhancing in many European countries, where the elderly expect to live longer while also receiving generous pension benefits. A delayed retirement is assumed to be the solution to financially sustain pension schemes.

How to avoid "early labor market exit" has been widely discussed in the last decades, and extensive research has been done to understand why individuals retire early. To what extent different pension schemes have an impact on the retirement age of individuals has also been widely discussed. It is assumed that most individuals retire when they become eligible for pension benefits, and when they can maximize their utility from income and leisure.

A question that arises when aiming to raise the pension age is if it is for everyone: do all individuals in a society have the capability to work longer? Previous research has found that negative reasons to why individuals retire, such as own poor health, have implications for post-retirement life, such as continued poor health and poor financials (Shultz, Morton & Weckerle, 1998).

This thesis takes a different angle than observing why people retire "early", and instead focuses on the reasons they themselves give for leaving the labor market and starting their post-retirement life. This thesis aims to gain deeper insight into why individuals retire for reasons other than just being eligible to claim pension benefits, and who these individuals are, focusing particularly on their socioeconomic status (SES).

SES can have implications for the retirement behavior of an individual through different channels. SES is commonly measured in terms of income, education or occupation, and these factors in turn influence the individual's health and behavior in different ways. These three measures can be associated with each other, but they do not have to be (Komp, 2010). The two key variables used in this thesis to measure the effect of SES on retirement reason are education, more specifically having a tertiary education, and skill level.

The factors at work for determining the retirement reason may vary between different welfare regime types, as more generous pension benefits, earlier eligibility ages, better health care provision, or better work environments may diminish the effect of retiring due to own illness. The same factors may also pull individuals into retirement to a higher extent (retiring due to leisure reasons), as the cost of leaving the labor market in some welfare regimes is lower when the responsibility of financially providing for the family, for example, is taken care of by the state to a higher degree.

1.1 Research question

The aim of this thesis is to answer the following research questions:

1. Does socioeconomic status influence the retirement decision?
2. Does the influence of socioeconomic status on retirement outcome vary between different types of welfare regimes?

2 Theory and previous research

This section presents a summary of theories and previous research that is assumed to influence the retirement behavior of individuals. The literature covered in this part focus on how SES has an impact on outcomes such as health and occupation choice, and how these outcomes in turn influence the decision to retire. It further includes a summary of the rational choice theory, an economic theory which aims to explain when individuals would retire if they could maximize their utility from work and leisure. The following section presents push and pull factors of retirement, and this section is included as they relate to both the educational, occupational, and financial determinants of retirement decision. Pull factors are associated with voluntary retirement, and push factors are associated with involuntary retirement. The push and pull factors are applied to the outcomes illness and leisure in this thesis, where illness reasons for retirement is assumed to be involuntary (push factors), and the pull factors are applied to leisure reasons, assumed to be voluntary retirement. The fourth and fifth sections of this chapter include an overview of the different welfare regime types that the samples in this thesis are based on, and a summary of previous research that found variations in health or health-related outcomes between these welfare regime types. The last section includes a gender perspective and explains why it may be of importance to study males and females separately.

2.1 The relationship between SES and retirement

SES has implications for the retirement behavior of an individual in different ways. This section describes how SES may have an impact on retirement decisions through education, occupation, and health.

2.1.1 SES, occupational choice and retirement

One explanation for how SES affects retirement decisions is through education and labor market opportunities. Higher educated individuals have access to "better jobs", in terms of higher salaries and safer work environment (Cutler & Lleras-Muney, 2006; Komp, 2010). Different jobs are correlated with different job characteristics. Prestigious occupations are associated with higher job autonomy, which positively affects the job satisfaction.

Human capital theories assume that there is a depreciation of human capital, alongside the general deterioration of mental and physical health and capabilities as the individual ages (Ben-Porath, 1967; Mincer, 1958; Rosen, 1971). The deterioration of human capital prevents the worker to perform and be productive on their job, which would lead to a decline in earnings. The depreciation of human capital, however, is not assumed to be equal between occupations. The depreciation is particularly present in jobs which require higher physical effort or where motor skills are involved, while it is less pronounced in jobs which require higher amounts of training (education). Individuals are more likely to retire early from occupations where the negative impact of age on performance is greater (Feldman, 1994). Jobs

such as production testers, aircraft mechanics, explosives workers, among others, are associated with job characteristics with physical and emotional strain, and stress and repetitive performance of mechanical tasks. These job characteristics are correlated with early retirement. Jobs such as childcare workers, lawyers and physicians, among others, are associated with job characteristics such as interactions with people and intellectual effort. These job characteristics are correlated with later retirement (Filer & Petri, 1988).

2.1.2 SES, health and retirement

There is also a well-established relationship between higher education and health, which in turn affects the retirement decision. Literature, however, offers different opinions on the different ways education impacts health, and whether or not the relationship between the two is causal (Venti & Wise, 2015). Some theories assume that inequalities in health lies within the socioeconomic status itself. There is evidence that individuals with low-status jobs show higher health-risk behavior, and that self-assessed health status was worse in these jobs (Link & Phelan, 1995; Marmot et al., 1991). Lower socioeconomic status is associated with lower life expectancy and higher mortality rates, and higher rates of a range of other health outcomes, such as coronary heart disease, chronic respiratory disease, and stroke, to name just a few. Another explanation on how education affects health is that higher educated individuals have higher income. Higher income gives the individual higher incentives to invest in their health, so that they are able to receive more income in the future (Cutler & Lleras-Muney, 2006; Galama et al., 2008).

2.2 Rational choice theory and retirement

The rational choice theory is an economic framework to model economic behavior. Individuals are assumed to make decisions based on what maximizes their utility. In a retirement context the leisure-labor tradeoff is applied in a lifetime model. Individuals are assumed to retire when their benefits are maximized and their costs are minimized, based on their preferences for income and leisure (Burtless, 1986; Fields & Mitchell, 1984). According to this theory, higher wealth or higher accumulated pension benefits will result in earlier retirement, as wealthier people are able to afford more leisure. Individuals do not want to retire if they think that retirement will cut back their standard of living dramatically. In a simple lifetime retirement model, the worker's utility maximization problem is a concave function of consumption and leisure. The budget constraint takes the form $PX = A + w(T - L)$. P is the price of a good, X is the consumption of goods, A is the initial stock of wealth, w is the wage rate, T is the length of the time period, and L is leisure.

This model assumes that leisure is a normal good, and that positive (negative) changes in income imply an increase (decrease) in leisure. Higher earnings mean an increase in wealth, which allows the worker a higher consumption of both goods and leisure. However, higher earnings may also work the other way around, and delay retirement, as leisure becomes more "expensive", as the cost of giving up an additional year of work is higher (Lazear, 1986).

2.3 Push and pull factors

Next to the relationship between SES and rational choice theory there are other things affecting the lines of the budget constraint between work and retirement (leisure), they are categorized here as push and pull factors, and these factors are important determinants for the decision to retire "young". Workers who retire at ages below standard retirement age might do so because they either find work less attractive,

or because they find retirement more attractive. The two most important push and pull factors are health and income. Whether an individual is pushed or pulled towards retirement is important to study as it often has an impact on after retirement life. Shultz, Morton & Weckerle (1998) found that the influence of push factors, such as illness and lack of satisfactory finances appear more prominent after retirement than the positive pull factors, such as the ability to spend more time pursuing leisure activities.

The push and pull factors are closely related to social class (Shultz, Morton & Weckerle, 1998; Steiber & Kohli, 2017), where push factors are correlated with lower social class groups, and pull factors are more correlated with groups of higher social class. Lower social class groups are often trapped in occupations they find less satisfactory, where they feel less appreciated, and where they have less autonomy, which would push them towards retirement. Individuals in higher-status jobs might find greater rewards from their jobs, such as more prestige and higher job quality, which would make push factors less present. They tend to also have greater financial rewards, such as higher wages which in turn leads to higher accumulated pensions, which would make pull factors more present.

2.3.1   Push factors

Push factors refer to factors that push the worker out from the labor market and into retirement. These factors are seen as negative factors, as they often lead to involuntary retirement, which has implications for health and well-being after retirement. Involuntary retirement is also likely to have a negative impact on financial security, due to shorter work life, lower accumulated pension, and less pre-retirement planning. Push factors often include labor market constraints, such as poor working conditions, dislike of their jobs, and poor health (Shultz, Morton & Weckerle, 1998).

Health is one of the most certain factors determining the timing of retirement. The relationship between retirement and health has been well studied, since the absence of health affects the individual's ability to stay in the labor market. More specifically, poor health is the most apparent push factor in the choice between work and retirement. Individuals in poor health or with disabilities may lose their capacity to perform their job productively or even at all, which would push the worker into early retirement. When the individual is no longer able to work due to health constraints, rational choice between work and employment is no longer relevant, as continue to work is not an option (De Preter, Van Looy & Mortelmans, 2013; Feldman, 1994). Poor health does not necessarily mean that the individual's ability to work is completely lost, but it may nevertheless work as a push factor into retirement. The decision to retire might also be motivated by a desire to preserve health, or by the weakened ability to be productive at their job (Galama et al., 2008).

Three assumptions presented by Sammartino (1987) are that first, poor health changes the worker's preference for leisure and consumption, but without changing the market wage opportunities. Workers in poor health will experience work to be more burdensome and will therefore be willing to give up some consumption in each period for additional years of retirement. A second way in which poor health may work as a push factor without completely eliminating the ability to continue working is by reducing market wages, but without changing the preferences for leisure and consumption. If poor health prevents the worker to perform their job productively it might lead to reduced wages which would affect the opportunity cost of giving up additional years of wage for retirement. A third assumption is that poor health lowers the workers life expectancy. This has an impact on retirement without changing neither the preferences nor the market wages.

Another push factor is poor working conditions. Previous studies have shown that poor job satisfaction, including factors such as lack of autonomy, stress, physical and emotional strain, and repetitive working tasks are correlated with early retirement, while on the other hand, high autonomy and low stress levels motivate workers to work longer (Beehr et al., 2000; Filer & Petri, 1988; Komp, 2010).

2.3.2 Pull factors

Pull factors are factors that pull the worker into retirement, which is typically connected with voluntary retirement, and are seen as positive factors. Shultz, Morton & Weckerle (1998) found that those who stated their retirement reason to be voluntary also reported both better mental and physical health, and higher life satisfaction. These positive effects stem from lack of pressure, more time to relax, the ability to spend time with the family, more time to travel and more time to spend on meaningful leisure activities. Pull factors can be for example high preference for leisure, and the willingness to travel or spend more time with the family.

Next after health, income is the most prominent factor in predicting retirement (Shultz, Morton & Weckerle, 1998). Without the presence of ill health or disability which prevents the worker from continuing to work, financial security becomes a strong predictor for the retirement decision. The individual would be pulled into retirement when the financial resources after retirement are satisfactory. Greater initial assets or greater accumulated pension benefits would pull the worker into retirement when they can sustain the same standard of living after retirement as before (De Preter, Van Looy & Mortelmans, 2013; Shultz, Morton & Weckerle, 1998). Only when health and income are satisfactory do other factors such as work, leisure, and retirement become important. These are non-work characteristics, which are factors outside the work environment pulling the worker into retirement. These factors could be leisure activities or voluntary work, or other types of work, such as part time work, or the opportunity to develop new skills (Beehr et al., 2000).

2.4 Welfare regime types

The countries studied in this thesis: Sweden, Denmark, Germany, Netherlands, Belgium, Italy, and Spain are all advanced welfare states, but there are fundamental differences in the welfare state structure and welfare provision, and the structure of their pension systems. The welfare states are the main providers of health care, education, and social services, and are expected to compensate for loss of income in case of unemployment, retirement, or disability. Variations in people's dependence on the welfare state, and variations in the size of, and access to the services provided, are expected to impact individuals throughout their lifetime. Welfare regimes with high social transfers, for example, are expected to reduce inequalities between individuals with different SES, while welfare regimes with lower social transfers may reinforce the inequalities (Bambra, 2007; Cambois et al., 2016).

(Esping-Andersen, 1990)'s *Three Worlds of Welfare Capitalism* (1990) has dominated much of the literature on welfare regimes since the early 1990's. Three types of welfare regimes were identified: Liberal, Social Democratic, and Conservative. The welfare regimes are based on three principles: decommodification, social stratification, and the private-public mix. Many scholars have challenged this view, and many have also criticized that a heavy share of the literature on health outcomes are based on Esping-Andersen's typology of welfare regimes according to his three principles (Bambra, 2007). Despite this criticism and new added angles and viewpoints, much of the literature on welfare regimes

still builds on the same welfare regime types. A fourth type of welfare regime, the Southern, has also been added to the idea later on (see for example Ferrera, 1996).

In *Scandinavian welfare regimes*, which normally include Denmark, Finland, Norway, and Sweden, but in this thesis are represented by Sweden and Demark, are countries where the state plays a larger role in meeting the social needs of the citizens. The Scandinavian welfare regimes are characterized by high social transfers, where the state is used to promote equality, and the access to benefits and services in these countries are based on a universal coverage. Scandinavian welfare regimes have more generous social programs than the Western and the Southern welfare regimes, which are mainly financed through income taxes. The market and the family plays a less important role in these countries: Individuals are less dependent on the market for old-age security, as all income earners must contribute to universal welfare policies (Aysan & Beaujot, 2009; Bambra, 2007; Kammer, Niehues & Peichl, 2012).

The Western welfare regimes are in this thesis comprised by Germany, the Netherlands, and Belgium. These countries are commonly known to be included in typologies as conservative welfare states: they are generally characterized by a strong relation between social protection and the occupational position. They have medium levels of welfare provisions, and tend to be more family-oriented: the state will help with meeting the social needs of the citizens only when the family's capacity is limited (Arts & Gelissen, 2002; Dragano, Siegrist & Wahrendorf, 2011). The Western welfare regimes include strong corporate elements, where social insurance programs are linked to occupational status, and benefits are often earnings-related. Compared to the Scandinavian welfare regimes, with a universal coverage, only economically active citizens are covered (Alvarez-Galvez et al., 2014; Aysan & Beaujot, 2009). Pension benefits are generous but as they are tied to pervious contributions the redistributive effect is low (Kammer, Niehues & Peichl, 2012).

The southern welfare regimes, which in this thesis are made up by Italy and Spain, are rather basic, and are characterized by a fragmented social protection system, where individuals are only partially covered, or to a limited degree. Access to health care, for example, is universal, while minimum income schemes, on the other hand, are rare, and old-age pension benefits are generous (Arts & Gelissen, 2002; Bambra, 2007; Kammer, Niehues & Peichl, 2012). The Southern welfare regimes have some similarities with the Western: they have strong corporatist elements, and they used to be characterized by a strong role of the family in meeting the social needs of the citizens (Kammer, Niehues & Peichl, 2012). It was common with unpaid family labor among women, such as care for the elderly and childcare, and their access to benefits and social security was through their husband's or father's coverage. Women's participation in the labor market, however, has increased in recent decades, lowering the importance of the family in managing the social risks (Aysan & Beaujot, 2009). Income guarantees in these countries are linked to the work position, and a high percentage of social expenditure is financed through contributions (Alvarez-Galvez et al., 2014).

2.5   Welfare regime types, health, and labor market conditions

Previous literature has found inequalities in SES and different health outcomes within countries, but also that these inequalities vary between different types of welfare regimes (Alvarez-Galvez et al., 2014; Dragano, Siegrist & Wahrendorf, 2011; Eikemo et al., 2008; Niedzwiedz et al., 2014). The studied health outcomes were self-reported health, morbidity, limiting long-standing illness, depressive symptoms, and old-age quality of life. Absolute comparisons of educational health inequalities, based on self-rated health, were found to be the largest in the Southern welfare regimes (Alvarez-Galvez et al., 2014;

Eikemo et al., 2008), and the smallest in Bismarckian welfare regimes (in this thesis represented by Western welfare regimes). Education also proved to be the strongest determinant of the relationship between SES and self-rated health, compared to income and occupational status (Alvarez-Galvez et al., 2014), and especially in the Southern welfare regimes. When exchanging the outcome of self-rated health for quality of life in old age (Niedzwiedz et al., 2014), the largest education inequalities, and the largest occupation inequalities in old-age quality of life was found in the Southern welfare regimes, which is also the regime type where the overall lowest levels of quality of life were observed. The Scandinavian welfare regimes observed the lowest educational inequalities in old-age quality of life, while when using occupation as a measure of SES, the inequalities were rather similar in both Bismarckian (here represented by Western), and Scandinavian regime types.

As mentioned above, the SES is tied to the type of occupation or job the individual has access to, and the job, in turn, affects the retirement reason. Higher educated, or more skilled, individuals are likely to have better jobs with less physical effort and a safer work environment and are more likely to feel appreciated and fulfilled at their jobs. Unhealthy psychosocial working conditions, such as low control and high effort and low reward, and "work stress" may result in depressive symptoms. The association of "work stress" and depressive symptoms was also found to vary in strength between different welfare regime types (Dragano, Siegrist & Wahrendorf, 2011), where the highest association was found in the Southern welfare regimes. The lowest was found in the Scandinavian welfare regimes, while the association in conservative welfare regimes (here represented by Western), was lower than in the Southern, but higher than in the Scandinavian.

2.6   A gender perspective

It is of importance to include a gender perspective in this thesis, as there are several reasons to observe the differences between men and women that may be linked to variations in their retirement behavior. It is reasonable to assume that work and retirement patterns differ between men and women. Men traditionally have the role of the breadwinner, while women traditionally have the caregiving responsibilities in the household. Due to their caregiving responsibilities, women often have interrupted careers, and more often than men have part-time employment, hence also lower accumulated pension wealth as a result of fewer years of being active in the labor market. These factors may further limit the retirement options for women, as they may not qualify for, or be able to afford an early retirement (Esser & Palme, 2010; Komp, 2018). These stated reasons can further be linked to the role of women in the different welfare regime types.

Some of the criticism Esping-Andersen's analysis has received is the lack of consideration given to gender. Some researchers have since tried to add a gender perspective to his analysis. The welfare regime types vary in the autonomy of women, mainly in the critique referring to the idea of "defamilization", meaning how the welfare states facilitate female autonomy and economic dependence from the family. Studying a defamilization index, based on relative female labor force participation rates, maternity leave compensation and duration, and average female wage, Bambra (2004) found significant differences in the defamilization between countries. Sweden observed the highest score, meaning the highest level of defamilization, and after Norway, Denmark had the third highest index, indicating that the Scandinavian welfare regime types have higher levels of female autonomy. The countries that belong to the Western welfare regimes showed rather average index scores which were relatively close to each other. Italy was not far from the Western welfare regimes but had the lowest score of the countries mentioned here.

Another reason why it may be of interest to examine men and women separately is with regards to gender inequalities in health. For a long time it was taken for granted that in regards to health status, women tend to be more likely to report worse self-assessed health than men. This view has been questioned in recent decades, and many studies have found that when controlling for income, occupational status, and level of disability, only small or no inequalities in health between men and women persist (Arber & Cooper, 1999; Lahelma et al., 2001; Macintyre, Hunt & Sweeting, 1996) In a study contradicting this, (Bambra et al., 2009) studied socioeconomic inequalities in self-assessed health between genders from a welfare regime type perspective, and found that inequalities exist. Women reported worse health than men in most countries, and these differences were most pronounced for the most educated in some countries. The reason for these findings could be a result of the tension between the traditional caregiving responsibilities of women, and work, for the highly educated. This tension may be even more apparent in countries with low state provision, including low childcare support, as in the Southern welfare regimes, where the inequalities were largest among the most educated. The same findings were, however, also observed in the Scandinavian regimes, while no differences were found in the Corporatist (Western) countries (Bambra et al., 2009).

3   Hypotheses

This thesis will test three hypotheses based on theory and previous literature presented in the section above. Hypothesis 1 (H1) will test whether individuals with higher SES are pulled into retirement. Hypothesis 2 (H2) will test whether lower SES pushes individuals into involuntary retirement due to own in health. Hypothesis 3 (H3) will test whether the effect of SES and retirement reason varies between different welfare regime types. The following hypotheses that will be tested are:

H1: Higher SES individuals are more likely to retire due to leisure reasons

H2: Lower SES individuals are more likely to retire due to illness reasons

H3: The influence of SES on retirement reason is small in welfare regimes with higher levels of social transfers and large in welfare regimes with lower levels of social transfer

4 Data

This research links the retirement behavior of the individual and their socioeconomic status, which makes individual level data necessary. The data used for this research is from the *Survey of Health, Ageing, and Retirement in Europe* (SHARE), which is a longitudinal survey that covers 28 European countries and Israel. The survey includes modules with micro level data on health status, current and previous employment status, income, and family networks, etcetera (Börsch-Supan, 2020). The fifth wave of SHARE, completed in November 2013, is used in this thesis to answer the research question.

The samples include retired individuals in Sweden, Denmark, Germany, Netherlands, Belgium, Spain, and Italy, and the countries will be pooled together for the analysis. The individuals will be divided into 8 samples: All seven countries pooled in one sample but divided by gender; Scandinavian males and Scandinavian females, including the countries Sweden and Denmark; Western males and Western females, including the countries Germany, Netherlands and Belgium; Southern males and Southern females, including the countries Italy and Spain. Many missing values in several key variables for some countries is the reason why only these seven are included in this thesis.

Table 4.1. Countries pooled in each sample	
Sample name	**Countries included**
Scandinavian	Sweden, Denmark
Western	Germany, Belgium Netherlands
Southern	Italy, Spain

All individuals in each sample are retired and are 55 years and older. An overview of the samples and their descriptive statistics are found below in tables 4.4. and 4.5. As seen in the descriptive statistics tables, the largest sample is Western males, with 1,594 observations, and the smallest sample is the Southern females, with 694 observations.

4.1 Variables

This section describes the variables used in this thesis. Some variables are described in more detail, as they are created by combining some response alternatives.

4.1.1 The outcome variable: retirement reason

The outcome variable in this thesis is retirement reason. It is a retrospective categorical variable based on respondents own stated retirement reason. The individuals in the sample could choose one or several out of 10 different alternatives to why they retired. These 10 reasons have been grouped into four categories which are used as the outcome variable: due to own illness, due to "leisure reasons", due to being entitled to old-age pension benefits, and other reasons. The fourth outcome, other reasons, is included in the regressions in order to keep all observations in the outcome variable but will not be discussed in this thesis. Table 4.2. describes more in detail the different alternatives and how they have been combined to create the retirement reason variable.

		Table 4.2. Retirement reason
Value	**Outcome variable**	**Retirement reason**
1	Illness	Own ill health
2	Leisure	To retire at same time as spouse or partner To spend more time with family To enjoy life
3	Entitled	Became eligible for public pension Became eligible for private occupational pension Became eligible for a private pension
4	Other	Was offered an early retirement option/window with special incentives or bonus Made redundant (for example pre-retirement) Ill health of relative or friend

4.1.2 Education variable

One of the key variables used to estimate the effect of socioeconomic status on the retirement decision is the level of education of the individual. The education variable is a binary variable indicating whether the individual has a tertiary education or not. SHARE uses the International Standard Classification of Education (ISCED), which was developed by UNESCO to facilitate comparisons of education between countries. The ISCED codes 5-8: short-cycle tertiary education, bachelors or equivalent education, masters or equivalent level, and doctoral or equivalent level, are used to identify a tertiary education and are coded as 1. ISCED codes 0-4 are coded as 0 and denotes the absence of a tertiary education.

4.1.3 Skill level variable

Another key variable used to estimate the effect of socioeconomic status on the retirement decision is the skill level of the individual. SHARE has information on the respondent's last occupation before retirement, which is based on International Standard Classification of Occupation from 2008 (ISCO-08). These occupations are used to create four broad skill levels: very high skilled, high skilled, medium skilled, and low skilled. The highest skill category, *very high skill* included managers and professionals (ISCO-08 codes 1 and 2). This group includes occupations such as chief executives, senior officials, legislators, and various types of managers (ISCO-08 code 1), and science and engineering professionals, health professionals, teaching professionals, business and administration professionals (ISCO-08 code 2), just to name a few. *High skill* consists of technicians and associate professionals (ISCO-08 code 3). *Medium skill* is the largest skill level, and is comprised by clerical support workers, service and sales workers, skilled agricultural, forestry and fishery workers, craft and related trade workers, and plant and machine operators and assemblers (ISCO-08 codes 4-8). *Low skill* includes elementary occupations (ISCO-08 code 9) which do not require further education or training. Some examples of occupations included in this skill level are cleaners and helpers; agricultural, forestry, and fishery laborers; laborers in mining, construction, manufacturing, and transport; food preparation assistants; street and related sales and service workers. Table 4.3. shows how the ISCO-08 codes are used to define the four skill levels used in this thesis.

Table 4.3. ISCO-08 and skill level		
Skill level	**ISCO-08**	**ISCO-08 code**
Very high	Managers Professionals	1-2
High	Technicians and associate professionals	3
Medium	Clerical support workers Service and sales workers Skilled agricultural, forestry and fishery workers Craft and related trade workers Plant and machine operators and assemblers	4-8
Low	Elementary occupations	9

4.1.4 Other control variables

Other control variables included in this thesis are *civil status, born in country, tenure, age at retirement, age at retirement squared, and sector*. The variable *civil status* is a binary variable, which indicates if the individual is living alone or not. The motivation to include this variable as a control is because cohabiting or living alone may influence the retirement behaviour in several ways. First, living together with a spouse or a partner may increase the demand for leisure when the individual know they will be able to spend their post-retirement time together with their spouse (De Preter, Van Looy & Mortelmans, 2013). Second, it is likely that two income earners have higher accumulated wealth, and therefore have higher preferences of leisure as they can afford more leisure (Feldman, 1994). Third, it may be that spouses choose to retire together, despite reaching retirement age or not, to spend more time together

(Komp, 2018). The individuals are coded as 1 if they are married and living together with spouse, or in registered partnership. The individuals are coded as 0 if they are married but living separately, never married, divorced, or widowed.

Tenure is a categorical variable which tells the number of years the individual worked on the last job they retired from before they retired. The reason to include this variable as a control variable is because it may indicate the individual's career path to some degree. Higher number of years at the last job may lead to higher earnings, and in turn to higher accumulated wealth, which may pull the individual towards retirement as a result of higher preferences for leisure. This variable may also work as a push factor for retirement, where higher number of years at the last job may lead to boredom, or even in more physically demanding or more stressful occupations, to illness, depression or burnout, which may push the individual into retirement. It may also work in the opposite direction, where a recent change of career before retirement prevents the individual to feel bored, and therefore choses to stay longer at their job instead of retiring due to being eligible for old-age pension benefits (Feldman, 1994).

Sector indicates which sector the individual worked in before they retired: private, public, or self-employed. This is an important control variable to include as first, public sector employees may have different reasons to retire than private sector employees. Public sector employees may have more limited abilities to stay at their jobs after they have reached retirement age. Public sector employees often also have relatively generous retirement benefits. Second, self-employed may have higher abilities and preferences to work in older ages compared to employed. Self-employed are more likely to have more autonomy and control over their working life, such as their working hours and their work load. It may also be that self-employed have a higher preference for working, and view work as a central part of their life to a higher extent than employed workers, and therefore enjoy working more. They may also have an increased need to work for financial reasons, as they have less generous pension benefits and lack the financial security as employed workers (Anxo, Ericson & Jolivet, 2012).

Born in country is a binary variable indicating if the individual was born in the country they retired from or not. The reason for including this variable is because individuals who were not born in the country may, depending on the age they immigrated, have shorter working life history in the country, which in turn affect the pension benefits negatively (Anxo, Ericson & Herbert, 2019). Lower levels of pension benefits may influence the retirement behavior by a reduced likelihood of retiring due to leisure reasons.

4.2 Descriptive statistics

This section gives an overview of all the variables included in the models which will be estimated. The variables are presented in table 4.4. and 4.5. with the number of observations and the distribution for categorical variables, and the variable means and the standard distribution for continuous variables below. Some interesting findings worth mentioning are the significantly lower shares in the Southern groups, both females and males, who retired due to illness or leisure reasons. Less than 7 % in these groups stated that their retirement was due to either of these reasons. These groups also show the largest share of people stating their retirement was because they were eligible for old-age pension, around 80 % in both groups, compared to between 40-68 % in the other groups, see graph 4.1. Among Scandinavian females, 22.9 % stated to have retired due to leisure reasons, which is the highest share among all samples, while the corresponding share among Southern males was only 4.10 %.

Graph 4.1. Retired due to being entitled in %
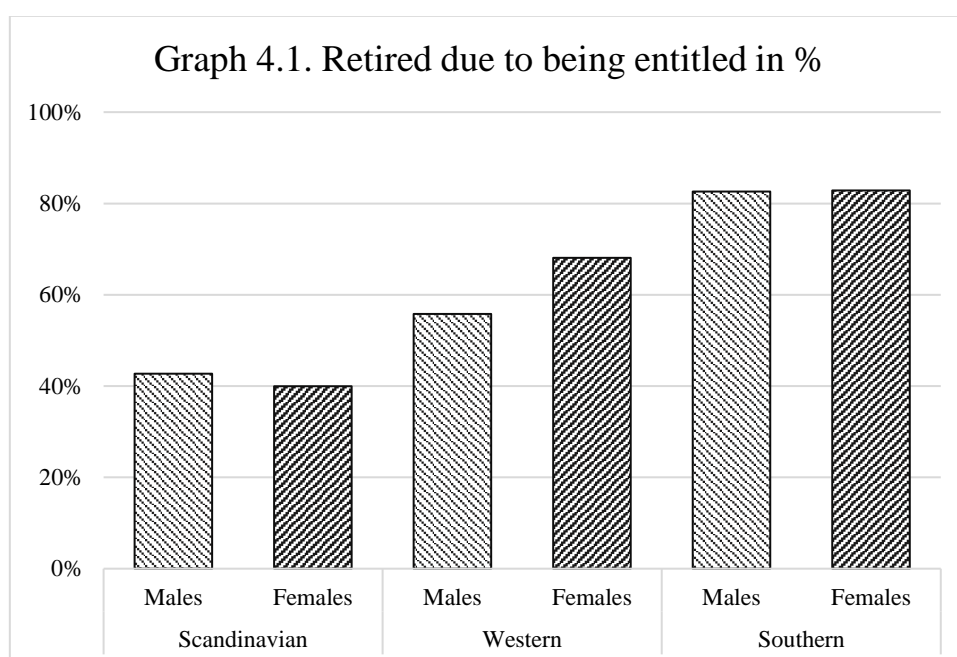
The distribution of tertiary education also differed between the groups, with both Southern males and females representing the lowest share with tertiary education, and Western males and females showed the highest share with tertiary education. Another interesting observation was the higher share of tertiary education among Scandinavian females compared to Scandinavian males. The share of Scandinavian females with a tertiary education was approximately 4 percentage points higher.

Individuals with very high skill level was highest among Scandinavian males, where the share was 43.86 %, and lowest among Southern females, where the share was 8.5 %. In all models, the largest group was the one comprised by medium skilled. The most interesting observation here is the markedly higher share of low skilled among Southern females compared to in the other samples. The share of low skilled reached 31 % in this group, making it the second largest among skill level group.

The Western samples, both males and females, account for the lowest average retirement ages. The lowest average retirement age was found among Western females, with 61.81 years old, which is close to the one of Western males, of 61.84 years old.

Table 4.4. Descriptive statistics males, variable distribution and means

	Scandinavian		Western		Southern		Total	
	N	Distribution/SD	N	Distribution/SD	N	Distribution/SD	N	Distribution/SD
Retirement reason								
Illness	111	10.58 %	158	10.30 %	54	5.19 %	323	8.91 %
Leisure	212	20.21 %	97	6.32 %	45	4.32 %	354	9.77 %
Entitled	448	42.71 %	856	55.80 %	850	82.61 %	2,164	59.71 %
Other	279	26.50 %	423	27.57 %	82	7.88 %	783	21.61 %
Tertiary								
Yes	342	32.60 %	745	48.57 %	208	19.98 %	1,295	35.73 %
No	707	67.40 %	789	51.43 %	833	80.02 %	2,329	64.27 %
Skill level								
Very high	470	44.80 %	455	29.66 %	89	8.55 %	1,014	27.98 %
High	38	3.62 %	259	16.88 %	101	9.70 %	398	10.98 %
Medium	465	44.33 %	757	49.35 %	691	66.38 %	1,913	52.79 %
Low	76	7.24 %	63	4.11 %	160	15.37 %	299	8.25 %
Civil status								
Cohabitation	851	81.12 %	1,260	82.14 %	902	86.65 %	3,013	83.14 %
Single	198	18.88 %	274	17.86 %	139	13.35 %	611	16.86 %
Born in country								
Yes	988	94.18 %	1,336	87.09 %	1,017	97.69 %	3,341	92.19 %
No	61	5.82 %	198	12.91 %	24	2.31 %	283	7.81 %
Average tenure	25.24	14.42	27.74	13.68	31.64	13.48	28.14	14.05
Average retirement age	63.29	3.28	61.99	3.08	62.69	3.55	62.57	3.33
Average retirement age^2	4,016.86	426.57	3,851.81	380.85	3,942.70	442.9	3,935.7	418.47
Sector								
Private	556	53 %	944	61.54 %	667	64.07%	2,167	59.80 %
Public	331	31.55 %	412	26.86 %	116	11.14%	859	23.70 %
Self-employed	162	15.44 %	178	11.60 %	258	24.78%	598	16.50 %
Observations		1,049		1,534		1,041		3,624

Table 4.5. Descriptive statistics females, variable distribution and means

	Scandinavian females		Western females		Southern females		Total	
	N	Distribution/SD	N	Distribution/SD	N	Distribution/SD	N	Distribution/SD
Retirement reason								
Illness	148	13.57 %	122	9.66 %	32	4.61 %	302	9.90 %
Leisure	242	22.18 %	109	8.63 %	39	5.62 %	390	12.78 %
Entitled	436	39.96 %	860	68.09 %	575	82.85 %	1,875	61.44 %
Other	265	24.29 %	172	13.62 %	48	6.92 %	485	15.89 %
Tertiary								
Yes	411	37.67 %	537	42.52 %	147	21.18 %	1,095	35.88 %
No	680	62.33 %	726	57.48 %	547	78.82 %	1,957	64.12 %
Skill level								
Very high	266	24.38 %	215	17.02 %	48	6.92 %	529	17.33 %
High	44	4.03 %	44	3.48 %	32	4.61 %	120	3.93 %
Medium	712	65.26 %	840	66.51 %	386	55.62 %	1,942	63.63 %
Low	69	6.32 %	164	12.98 %	228	32.85 %	461	15.10 %
Civil status								
Cohabitation	741	67.92 %	845	66.90	454	65.58 %	2,040	66.84 %
Single	350	32.08 %	418	33.10	240	34.58 %	1,012	33.16 %
Born in country								
Yes	1,036	94.96 %	1,104	87.41 %	675	97.26 %	2,819	92.37 %
No	55	5.04 %	159	12.59 %	19	2.74 %	233	7.63 %
Average tenure	22.12	13.09	18.83	13.39	25.93	13.57	21.67	13.67
Average retirement age	62.87	2.80	61.82	3.10	62.20	3.65	62.29	3.18
Average retirement age^2	3,960.23	350.55	3,831.36	381.41	3,882.36	457.42	3,890.18	396.5
Sector								
Private	360	33 %	810	63.13%	426	61.38 %	1,597	52.33 %
Public	670	61.41 %	355	28.11%	75	10.81 %	1,100	36.04 %
Self-employed	61	5.59 %	98	7.76%	193	27.81 %	355	11.63 %
Observations		1,091		1,263		694		3,052

5 Method

This thesis examines if socioeconomic status influences the risk of retiring due to illness or health reasons, compared to retiring due to being eligible for old-age pension. The outcome variable in the model is treated as categorical under the assumption that the categories have no natural order. The outcome variable, *retirement reason*, can take on four outcomes: value 1 for illness, value 2 for leisure, value 3 for entitled, and value 4 for other.

$$y = \begin{cases} 1 \ illness \\ 2 \ leisure \\ 3 \ entitled \\ 4 \ other \end{cases}$$

5.1 Multinomial logistic regression

The statistical model that will be used to answer the research question is multinomial logistic regression (MLR). This regression choses a reference group, which in this case will be *entitled*. Any variable can be taken as the base category, but the decision to use *entitled* as the base category here makes the most sense, as it is the most normative and the largest category. Each of the other outcomes, *illness, leisure*, and *other* will be estimated relative to the outcome entitled, which gives $J - 1$ equations, where J is the number of outcomes of the dependent variable. In this thesis, the three equations will be 1) *illness* relative to *entitled*, 2) *leisure* relative to *entitled*, and 3) *other* relative to *entitled*.

The coefficients in a multinomial logistic regression can be interpreted in terms of multinomial log-odds of the dependent variable, or in terms of relative risk ratios. The latter interpretation will be used in this thesis. The relative risk ratio is:

$$RRR = \frac{P(y = 1 \mid x + 1)/P(y = base\ category \mid x + 1)}{P(y = 1 \mid x)/P(y = base\ category \mid x)}$$

Where the numerator is the risk in the comparison group (the risk of retirement outcome 1, 2 or 4), and the denominator is the risk in the baseline group (retirement outcome 3, entitled). The relative risk ratio in this thesis measures the risk of the outcome being the comparison group, relative to the risk of the outcome being the baseline group.

5.2 Model specification

To analyse the effect of socioeconomic status on retirement reason, a stepwise regression modelling will be used, where the selection of independent variables will be used or added step-by-step until all independent variables are included in the final model. This gives in total six different models per sample. The purpose of using a stepwise modelling is to observe and compare how the estimates are changing when additional independent variables are added to the model.

The two key independent variables of interest for the socioeconomic status are the binary variable of having a tertiary education or not, and the categorical variable of the skill level. These two variables will therefore be the only variables included in step (1) and step (2), to measure their effects individually, together with controls for country. The tertiary variable will be included in model (1), and the skill variable will be included in model (2). In the next two steps of the model, control variables are added to these two variables, so model (3) then includes the tertiary variable and controls, but not the skill variable,

and model (5) includes the skill variable and controls, but not the tertiary variable. Model (5) includes both tertiary variable, skill variable, and control variables. The last model, model (6), includes the same variables as in model (5), but further includes the variable of sector (private, public, or self-employed). The reason for including this in the last model only is because this may not be purely a control variable.

The model tested for interaction effects between the genders and between the welfare regime types, but the results were mixed: The interaction terms did not show sufficient significant results to be able to state that differences in the results between either genders or welfare regimes are statistically significant. This means that that the effect of SES on retirement reason can be analysed individually in the samples, but differences found between the genders and the welfare regimes should be interpreted with caution.

In a first step of this thesis, the first two hypotheses will be analysed by observing the two samples where all countries included in this thesis are pooled together, to provide a general overview of the relationships between SES and retirement reason. In a second step of this thesis, each country group sample will be analysed individually to see whether there are differences in the relationship between SES and retirement reason between the samples, and further to see whether hypothesis 1 and 2 hold within each country group.

6 Results

This section mentions some results obtained from the regressions sample by sample, see tables 6.1-6.8. The coefficients from multinomial logistic regressions are, as described in section 5.1, interpreted in terms of relative risk ratios, which in this thesis are the risks of being retired due to *illness* or *leisure*, relative to the reference category *entitled*.

6.1 Sample 1: All countries, males

In a model for males with all countries pooled together, see table 6.1, having a tertiary education gives a lower risk of retiring due to *illness* relative to *entitled*, compared to those having a tertiary education, according to model (1). In the same model, having a tertiary education gives an increased risk of retiring due to *leisure*, compared to the risk without a tertiary education. When other variables added, however, only the effect of a tertiary education on the outcome *leisure* stays significant, while the effect for the *illness* outcome does not. The effect for the *leisure* outcome stays significant at the 1 % level throughout all models, and in model (6), the risk of retiring due to *leisure*, relative to *entitled* when having a tertiary education is around 1.8 times the risk when not having a tertiary education.

The skill level shows significant results for both outcomes of interest in model (2). Having a very high or high skill level gives a lower risk of retiring due to *illness*, relative to *entitled*, compared to the medium skilled. The results for very high skilled decreases in magnitude in the final model (6), but is no longer significant, while the effect of high skilled stays significant but drops in size. According to model (6), the risk of retiring due to *illness* when being high skilled is approximately 0.54 times the risk of medium skilled. The risk of retiring due to *leisure* for very high skilled is around 2.1 times the risk of medium skilled, in model (6), and this result stays significant at the 1 % level in all models, though it varies slightly in size between the models.

Table 6.1. Relative risk ratio for retirement reason: all countries, males

Dependent variable	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Illness	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**
Tertiary Education	0.666***	2.129***			0.798	2.261***			0.897	1.821***	0.894	1.836***
	(0.094)	(0.283)			(0.118)	(0.306)			(0.143)	(0.264)	(0.143)	(0.270)
Very high skill			0.643***	2.315***			0.713**	2.336***	0.741*	1.905***	0.750	2.106***
			(0.102)	(0.319)			(0.120)	(0.326)	(0.132)	(0.282)	(0.137)	(0.321)
High Skill			0.613**	1.090			0.523***	1.024	0.527***	0.933	0.542**	1.013
			(0.141)	(0.284)			(0.126)	(0.268)	(0.128)	(0.246)	(0.132)	(0.269)
Low skill			1.315	1.027			1.225	1.056	1.216	1.103	1.265	1.287
			(0.279)	(0.262)			(0.281)	(0.274)	(0.279)	(0.288)	(0.292)	(0.339)
N						**3,624**						

Notes: The estimates present relative risk ratios and standard errors in brackets. *p<0.1, **p<0.05, ***p<0.01.
Model 1: tertiary education variable and controls for country. Model 2: skill level variable and controls for country. Model 3: tertiary education variable and controls. Model 4: skill level variable and controls. Model 5: tertiary education variable, skill level variables, and controls. Model 6: tertiary education variable, skill level variable, controls and sector variable. The tables are shortened, full tables are found in appendix.

6.2   Sample 2: All countries, females

In a model for females with all countries pooled together, see table 6.2, the results for having a tertiary education show significant results for both outcomes of interest: *leisure* and *illness*. For both outcomes, having a tertiary education increases the risk of both outcomes, relative to retire due to being *entitled* to old-age pension benefits, compared to not having a tertiary education. The effect is significant at 1 % level for both outcomes through all models, and the effect for the *leisure* outcome is larger, but only slightly, than the effect for the *illness* outcome. The difference in the magnitude of the effect between the outcomes are larger in model (1) and (3), when the skill level is not added to the model. In model (6), the risk of retiring due to *illness* for those with a tertiary education is approximately 1.65 times the risk of those without a tertiary education. The risk of retiring due to *leisure* when having a tertiary education is approximately 1.76 times the risk of retiring due to *illness* when not having a tertiary education.

The skill level for very high skilled shows a higher risk of retiring to both the *illness* and the *leisure* outcome, compared to medium skilled, though much larger and only significant for the *leisure* outcome. In model (6), the risk of retiring due to *leisure* reasons relative to *entitled* when being very high skilled is around 1.73 times the risk of medium skilled to retire due to *leisure*, significant at the 1 % level.

A result that first appears significant in model (5) and (6), is the risk of retiring due to *illness* for low skill level, indicating that a low skill level has an approximately 1.63 times higher risk than a medium skill level to retire due to *illness*. This effect only becomes significant in the later models, when education is also added to the model.

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Table 6.2. Relative risk ratio for retirement reason: all countries, females												
Dependent Variable	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**
Tertiary Education	1.304*	1.918***			1.560***	1.900***			1.641***	1.702***	1.648***	1.758***
	(0.181)	(0.252)			(0.234)	(0.261)			(0.261)	(0.248)	(0.264)	(0.258)
Very high Skill			1.310	2.168***			1.257	2.006***	1.086	1.720***	1.007	1.734***
			(0.222)	(0.310)			(0.230)	(0.301)	(0.205)	(0.267)	(0.194)	(0.278)
High Skill			0.874	1.008			0.929	0.977	0.793	0.823	0.761	0.869
			(0.307)	(0.337)			(0.341)	(0.333)	(0.294)	(0.283)	(0.284)	(0.300)
Low Skill			1.257	0.842			1.333	1.006	1.474*	1.114	1.524**	1.136
			(0.234)	(0.174)			(0.272)	(0.216)	(0.305)	(0.242)	(0.317)	(0.247)
N						**3,052**						

Notes: The estimates present relative risk ratios and standard errors in brackets. *p<0.1, **p<0.05, ***p<0.01.
Model 1: tertiary education variable and controls for country. Model 2: skill level variable and controls for country. Model 3: tertiary education variable and controls. Model 4: skill level variable and controls. Model 5: tertiary education variable, skill level variables, and controls. Model 6: tertiary education variable, skill level variable, controls and sector variable. The tables are shortened, full tables are found in appendix.

6.3 Sample 3: Scandinavian males

The relative risk ratios and standard errors for the sample Scandinavian males are presented in table 6.3. For this sample, the variable tertiary was only significant for the outcome *leisure*, and it was significant at the 1% level throughout all models. The effect dropped slightly in model (5) and (6), and according to model (6), the risk of retiring due to *leisure* reasons versus being *entitled* to old-age pension is around twice as high for those with a tertiary education compared to those without.

The skill level only generated significant results for the very high skilled. For the outcome *illness*, very high skilled was significant at the 5 % level in model (2), (4) and (5). In model (2) where only the skill level was included as a variable, the risk of retiring due to *illness* versus *entitled* is around half for very high skilled compared to those who are medium skilled. The risk barely changes in the other models when more variables are added, but the significance level changes from 5 % to 10 % in the latest model. In model (6), the results show that there is a decreased risk of retiring due to *illness* for very high skilled compared to medium skilled. The risk of very high skilled is approximately 59 % the risk of medium skilled to retire due to *illness*, with a significance level of 10 %.

Very high skilled for the outcome *leisure* is significant at 1 % in all estimated models, but changes slightly in the effect between the models. In model (6), where all variables are added, very high skill gives a 2.38 times higher risk than medium skilled to retire due to *leisure* relative to *entitled*.

Dependent Variable	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Illness	Leisure	Illness	Leisure	Illness	Leisure	Illness	Leisure	Illness	Leisure	Illness	Leisure
Tertiary	1.025 (0.250)	2.468*** (0.461)			0.189 (0.316)	2.509*** (0.478)			1.400 (0.389)	2.050*** (0.408)	1.411 (0.394)	2.050*** (0.413)
Very high Skill			0.575** (0.140)	2.627*** (0.505)			0.578** (0.153)	2.559*** (0.499)	0.532** (0.145)	2.113*** (0.428)	0.587* (0.163)	2.380*** (0.498)
High Skill			0.344 (0.264)	1.316 (0.626)			0.315 (0.256)	1.366 (0.669)	0.301 (0.244)	1.366 (0.669)	0.324 (0.264)	1.420 (0.708)
Low Skill			1.066 (0.421)	1.247 (0.468)			1.043 (0.456)	1.270 (0.489)	1.053 (0.462)	1.270 (0.489)	1.099 (0.485)	1.548 (0.605)
N						1,049						

Notes: The estimates present relative risk ratios and standard errors in brackets. *p<0.1, **p<0.05, ***p<0.01.
Model 1: tertiary education variable and controls for country. Model 2: skill level variable and controls for country. Model 3: tertiary education variable and controls. Model 4: skill level variable and controls. Model 5: tertiary education variable, skill level variables, and controls. Model 6: tertiary education variable, skill level variable, controls and sector variable. The tables are shortened, full tables are found in appendix.

6.4 Sample 4: Western males

The effect of having a tertiary education for Western males, see table 6.4, showed significant results for the outcome *illness* in all models, and with a significance level of 5 % in model (6), where the risk of retiring due to *illness* relative to *entitled* was approximately 64 % the risk of those with a tertiary education compared to those without. For the *leisure* outcome, however, having a tertiary education showed a higher risk of retiring due to *leisure* compared to not having a tertiary education, relative to retiring due to *entitled*, but the results were only significance in model (3). When the skill level variable and sector variable were added to the regression, there were no longer any significant results on having a tertiary education for the *leisure* outcome.

The skill level for the *illness* outcome gave no significant results for the very high skilled, but in model (2) and (4), high skilled was significant at the 10 % level, with high skilled having a lower risk compared to medium skilled of retiring due to *illness* relative to *entitled*. However, in model (5) and (6), when skill level variable and sector variable were added to the model, risk became larger in magnitude but was no longer significant. For low skilled, model (2) gave significant results at the 10 % level for the outcome *illness*, with a risk of 1.76 times medium skilled, but this effect becomes smaller and no longer significant in models (4) to (6).

The effect of skill level on the outcome *leisure* only shows significant results for very high skilled, but the size and significance of the effect varies between the models. In model (6) the risk for very high skilled to retire due to *leisure* relative to *entitled* is approximately 1.82 times higher than for medium skilled, with a significance of 5 %.

Table 6.4. Relative risk ratio for retirement reason: Western males											
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Dependent Variable	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**
Tertiary Education	0.514*** (0.096)	1.439 (0.327)			0.650** (0.129)	1.629** (0.375)			0.649* (0.145)	1.382 (0.346)	0.641** (0.144)	1.420 (0.365)
Very high skill			0.749 (0.166)	1.607** (0.379)			0.894 (0.209)	1.607** (0.407)	1.114 (0.291)	1.500 (0.386)	1.026 (0.280)	1.818** (0.496)
High Skill			0.612* (0.170)	0.692 (0.277)			0.580* (0.168)	0.662 (0.267)	0.620 (0.181)	0.627 (0.255)	0.649 (0.190)	0.700 (0.288)
Low Skill			1.759* (0.659)	0.549 (0.413)			1.640 (0.670)	0.576 (0.440)	1.484 (0.610)	0.622 (0.475)	1.661 (0.696)	0.865 (0.668)
N						**1,534**						

Notes: The estimates present relative risk ratios and standard errors in brackets. *p<0.1, **p<0.05, ***p<0.01.
Model 1: tertiary education variable and controls for country. Model 2: skill level variable and controls for country. Model 3: tertiary education variable and controls. Model 4: skill level variable and controls. Model 5: tertiary education variable, skill level variables, and controls. Model 6: tertiary education variable, skill level variable, controls and sector variable. The tables are shortened, full tables are found in appendix.

6.5 Sample 5: Southern males

Tertiary education for Southern males, see table 6.5, was only significant for the *leisure* outcome, but not for the *illness* outcome. The variable was significant at 5 % throughout all models, but the effect varied between the models. In model (6), with all variables included, the risk of retiring due to *leisure* relative to *entitled* was approximately three times higher for those with a tertiary education compared to not having a tertiary education.

The skill level variable for the *leisure* outcome was significant for very high skilled in both model (2) and (4), at 1 % significance level. The effect dropped markedly in the later models when tertiary was added, and was no longer significant. The skill level did not give any significant results at all for the *illness* outcome.

Table 6.5. Relative risk ratio for retirement reason: Southern males											
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Dependent Variable	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**
Tertiary	0.628 (0.290)	3.879*** (0.219)			0.725 (0.347)	4.135*** (1.504)			0.984 (0.501)	3.133** (1.483)	0.999 (0.508)	3.037** (1.472)
Very high Skill			0.237 (0.242)	3.747*** (1.483)			0.246 (0.255)	3.734*** (1.492)	0.241 (0.257)	1.846 (0.942)	0.322 (0.250)	1.778 (0.931)
High Skill			0.985 (0.486)	1.220 (0.683)			0.753 (0.382)	1.306 (0.741)	0.749 (0.382)	0.993 (0.584)	0.794 (0.498)	0.951 (0.563)
Low Skill			1.397 (0.486)	1.248 (0.557)			1.217 (0.450)	1.383 (0.626)	1.214 (0.451)	1.438 (0.653)	1.235 (0.462)	1.332 (0.611)
N						**1,041**						

Notes: The estimates present relative risk ratios and standard errors in brackets. *p<0.1, **p<0.05, ***p<0.01.
Model 1: tertiary education variable and controls for country. Model 2: skill level variable and controls for country. Model 3: tertiary education variable and controls. Model 4: skill level variable and controls. Model 5: tertiary education variable, skill level variables, and controls. Model 6: tertiary education variable, skill level variable, controls and sector variable. The tables are shortened, full tables are found in appendix.

6.6 Sample 6: Scandinavian females

Among Scandinavian females, see table 6.6, having a tertiary education only shows significant results for the outcome *leisure* in model (1) and (3), where having a tertiary education gives and increased risk of retiring due to *leisure* reasons relative to *entitled* with around 1.6 times the risk of those without a tertiary education. However, when skill level is added to the model no significant results are longer shown.

Skill level shows significant results for the *leisure* outcome for very high skilled throughout all models, even when the tertiary education variable is added. The results tells that, in model (6), belonging to the category very high skilled gives an increased likelihood of retiring due to *leisure* reasons relative to *entitled* by almost 1.9 times the reference category, medium skilled, with a significance level of 1 %.

Table 6.6. Relative risk ratio: Scandinavian females

Dependent variable	Model 1 Illness	Model 1 Leisure	Model 2 Illness	Model 2 Leisure	Model 3 Illness	Model 3 Leisure	Model 4 Illness	Model 4 Leisure	Model 5 Illness	Model 5 Leisure	Model 6 Illness	Model 6 Leisure
Tertiary Education	1.043 (0.221)	1.506** (0.280)			1.321 (0.320)	1.590** (0.323)			1.388 (0.348)	1.390 (0.292)	1.409 (0.353)	1.401 (0.294)
Very high Skill			1.044 (0.245)	1.890*** (0.364)			1.050 (0.278)	1.849*** (0.389)	0.985 (0.267)	1.735** (0.374)	1.004 (0.276)	1.883*** (0.416)
High Skill			0.830 (0.429)	0.989 (0.440)			1.286 (0.724)	1.236 (0.583)	1.202 (0.680)	1.153 (0.545)	1.264 (0.719)	1.277 (0.610)
Low Skill			1.864 (0.705)	0.806 (0.329)			1.670 (0.762)	0.824 (0.370)	1.836 (0.831)	0.891 (0.403)	1.925 (0.869)	0.881 (0.398)
N						**1,091**						

Notes: The estimates present relative risk ratios and standard errors in brackets. *p<0.1, **p<0.05, ***p<0.01.
Model 1: tertiary education variable and controls for country. Model 2: skill level variable and controls for country. Model 3: tertiary education variable and controls. Model 4: skill level variable and controls. Model 5: tertiary education variable, skill level variables, and controls. Model 6: tertiary education variable, skill level variable, controls and sector variable. The tables are shortened, full tables are found in appendix.

6.7   Sample 7: Western females

The results from the regressions for the sample Western females are shown in table 6.7. The results show that having a tertiary education increases the risk of retiring due to both *illness* and *leisure*, relative to *entitled*, compared to those without a tertiary education. For both outcomes, the risk is around doubled for those with a tertiary education compared to those without, with a significance level of 1 %. In model (6), the risk of retiring due to *illness* relative to *entitled* is around 2.05 times higher for those with a tertiary education, and the risk of retiring due to *illness* is around 2.07 times higher for those with a tertiary education compared to those without.

The skill level is significant at the 5 % level for very high skilled for the *illness* outcome in model (2), where the risk of retiring due to *illness* relative to *entitled* is around 1.78 times higher for very high skilled compared to medium skilled. When other variables are added to the model, however, the skill level is no longer significant.

For the *leisure* outcome, the low skill level is significant in model (2) with a decreased likelihood of low skilled compared to medium skilled to retire due to *leisure* relative to *entitled*. This effect is also no longer significant in later models when more variables are added to the model. However, in model (6), the result for high skilled becomes significant at the 10 % level, with a decreased risk of high skilled to retire due to *leisure* relative to *entitled*, compared to medium skilled.

	Table 6.7. Relative risk ratio for retirement reason: Western females											
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Dependent variable	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**
Tertiary Education	1.612**	2.024***			1.950***	1.930***			2.167***	1.880***	2.054***	2.069***
	(0.319)	(0.428)			(0.422)	(0.428)			(0.509)	(0.447)	(0.490)	(0.508)
Very high Skill			1.777**	1.327			1.531	1.604*	1.164	1.299	0.940	1.340
			(0.463)	(0.292)			(0.438)	(0.411)	(0.347)	(0.348)	(0.293)	(0.350)
High Skill			0.449	1.799			0.397	0.284	0.302	0.229	0.271*	0.236
			(0.332)	(0.685)			(0.302)	(0.294)	(0.233)	(0.238)	(0.211)	(0.246)
Low Skill			1.343	0.452**			1.311	0.835	1.596	0.991	1.605	1.055
			(0.356)	(0.157)			(0.381)	(0.322)	(0.480)	(0.389)	(0.487)	(0.419)
N						**1,263**						

Notes: The estimates present relative risk ratios and standard errors in brackets. *p<0.1, **p<0.05, ***p<0.01.
Model 1: tertiary education variable and controls for country. Model 2: skill level variable and controls for country. Model 3: tertiary education variable and controls. Model 4: skill level variable and controls. Model 5: tertiary education variable, skill level variables, and controls. Model 6: tertiary education variable, skill level variable, controls and sector variable. The tables are shortened, full tables are found in appendix.

6.8 Sample 8: Southern females

For the sample Southern females, see table 6.8, having a tertiary education compared to not having a tertiary education increases the risk of retiring due to *leisure* relative to *entitled*. The effect is significant at the 1 % level in all models, but varies in magnitude between the models. In model (6), the results indicate that those with a tertiary education have around 4 times higher risk of retiring due to *leisure* reasons, compared to the risk of retiring due to *leisure* reasons for those without a tertiary education.

The skill level showed no significant results for the *illness* outcome, but did for the *leisure* outcome. The results for the *leisure* outcome changes between the models: the effect is large and significant at the 1 % level in model (2) and (4), indicating an increased risk for high skilled, but when the tertiary variable is added in model (5), the risk almost halves and the significance changes to the 10 % level. Further, in model (5), the skill level low skilled also shows significant results at the 10 % level, also with an increased risk of low skilled compared to medium skilled to retire due to *leisure* reasons. In model (6), the results for high skilled is slightly larger than in model (5), but is no longer significant, while the effect for low skilled is larger than in model (5), and is significant at the 5 % level. The results in model (6) tell that low skill level increases the risk of retiring due to *leisure* reasons relative to *entitled*, with around 2.3 times higher than for medium skilled.

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Dependent Variable	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**	**Illness**	**Leisure**
Tertiary	0.814 (0.474)	4.214*** (1.635)			1.157 (0.751)	4.964*** (2.152)			0.787 (0.530)	4.015** (2.196)	0.922 (0.632)	3.997** (2.257)
Very high Skill			0.967 (0.747)	5.243*** (2.606)			1.801 (1.436)	5.914*** (3.040)	2.009 (1.684)	2.979* (1.783)	2.092 (1.776)	2.349 (1.476)
High Skill			2.124 (1.414)	2.880 (1.977)			2.279 (1.649)	2.896 (2.039)	2.430 (1.869)	1.365 (1.062)	2.832 (2.233)	1.093 (0.882)
Low Skill			0.875 (0.361)	1.889 (0.749)			0.853 (0.372)	1.944* (0.782)	0.842 (0.368)	2.150* (0.880)	0.877 (0.387)	2.293** (0.952)
N						694						

Table 6.8. relative risk ratio for retirement reason: Southern females

Notes: The estimates present relative risk ratios and standard errors in brackets. *p<0.1, **p<0.05, ***p<0.01.

Model 1: tertiary education variable and controls for country. Model 2: skill level variable and controls for country. Model 3: tertiary education variable and controls. Model 4: skill level variable and controls. Model 5: tertiary education variable, skill level variables, and controls. Model 6: tertiary education variable, skill level variable, controls and sector variable. The tables are shortened, full tables are found in appendix.

7 Discussion

This section will answer the research question and the hypotheses based on the results from the regressions. The aim is to analyse whether SES influences the retirement reason, and further to compare the effect between different welfare regime types.

7.1 The research question

The research question consists of two parts, where the first part follows: *Does socioeconomic status influence the retirement decision?* The results from regressions where all countries are pooled together but split by gender, see table 6.1. and 6.2., shows that socioeconomic status does influence the retirement reason. This is especially the case when it comes to being pulled towards retirement. The results work in the expected direction for males, but for females, however, the results influence the retirement reason in a rather unexpected direction, which will be explained further and in more detail when analyzing each of the hypotheses. The second part of the research question: *Does the influence of SES on retirement outcome vary between different types of welfare regimes?* Can partly be answered with yes, the influence of SES does vary between different types of welfare regimes, especially when observing which of the SES variables that has an influence. However, due to a limited number of significant results, this question cannot be answered sufficiently. This question will also be addressed more in detail below when analyzing hypothesis 3.

7.2 Hypothesis 1: Higher SES individuals are more likely to retire due to leisure reasons

The first hypothesis states that individuals with higher SES have an increased risk of retiring due to leisure reasons, rather than retiring due to being eligible to old-age pension. The hypothesis is based on theories assuming that first: individuals with higher levels of education, which is one of the measures used for SES in this thesis, are more likely to have "better jobs" (Cutler & Lleras-Muney, 2006; Komp, 2010). Second, individuals with higher SES are likely to be in better health, this is a well-established relationship though theory differs in which ways this work (Link & Phelan, 1995; Marmot et al., 1991; Venti & Wise, 2015). Third, individuals with higher SES are likely to have a higher income, and a higher wealth, which would make the individuals able to afford more leisure (Lazear, 1986), which would pull them towards retirement. The finding in this thesis is that, when observing table 6.1. and 6.2., individuals with higher SES are more likely, as they show a higher risk to retire due to leisure reasons, relative to entitled. The hypothesis is confirmed by both SES variables included in this thesis: tertiary education and skill level. A shift from not having a tertiary education to having a tertiary education gives a higher risk of retiring due to leisure reasons relative to entitled, and individuals with very high skill level compared to medium skill level, show a higher risk of retiring due to leisure reasons. This is true when observing the samples for both males and females. The effect of the SES variables is strong and holds both when observed individually as well as when observed in the same model, though for both variables the effect becomes smaller in size when both variables are included. This suggests that among both women and men, retirement reason is not determined by one single SES indicator, but is rather influenced by both education and skill level.

The risk for males with high SES is rather large, around twice as high, and the risk for females with high SES is also relatively high but less than twice as high, for both variables. These findings are in keeping with predictions from the theory that individuals with higher SES are pulled towards retirement, and that the effect of higher earnings results in a higher demand for leisure (Lazear, 1986). It can also be assumed that individuals with higher SES are in better health, and therefore can enjoy a healthy retirement, where they have the ability to pursue their leisure activities.

It could have been assumed that the effect would be rather small among women, as they often, due to their caregiving responsibilities in the household, have more interrupted careers which in turn results in shorter contribution records (Esser & Palme, 2010; Komp, 2018). This would further assume that women have more limited possibilities to retire due to leisure reasons, but the results in fact show that also among women the risk of retiring due to leisure reasons for those with high SES, is relatively high.

7.3 Hypothesis 2: Lower SES individuals are more likely to retire due to illness reasons

The second hypothesis states that individuals with lower SES have an increased risk of retiring due to illness reasons, rather than retiring due to being eligible for old-age pension. The theory behind this hypothesis is that first, individuals with lower levels of education are more likely to have jobs where the depreciation of human capital is more present, such as jobs with higher physical effort, where the impact of age is larger (Ben-Porath, 1967; Feldman, 1994; Mincer, 1958; Rosen, 1971). Second, individuals with lower levels of SES are associated with higher health-risk behavior, less investments in health, and higher rates of a range of health outcomes, such as poor self-rated health and lower life expectancy, just to name a few (Cutler & Lleras-Muney, 2006; Galama et al., 2008; Link & Phelan, 1995; Marmot et al., 1991). These factors are likely to push the individual out of the labor force and into retirement as a result of own poor health. The findings from this thesis to support the hypothesis are rather poor. For males, see table 6.1., not many significant results can be obtained to confirm the hypothesis. The variables from the regressions do work in the expected direction, though only high skill proves to be significant, which shows a decreased risk of retiring due to illness reasons. This finding confirms the hypothesis.

When further observing each country group individually for males, only Western males shows proof to confirm this hypothesis with regards to education. Males with tertiary education have a decreased risk of retiring due to illness reasons, compared to those without tertiary education. These results indicate that compared to individuals with tertiary education, those without have an increased risk of retiring due to illness relative to being entitled to old-age pension. These findings are in keeping with theory that individuals with lower levels of education have a higher risk of being pushed out of the labor force due to health reasons. Though, in which way these push factors work is still unknown: if it is due to a higher health-risk behavior, or if it is due to the type of job the individual had.

For females, see table 6.2., the results are mixed. The tertiary education variable works in the opposite direction as expected for the illness outcome. Females with a tertiary education show a higher risk of retiring due to illness reasons, relative to being eligible to old-age pension, compared to those without a tertiary education. The hypothesis can therefore not be confirmed by observing this variable, as it contradicts the hypothesis. The other variable used to estimate the SES on retirement reason is skill level, where low skill level is assumed to be associated with lower SES. This variable works in the expected direction, where low skilled females have a higher risk, slightly above 50 %, compared to medium

skilled to retire due to illness reasons. The results therefore state that depending on which SES variable is being observed, both high and low SES increases the risk of retiring due to illness reasons.

The results for each country group for females are also too weak to confirm the hypothesis. Only the results for Western females give significant results, but regarding tertiary education do confirm the findings from the full-country sample. For Western females the direction of the results for having a tertiary education are not in line with predictions form theory, and do not confirm the hypothesis. The results for this sample rather contradict the hypothesis: females with a tertiary education have approximately twice as much risk as females without a tertiary education to retire due to own illness. Important to note here is that the outcome does not state that women retire due to illness because they are no longer able to continue working, but it might state that either due to the fact that their health has already declined, or as a reason to preserve health, they decided to retire. One explanation to this result may be in line with the findings from (Bambra et al., 2009), where among the most educated women in Southern and Scandinavian welfare regimes, there was an increased risk of poor self-assessed health. An assumed reason to this was pointed out to be due to the dual roles of women, that the highly educated women might experience a tension between the persisting main caretaking responsibility in the household and the career. The question if this is a likely assumption will be discussed further in the conclusion in chapter 8.

7.4 Hypothesis 3: The influence of SES on retirement reason is small in welfare regimes with higher levels of social transfers and large in welfare regimes with low levels of social transfer

The third hypothesis aims to answer the second part of the research question: to analyse if the influence of SES on retirement reason varies between different welfare regime types. As previous studies have found, there are differences in old-age health and health-related inequalities between welfare regime types (Alvarez-Galvez et al., 2014; Dragano, Siegrist & Wahrendorf, 2011; Eikemo et al., 2008; Niedzwiedz et al., 2014). This thesis aims to take these findings one step further and see whether these inequalities also have an effect on retirement reason. The hypothesis is based on the assumptions in the previous two hypotheses, which assumes that the SES has an influence on the retirement reason. If the SES do influence whether an individual is pushed or pulled towards retirement, it further assumes that this influence is weak in welfare states with more universal coverage and with higher social transfers (e.g. Scandinavian) which aims to equalize between those with low SES and those with high SES. Contrarily, it is also assumed that in welfare regime types with more corporatist elements (e.g. Western) or more fragmented and rudimentary social protection systems (e.g. Southern), the influence of SES is large. Important to remember here, as stated in section 5.2., is that the interaction effects between welfare regimes did not show sufficient significant results to state that the differences found between welfare regimes are significant.

7.4.1 Males

When observing males across the welfare regimes types, all samples confirm that when observing at least one of the two SES variables, higher SES increases the risk of retiring due to leisure reasons, see table 6.3. – 6.5. The effect of these variables on the leisure outcome does vary between the samples. For Scandinavian males, both having a tertiary education, and being very high skilled increases the risk of retiring due to leisure reasons. These variables work in the same direction for Western males as for

Scandinavian males, though only significant for the very high skilled. For Western males the effect of a tertiary education is no longer significant in the last model where both variables are added, assuming that the effect of a tertiary education is picked up by the skill level in these countries. Southern males exhibits the largest effects for a tertiary education for the leisure outcome. For Southern males with tertiary education, the risk of retiring for leisure reasons is large, around three times as large as for those without tertiary education, which is in line with the hypothesis. These results indicate that having tertiary education has a large impact on influencing retirement reasons in Southern welfare regimes, while in the Western welfare regimes, the skill level seems to have a larger impact, and in the Scandinavian welfare regimes, both SES variables are strong predictors of the retirement reason.

For the second outcome of interest, retiring due to illness reasons, the Sothern countries were expected to show a large influence from SES according to previous research which found that for negative health outcomes, the effect of SES is more pronounced (Alvarez-Galvez et al., 2014; Dragano, Siegrist & Wahrendorf, 2011; Eikemo et al., 2008; Niedzwiedz et al., 2014). However, the results for Southern males show that a shift from not having a tertiary education to having one, have close to no impact, but this result is not significant. The results from the effect of skill level are also not significant, though the results do work in the expected direction. As the findings from the illness outcome provide no significant results for any of the other samples, no concrete conclusions can be drawn with regards to variations in the effects between welfare regime types.

These results can only partly confirm the hypothesis, but the findings that can be analyzed and are in line with previous findings, that educational inequalities are large in the Southern welfare regimes, but here only when observing the leisure reason for retirement. The hypothesis cannot be confirmed for the illness outcome, neither by observing education or skill level.

7.4.2 Females

No conclusions can be drawn for variations in the effect of SES on the risk of retiring due to illness reasons for females in Scandinavian, Western and Southern welfare regimes. The reason for this is that only the sample of Western females delivered significant results regarding tertiary education and skill level for this outcome, where the risk of retiring due to illness reasons is around twice as high for those with tertiary education, compared to those without tertiary education, as discussed under hypothesis 2.

The risk of retiring due to leisure reasons for females is similar to the pattern of males, where Southern females shows a large risk for those with tertiary education. The risk of retiring due to leisure reasons for Southern females with tertiary education is almost four times as large compared to without tertiary education. Western females also shows an increased risk of retiring due to leisure reasons when having tertiary education, and this effect is around twice as high. For Scandinavian females, this effect was not significant when both variables were added in the same model. These results again indicate, as for males, that tertiary education has a large impact on influencing the retirement reason in Southern welfare regimes when it comes to retiring due to leisure reasons. The results further show that when skill and tertiary education are added in the same model for the Southern sample, very high skill is no longer significant. This assumes again that having a tertiary education is the strongest predictor of retiring due to leisure reasons for Southern females, while in Scandinavia, the skill level seems to be a stronger predictor.

Another interesting finding regarding the skill level for the Southern female sample is the increased risk of retiring due to leisure reasons among those with a low skill level, compared to those with a medium

skill level. This result contradicts both hypothesis 1 and 2: that individuals with lower SES are more likely to retire due to illness reasons, and that higher SES-individuals are more likely to retire due to leisure reasons. One assumption for this might be that low skilled individuals in Southern welfare regimes have the ability to retire before their health has deteriorated, and view retirement as a way of preserving health (Galama et al., 2008). It may also be that individuals retiring from jobs connected with poor work conditions view retirement as especially relieving if the retirement occurs before health has deteriorated. This could be one explanation as previous studies found that work stress-related inequalities in health were greater in the Southern welfare regimes (Dragano, Siegrist & Wahrendorf, 2011). That these findings have the direction they do, and why this result is only apparent in the Southern welfare regimes, may be due to the significantly lower retirement ages (Aysan & Beaujot, 2009; Komp, 2018). One can assume that when individuals are able to retire at younger ages, they will be less likely to report own ill health as a reason for retirement, as health normally declines with age. This could be a reason why the negative health outcomes among low SES individuals found in previous studies are not reflected in the retirement behavior, but this will be discussed further in the next section.

8   Conclusion

The aim of this thesis was to gain deeper understanding of the retirement reason among older Europeans, where the broad background to the research was to understand if increased retirement ages could be a solution to solve the problem of an ageing population, without being harmful for certain groups. Research on retirement has mostly focused on studying the age at retirement or the claiming of benefits as the outcome, but limited research has focused on individuals' reasons to retire. This thesis has extensively studied if SES influences the retirement reasons of both women and men in three different welfare regime types, by performing multinomial logistic regression on the retirement outcome by using individual-level data. The relative risk of an individual retiring due to illness or leisure reasons relative to their entitlement to a pension was observed, and some findings are in keeping with previous literature and predictions from theory, while some findings are rather unexpected.

This study contributed with new insights to the retirement behavior of Europeans in Scandinavian, Western, and Southern welfare states. It does confirm some expected patterns, such as higher risk of retiring due to illness reasons for those with low SES (seen for Western males without a tertiary education, and low-skilled females, total sample). This could be a result of either the type of job the individual had, or due to a higher health-risk behavior among those with low SES. It also confirms the expectation that individuals with higher SES are more likely to retire due to leisure reasons, and that the influence of SES for this outcome is large among both males and females when observing at least one of the two SES variables. This is likely to be a result of a higher accumulated wealth, or pension benefits, which changes the slope of the budget constraint, and increases the demand for leisure. Regarding the outcomes in different welfare regime types, it does show evidence that when it comes to being pulled towards retirement, seen as a positive retirement outcome, the effect of SES is large in the Southern welfare regimes among those with tertiary education. This effect is not present in the other welfare regime types, as the effect is either almost equally as large for skill, or not significant. The Southern countries are also the ones with the lowest share of individuals with a tertiary education in this sample, while in the Western, where the share of individuals with a tertiary education was the highest, this effect is not significant when both SES variables are added in the same model.

Besides the stated reasons, this thesis brought some rather unexpected findings: First, it seems that the negative health outcomes found in previous research among individuals with lower SES in Southern welfare regimes does not reflect the reason to retire. Low skilled females in these countries were found to have an increased risk of retiring due to leisure reasons, rather than a decreased risk as had been assumed. The effect is not as large for this outcome as the effect of having a tertiary education compared to those without, but the increased risk is still large and significant for low skilled compared to medium skilled. The reason behind this may be the low eligibility ages in these countries, especially in Italy, and the combination of being able to retire relatively young, and with relatively generous pension benefits in an otherwise rudimentary and fragmented welfare system. However, according to the descriptive statistics in this thesis, the average age at retirement for the Southern welfare regimes is not markedly lower than in the other samples: The Western sample even exhibits lower average retirement ages, and the Southern sample is close to the Scandinavian, albeit slightly lower. This may be due to the fact that, despite being eligible for the claiming of pension benefits at a relatively young age, the individuals who retired due to leisure reasons continued working past this age through their own choice, to further accumulate pension wealth. The individuals then, instead retire after a few extra years of work, when they are on their optimal point between work and leisure (retirement), and before their health has deteriorated. Meanwhile, for individuals with higher skill levels, this effect is picked up by tertiary education.

These assumptions would suggest that a low pension age is an important factor for diminishing SES-related health inequalities during retirement age. However, as no significant results were shown for either Western or Scandinavian females or males regarding this variable, it is not yet known whether it is a stronger factor than other services provided by the welfare state, such as more distributive pension benefits or active labor market policies, or more state provision in general.

A second unexpected finding is the increased risk of females with a tertiary education retiring both due to illness reasons, and due to leisure reasons. This pattern was also apparent when observing Western females separately. That females with tertiary education are more likely to retire due to illness reasons is a concerning finding that needs to be further researched. Previous findings have found that the prevalence of poor health was most pronounced among the most educated females in some welfare regimes, and that a possible reason is the tension between the traditional caregiving responsibilities of women who also have a higher level of education and expectations on the labor market (Bambra et al., 2009). Those previous findings, however, are based on a sample on individuals aged 16 years and older, and this thesis focus on the stated retirement reason during retirement age. It could be assumed that these tensions would have a larger effect during the younger working years, and perhaps with the presence of children in the household, but these factors should not have an impact during near-retirement ages. Is it reasonable to assume that this tension is still in play while women are about to retire, or does it have to do with which kind of occupation women have, or their working conditions? It could also be that the caretaking responsibilities of women, which creates this tension, is not limited to children but also to caretaking of the elderly. The reliance on the family for support is lower in the Western welfare regimes than in the Southern welfare regimes, but larger than in the Scandinavian regimes, but as no significant results were shown in either of these samples for the tertiary education variable, this thesis is not able to observe whether this effect is also at work in the other welfare regimes.

Another possible explanation to this finding that is apparent during the time of retirement relates to the dual roles of highly educated women. The assumption is that females have more interrupted careers than

males, due to the caretaking responsibilities at earlier times in their careers, such as taking care of children, for example. For women with a tertiary education, this results in an extra-long postponement of working life due to taking care of children, and the postponement of working life due to acquiring tertiary education. This postponement of income earning years leaves women near retirement age with lower accumulated levels of pension wealth and the need to work longer. This in turn may limit women's abilities to retire with satisfying financials, hence limiting the likelihood of retiring due to leisure reasons or being eligible for old-age pension benefits, and a postponement of retirement which may lead to increased risk of retiring due to illness, as health declines with age. Further research is needed to more thoroughly investigate why higher educated women show an increased risk of retiring due to illness reasons, and the extent of their stated illness.

This thesis fails to either reject or confirm the hypothesis that individuals with lower SES are more likely to retire due to illness reasons. Further, it fails to reject or confirm the hypothesis that the influence of SES on retirement reason is small in welfare regimes with higher levels of social transfers, and large in welfare regimes with lower levels of social transfers. In the Southern welfare regimes, where the effect was expected to be high, the hypothesis is confirmed, as the effect from having tertiary education is large among both males and females. However, the results do also show that even among the low skilled, the effect is high but work in the opposite direction as expected, which contradicts the hypothesis that individuals in the Southern welfare regimes would be negatively affected (pushed towards retirement) to a larger extent by a low SES. The results also show that in welfare regimes where social transfers are high, such as the Scandinavian, the effect of a high SES is also relatively high, more than twice as high for both SES variables observed, and that both variables influence the retirement decision, at least for males. The Western welfare regimes, when observing females, also contradict the expected direction of this effect, as females with high SES (a tertiary education) are more likely to be pushed towards retirement, compared to those without tertiary education. Despite these findings, this thesis is not able to confirm or reject this hypothesis conclusively, and the reason behind this is assumed to be data availability, reflected in lack of significant results which is likely to be due to the low number of observations in many samples.

This thesis further brought insight to the fact that not a single SES-variable seems to be a predictor of retirement behavior, and especially that different predictors are at work in the welfare regimes. In the Southern welfare regimes, tertiary education seems to have a stronger influence, while in the Scandinavian welfare regimes, the effect of skill seems to be stronger. In some cases, both variables have an effect on the retirement outcome when included in the same model, and in some cases work in an unexpected direction (such as for Southern and Western females). These findings also point to a limitation of this study, which is the absence of an income or wealth variable to be included as a third variable to measure SES. Both education, income, and skill are three commonly used variables to measure SES, and they do not have to be associated with each other. It would be of interest to see if all three variables influence the retirement outcome when included in the same model. The reason why this variable is not included is due to data availability, simply due to many missing values, which would have brought down the sample sizes significantly. Including an income variable could have brought a deeper insight to through which ways the SES influences the retirement reason.

The implication of this research is that a larger extent of individuals, especially those of higher SES, do seem to be able to work longer without negatively-associated retirement reasons (own ill health). It would appear that they are more likely to be pulled towards retirement for leisure reasons. This tells us

that there might be some "unused capacity", especially in the Southern welfare regimes, where the eligibility ages are lower, or the access to alternative pathways is greater. However, overall, this seems to be the case for men to a larger extent than for women, which indicates that there are gender inequalities in the retirement decision of men and women, meaning that women are possibly less privileged in "choosing" to retire for leisure reasons, and more prone to retire due to illness, despite being highly educated. The answer to the question: Are increased retirement ages for everyone? Is that the findings show that to some extent no, and this result is reflected in the low educated Western males, and both low skilled and highly educated women. This question needs further research to study the extent of their illness, and if it would prevent them from working longer, and if the magnitude of the illness would increase by further delaying retirement. However, for individuals with higher SES, an increased retirement age may be a sustainable solution to solving the problem of an ageing population. This said, it is important to keep in mind that a delayed retirement age likely may push individuals towards retirement to a larger extent, and that push factors for retirement has been found to have negative implications for the post-retirement life.

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Appendix

Appendix A: SHARE Acknowledgement

Appendix B Regression table relative risk ratio males, all countries

Table 1. Relative risk ratio for retirement reason (All countries, males)

Depended Variable Base (Entitled)	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other
	Model 1			**Model 2**			**Model 3**			**Model 4**			**Model 5**			**Model 6**		
Tertiary	0.666*** (0.094)	2.129*** (0.283)	0.957 (0.094)				0.798 (0.118)	2.261*** (0.306)	1.113 (0.121)				0.897 (0.143)	1.821*** (0.264)	1.010 (0.118)	0.894 (0.143)	1.836*** (0.270)	1.039 (0.123)
Skill *Ref. medium*																		
-very high				0.643*** (0.102)	2.315*** (0.319)	1.220* (0.129)				0.713** (0.120)	2.336*** (0.326)	1.332** (0.159)	0.741* (0.132)	1.905*** (0.282)	1.321** (0.167)	0.750 (0.137)	2.106*** (0.321)	1.452*** (0.190)
-high				0.613** (0.141)	1.090 (0.284)	1.834*** (0.251)				0.523*** (0.126)	1.024 (0.268)	1.577*** (0.238)	0.527*** (0.128)	0.933 (0.246)	1.568*** (0.238)	0.542** (0.132)	1.013 (0.269)	1.501*** (0.231)
-low				1.315 (0.279)	1.027 (0.262)	0.888 (0.172)				1.225 (0.281)	1.056 (0.274)	0.927 (0.198)	1.216 (0.279)	1.103 (0.288)	0.926 (0.198)	1.265 (0.292)	1.287 (0.339)	0.853 (0.185)
Cohabiting							1.174 (0.202)	1.381* (0.240)	1.197 (0.160)	1.210 (0.209)	1.369* (0.239)	1.172 (0.157)	1.208 (0.209)	1.338* (0.235)	1.170 (0.157)	1.215 (0.211)	1.346* (0.238)	1.187 (0.162)
Born in country							0.779 (0.178)	0.439*** (0.129)	0.686** (0.125)	0.766 (0.176)	0.480** (0.139)	0.682** (0.125)	0.777 (0.179)	0.452*** (0.132)	0.682** (0.125)	0.770 (0.178)	0.451*** (0.133)	0.679** (0.126)
Tenure							0.987*** (0.005)	0.100 (0.004)	0.999 (0.004)	0.989** (0.005)	0.999 (0.004)	0.999 (0.004)	0.989** (0.005)	0.999 (0.004)	0.999 (0.004)	0.988** (0.005)	0.996 (0.005)	1.002 (0.004)
Age at retirement							0.108*** (0.039)	0.273*** (0.082)	53.650*** (0.005)	0.105*** (0.037)	0.276*** (0.082)	53.145*** (35.254)	0.106*** (0.038)	0.265*** (0.080)	53.592*** (35.572)	0.113*** (0.040)	0.295*** (0.087)	40.920*** (27.544)
Age at retirement^2							1.016*** (0.003)	1.009*** (0.002)	0.965*** (0.005)	1.016*** (0.003)	1.009*** (0.002)	0.965*** (0.005)	1.016*** (0.003)	1.010*** (0.002)	0.965*** (0.005)	1.015*** (0.003)	1.009*** (0.002)	0.967*** (0.005)
Sector *Ref. private*																		
-public																1.035 (0.167)	0.866 (0.138)	0.589*** (0.073)
-self-employed																1.356 (0.257)	2.079*** (0.338)	0.288*** (0.060)
Country *Ref. Germany*																		
Sweden	0.702** (0.117)	4.559*** (0.927)	0.911 (0.119)	0.738* (0.126)	3.543*** (0.737)	0.970 (0.132)	1.109 (0.200)	5.035*** (1.046)	1.675*** (0.247)	1.116 (0.208)	3.920*** (0.832)	1.685*** (0.259)	1.111 (0.207)	4.234*** (0.901)	1.688*** (0.260)	1.088 (0.203)	4.034*** (0.861)	1.740*** (0.271)
Netherlands	0.317*** (0.100)	3.405*** (0.849)	2.644*** (0.367)	0.329*** (0.104)	2.984*** (0.750)	2.644*** (0.374)	0.408*** (0.132)	3.562*** (0.899)	3.614*** (0.588)	0.415*** (0.135)	3.141*** (0.799)	3.523*** (0.581)	0.420*** (0.137)	3.176*** (0.808)	3.534*** (0.583)	0.409*** (0.134)	2.766*** (0.714)	3.526*** (0.593)
Spain	0.264*** (0.049)	1.452 (0.342)	0.342*** (0.050)	0.260*** (0.049)	1.285 (0.300)	0.383*** (0.056)	0.360*** (0.072)	1.476 (0.352)	0.478*** (0.077)	0.340*** (0.068)	1.290 (0.306)	0.501*** (0.081)	0.334*** (0.068)	1.518* (0.366)	0.008*** (0.006)	0.327*** (0.067)	1.302 (0.318)	0.513*** (0.085)
Italy	0.151*** (0.051)	1.06e-07 (0.000)	0.020*** (0.014)	0.132*** (0.045)	1.38e-07 (0.000)	0.022*** (0.016)	0.048*** (0.018)	1.22e-07 (0.000)	0.007*** (0.005)	0.042*** (0.016)	2.11e-07 (0.000)	0.008*** (0.006)	0.043*** (0.016)	2.03e-07 (0.000)	6.830*** (1.256)	0.042*** (0.016)	1.03e-7 (0.000)	0.008*** (0.006)
Denmark	1.931*** (0.400)	22.095*** (5.095)	4.383*** (0.696)	1.996*** (0.415)	16.553*** (3.762)	4.880*** (0.780)	2.945*** (0.656)	23.524*** (5.542)	6.666*** (1.207)	2.875*** (0.642)	17.091*** (3.987)	6.807*** (1.234)	2.813*** (0.637)	20.771*** (4.971)	6.830*** (1.256)	2.730*** (0.621)	19.407*** (4.661)	7.928*** (1.482)
Belgium	0.266*** (0.095)	1.770** (0.508)	0.895 (0.163)	0.235*** (0.084)	1.922** (0.552)	0.915 (0.166)	0.162*** (0.061)	1.463 (0.428)	0.615** (0.125)	0.145*** (0.055)	1.633* (0.476)	0.633** (0.128)	0.149*** (0.057)	1.426 (0.419)	0.634** (0.130)	0.155*** (0.059)	1.345 (0.397)	0.635** (0.132)
Constant	0.292*** (0.031)	0.046*** (0.009)	0.394*** (0.036)	0.290*** (0.031)	0.052*** (0.010)	0.324*** (0.030)	4.32e+33*** (4.90e?34)	6.29e+17*** (6.15e+18)	2.54e-48*** (5.13e-47)	9.30e+33 (1.03e+35)	5.02e+17*** (4.85e+18)	3.03e-48*** (6.14e-47)	9.05e+33*** (1.01e+35)	1.58e+18*** (1.54e+19)	2.33e-48*** (4.41e-47)	1.04e+33*** (1.16e+34)	7.87e+16*** (7.54e+17)	9.30e-45*** (1.91e-43)
Observations	**3,624**			**3,624**			**3,624**			**3,624**			**3,624**			**3,624**		

Notes: The estimates present relative risk ratios and standard errors in brackets with "entitled" as base for the outcome variable. *p<0.1, **p<0.05, ***p<0.01.

Appendix C Regression table relative risk ratio females, all countries

Table 2. Relative risk ratio for retirement reason (All countries, females)

Depended Variable Base (Entitled)	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6		
	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other
Tertiary	1.304* (0.181)	1.918*** (0.252)	1.512*** (0.183)				1.560*** (0.234)	1.900*** (0.261)	1.554*** (0.207)				1.641*** (0.261)	1.702*** (0.248)	1.608*** (0.226)	1.648*** (0.264)	1.758*** (0.258)	1.558*** (0.220)
Skill *Ref. medium*																		
-very high				1.310 (0.222)	2.168*** (0.310)	1.060 (0.158)				1.257 (0.230)	2.006*** (0.301)	0.926 (0.152)	1.086 (0.205)	1.720*** (0.267)	0.803 (0.136)	1.007 (0.194)	1.734*** (0.278)	0.812 (0.1419)
-high				0.874 (0.307)	1.008 (0.337)	1.325 (0.347)				0.929 (0.341)	0.977 (0.333)	1.313 (0.371)	0.793 (0.294)	0.823 (0.283)	1.125 (0.321)	0.761 (0.284)	0.869 (0.300)	1.085 (0.312)
-low				1.257 (0.234)	0.842 (0.174)	0.702* (0.129)				1.333 (0.272)	1.006 (0.216)	0.836 (0.169)	1.474* (0.305)	1.114 (0.242)	0.919 (0.188)	1.524** (0.317)	1.136 (0.247)	0.889 (0.183)
Cohabiting							1.307* (0.193)	1.640*** (0.229)	1.124 (0.145)	1.344** (0.199)	1.686*** (0.235)	1.147 (0.147)	1.322* (0.196)	1.643*** (0.230)	1.121 (0.144)	1.304* (0.194)	1.631*** (0.229)	1.126 (0.146)
Born in country							0.954 (0.229)	0.820 (0.209)	0.653* (0.164)	0.926 (0.224)	0.797 (0.205)	0.671 (0.168)	0.927 (0.223)	0.792 (0.203)	0.669 (0.168)	0.937 (0.226)	0.811 (0.208)	0.656* (0.165)
Tenure							0.987** (0.005)	1.006 (0.005)	1.009* (0.005)	0.989** (0.708)	1.005 (0.005)	1.010** (0.005)	0.988** (0.005)	1.004 (0.005)	1.009** (0.005)	0.986** (0.005)	1.002 (0.005)	1.011** (0.005)
Age at retirement							0.728 (0.599)	1.611 (1.245)	26.798*** (21.815)	0.860 (0.708)	2.039 (1.581)	29.202*** (23.765)	0.783 (0.647)	1.751 (1.359)	26.061*** (21.287)	0.800 (0.664)	2.055 (1.605)	22.683*** (18.520)
Age at retirement^2							0.999 (0.007)	0.994 (0.006)	0.970*** (0.006)	0.998 (0.007)	0.992 (0.006)	0.969*** (0.006)	0.998 (0.007)	0.993 (0.006)	0.970*** (0.006)	0.998 (0.007)	0.992 (0.006)	0.971*** (0.006)
Sector *Ref. private*																		
-public																1.359* (0.218)	0.994 (0.149)	0.942 (0.132)
-self-employed																1.538 (0.408)	1.794*** (0.377)	0.364*** (0.110)
Country *Ref. Germany*																		
Sweden	1.479** (0.234)	3.889*** (0.724)	1.736*** (0.273)	1.504** (0.243)	3.571*** (0.673)	1.750*** (0.278)	4.437*** (0.841)	7.337*** (1.490)	5.214*** (0.956)	4.635*** (0.894)	6.945*** (1.425)	5.491*** (1.017)	4.534*** (0.875)	6.785*** (1.393)	5.341*** (0.990)	4.296*** (0.843)	6.869*** (1.431)	5.296*** (0.999)
Netherlands	0.172*** (0.080)	2.882*** (0.675)	1.920*** (0.372)	0.176*** (0.082)	2.757*** (0.650)	1.948*** (0.379)	0.341** (0.165)	4.940*** (1.238)	4.676*** (1.048)	0.362** (0.175)	4.832*** (1.216)	4.966*** (1.135)	0.348** (0.169)	4.637*** (1.174)	4.735*** (1.093)	0.354** (0.173)	4.344*** (1.111)	4.915*** (1.149)
Spain	0.432*** (0.099)	1.416 (0.333)	0.787 (0.155)	0.388*** (0.089)	1.281 (0.301)	0.757 (0.149)	0.726 (0.180)	1.843** (0.451)	1.158 (0.248)	0.619* (0.153)	1.622** (0.396)	1.037 (0.221)	0.699 (0.173)	1.839** (0.456)	1.153 (0.250)	1.600* (0.407)	(0.178)	1.293 (0.286)
Italy	0.141*** (0.066)	0.178*** (0.107)	0.119*** (0.062)	0.145*** (0.068)	0.208*** (0.125)	0.129*** (0.067)	0.054*** (0.027)	0.090*** (0.055)	0.047*** (0.025)	0.057*** (0.028)	0.109*** (0.067)	0.050*** (0.026)	0.051*** (0.025)	0.099*** (0.061)	0.045*** (0.024)	0.053*** (0.026)	0.093*** (0.057)	0.048*** (0.026)
Denmark	3.891*** (0.814)	22.035*** (4.698)	13.065*** (2.332)	3.681*** (0.759)	18.812*** (3.934)	11.675*** (2.043)	7.832*** (1.838)	32.593*** (7.484)	23.253*** (4.795)	7.004*** (1.618)	27.787*** (6.263)	20.808*** (4.214)	8.015*** (1.891)	32.288*** (7.447)	23.599*** (4.884)	7.508*** (1.796)	32.255*** (7.515)	24.064*** (5.054)
Belgium	0.654 (0.199)	2.073*** (0.581)	1.116 (0.285)	0.666 (0.202)	2.137*** (0.599)	1.227 (0.312)	0.408*** (0.136)	1.529 (0.449)	0.743 (0.204)	0.443** (0.146)	1.602 (0.471)	0.825 (0.226)	8.015*** (1.891)	1.452 (0.430)	0.759 (0.209)	0.406*** (0.135)	1.402 (0.416)	0.779 (0.216)
Constant	0.159*** (0.019)	0.061*** (0.010)	0.139*** (0.017)	0.164*** (0.019)	0.072*** (0.011)	0.168*** (0.019)	1.08e+09 (2.71e+10)	0.000 (0.002)	2.29e-39*** (5.68e-38)	5796766 (1.45e+08)	4.41e-08 (1.05e-06)	1.72e-40*** (4.27e-39)	1.06e+08 (2.65e+09)	4.68e-06 (0.000)	5.67e-39*** (1.41e-37)	5.21e+07 (9.34e-07)	3.88e-08 (1.31e+09)	3.49e-37*** (8.70e-36)
Observations	3,052			3,052			3,052			3,052			3,052			3,052		

Notes: The estimates present relative risk ratios and standard errors in brackets with "entitled" as base for the outcome variable. *p<0.1, **p<0.05, ***p<0.01.

Table 3. Relative risk ratio for retirement reasons (Scandinavian Males)

Depended Variable Base (Entitled)	(1)			(2)			(3)			(4)			(5)			(6)		
	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other
Tertiary	1.025 (0.250)	2.468*** (0.461)	1.032 (0.188)				0.189 (0.316)	2.509*** (0.478)	1.069 (0.213)				1.400 (0.389)	2.050*** (0.408)	0.983 (0.203)	1.411 (0.394)	2.050*** (0.413)	1.014 (0.212)
Skill *Ref. medium*																		
-very high				0.575** (0.140)	2.627*** (0.505)	1.351* (0.234)				0.578** (0.153)	2.559*** (0.499)	1.419* (0.272)	0.532** (0.145)	2.113*** (0.428)	1.421* (0.281)	0.587* (0.163)	2.380*** (0.498)	1.602** (0.326)
-high				0.344 (0.264)	1.316 (0.626)	1.041 (0.441)				0.315 (0.256)	1.366 (0.669)	0.979 (0.468)	0.301 (0.244)	1.366 (0.669)	0.945 (0.454)	0.324 (0.264)	1.420 (0.708)	0.944 (0.466)
-low				1.066 (0.421)	1.247 (0.468)	1.169 (0.375)				1.043 (0.456)	1.270 (0.489)	1.200 (0.433)	1.053 (0.462)	1.270 (0.489)	1.196 (0.432)	1.099 (0.485)	1.548 (0.605)	1.114 (0.408)
Cohabiting							1.069 (0.313)	1.465 (0.348)	1.167 (0.263)	1.106 (0.324)	1.479 (0.353)	1.162 (0.264)	1.088 (0.320)	1.432 (0.345)	1.146 (0.260)	1.069 (0.316)	1.411 (0.344)	1.160 (0.269)
Born in country							0.927 (0.448)	0.608 (0.255)	0.979 (0.360)	1.045 (0.512)	0.642 (0.266)	0.966 (0.360)	1.042 (0.510)	0.617 (0.260)	0.967 (0.360)	1.040 (0.513)	0.612 (0.262)	0.987 (0.373)
Tenure							0.992 (0.008)	0.995 (0.006)	0.993 (0.006)	0.993 (0.008)	0.994 (0.006)	0.993 (0.006)	0.993 (0.008)	0.995 (0.006)	0.992 (0.006)	0.992 (0.008)	0.992 (0.006)	0.996 (0.007)
Age at retirement							0.035*** (0.017)	0.162*** (0.075)	887.857*** (1379.615)	0.038*** (0.019)	0.174*** (0.079)	812.383*** (1249.538)	0.036*** (0.018)	0.157*** (0.073)	942.484*** (1469.399)	0.039*** (0.019)	0.178*** (0.081)	768.426*** (1217.532)
Age at retirement^2							1.024*** (0.004)	1.013*** (0.004)	0.943*** (0.012)	1.023*** (0.004)	1.012*** (0.004)	0.944*** (0.012)	1.023*** (0.004)	1.014*** (0.004)	0.943*** (0.011)	1.023*** (0.004)	1.012*** (0.003)	0.944*** (0.012)
Sector *Ref. private*																		
-public																0.712 (0.199)	0.822 (0.174)	0.435*** (0.090)
-self-employed																1.325 (0.441)	2.068*** (0.524)	0.416*** (0.132)
Country *Ref. Sweden*	3.022*** (0.705)	5.071*** (0.982)	4.900*** (0.856)	2.756*** (0.505)	4.789*** (0.905)	5.106*** (0.893)	3.269*** (0.836)	4.745*** (0.936)	3.753*** (0.746)	2.826*** (0.720)	4.312*** (0.836)	3.896*** (0.772)	3.034*** (0.794)	5.042*** (1.017)	3.892*** (0.790)	3.094*** (0.815)	4.935*** (1.009)	4.935*** (1.009)
Constant	0.176*** (0.029)	0.196*** (0.029)	0.349*** (0.043)	0.227*** (0.382)	0.167*** (0.029)	0.300*** (0.043)	8.61e+49*** (1.40e+51)	1.84e+26*** (2.82e+27)	2.42e-86*** (1.16e-84)	7.57e+48*** (1.22e+50)	1.67e+25** (2.52e+26)	3.90e-85*** (1.65e-83)	4.40e+49*** (7.20e+50)	3.78e+26*** (5.80e+27)	3.17e-87*** (1.53e-87)	5.75e+48*** (9.29e+49)	9.47e+24*** (1.43e+26)	2.97e-84*** (1.46e-82)
Observations	**1,049**			**1,049**			**1,049**			**1,049**			**1,049**			**1,049**		

Notes: The estimates present relative risk ratios and standard errors in brackets with "entitled" as base for the outcome variable. *p<0.1, **p<0.05, ***p<0.01.

Table 4. Relative risk ratio for retirement reasons (Western males)

Depended Variable Base (Entitled)	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other
		(1)			**(2)**			**(3)**			**(4)**			**(5)**			**(6)**	
Tertiary	0.514***	1.439	0.801*				0.650**	1.629**	1.010				0.649*	1.382	0.940	0.641**	1.420	0.967
	(0.096)	(0.327)	(0.099)				(0.129)	(0.375)	(0.148)				(0.145)	(0.346)	(0.150)	(0.144)	(0.365)	(0.156)
Skill *Ref. medium*																		
-very high				0.749	1.607**	1.075				0.894	1.607**	1.221	1.114	1.500	1.253	1.026	1.818**	1.363
				(0.166)	(0.379)	(0.157)				(0.209)	(0.407)	(0.211)	(0.291)	(0.386)	(0.232)	(0.280)	(0.496)	(0.262)
-high				0.612*	0.692	2.001***				0.580*	0.662	1.830***	0.620	0.627	1.852***	0.649	0.700	1.781
				(0.170)	(0.277)	(0.326)				(0.168)	(0.267)	(0.344)	(0.181)	(0.255)	(0.352)	(0.190)	(0.288)	(0.341)
-low				1.759*	0.549	1.070				1.640	0.576	1.152	1.484	0.622	1.132	1.661	0.865	1.058
				(0.659)	(0.413)	(0.358)				(0.670)	(0.440)	(0.434)	(0.610)	(0.475)	(0.430)	(0.696)	(0.668)	(0.403)
Cohabiting							1.163	1.183	1.240	1.167	1.175	1.201	1.163	1.166	1.205	1.181	1.267	1.217
							(0.280)	(0.355)	(0.235)	(0.283)	(0.354)	(0.229)	(0.282)	(0.351)	(0.230)	(0.289)	(0.390)	(0.235)
Born in country							0.790	0.263**	0.653*	0.719	0.277**	0.643*	0.759	0.269**	0.647*	0.756	0.294**	0.641*
							(0.212)	(0.139)	(0.146)	(0.283)	(0.146)	(0.146)	(0.208)	(0.142)	(0.147)	(0.209)	(0.156)	(0.147)
Tenure							0.994	1.002	1.008	0.996	0.999	1.007	0.995	0.999	1.007	0.994	0.998	1.008
							(0.007)	(0.008)	(0.005)	(0.007)	(0.008)	(0.005)	(0.007)	(0.008)	(0.006)	(0.006)	(0.008)	(0.006)
Age at retirement							0.614	0.200**	160.172***	0.572	0.204**	159.131***	0.563	0.201**	159.969***	0.829	0.291**	137.397***
							(0.688)	(0.132)	(158.474)	(0.641)	(0.134)	(158.46)	(0.634)	(0.133)	(159.380)	(0.948)	(0.197)	(138.586)
Age at retirement^2							1.001	1.012*	0.955***	1.002	1.012**	0.955***	1.002	1.012	0.955***	0.999	1.008	0.957***
							(0.009)	(0.005)	(0.008)	(0.009)	(0.005)	(0.008)	(0.009)	(0.009)	(0.008)	(0.009)	(0.005)	(0.008)
Sector *Ref. private*																		
-public																1.403	0.685	0.733*
																(0.317)	(0.215)	(0.127)
-self-employed																2.084**	3.798***	0.299***
																(0.645)	(1.052)	(0.108)
Country *Ref. Germany*																		
-Netherlands	0.325***	3.497***	2.686***	0.323***	3.124***	2.751***	0.455**	3.702***	4.171***	0.437**	3.310***	4.172***	0.437**	3.335***	4.183***	0.440**	2.628***	4.258***
	(0.103)	(0.871)	(0.000)	(0.102)	(0.796)	(0.395)	(0.148)	(0.946)	(0.734)	(0.144)	(0.863)	(0.752)	(0.144)	(0.867)	(0.755)	(0.147)	(0.714)	(0.786)
-Belgium	0.285***	1.949**	0.940	0.226***	2.013**	0.928*	0.192***	1.531	0.582**	0.154***	1.641*	0.586**	0.174***	1.517	0.598**	1.180***	1.341	0.605**
	(0.103)	(0.566)	(0.172)	(0.081)	(0.582)	(0.170)	(0.073)	(0.461)	(0.125)	(0.058)	(0.490)	(0.124)	(0.067)	(0.462)	(0.130)	(0.069)	(0.416)	(0.136)
Constant	0.320***	0.056***	0.425***	0.278***	0.063***	0.323***	2.39e+10	1.54e+22**	9.18e-62***	5.54e+11	2.26e+22**	9.53e-62***	3.65e+11	1.88e+22**	4.183***	3196627	4.94e+17*	7.83e-60***
	(0.036)	(0.012)	(0.041)	(0.033)	(0.013)	(0.033)	(8.09e+11)	(3.18e+23)	(2.75e-60)	(8.63e+12)	(2.61e+23)	(2.87e-60)	(1.25e+13)	(3.88e+23)	(0.755)	(1.11e+08)	(1.05e+19)	(2.39e-58)
Observations		**1,534**			**1,534**			**1,534**			**1,534**			**1,534**			**1,534**	

Notes: The estimates present relative risk ratios and standard errors in brackets with "entitled" as base for the outcome variable. *p<0.1, **p<0.05, ***p<0.01

Table 5. Relative risk ratio for retirement reasons (Southern males)

Depended Variable Base (Entitled)	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other
	(1)			**(2)**			**(3)**			**(4)**			**(5)**			**(6)**		
Tertiary	0.628 (0.290)	3.879*** (0.219)	2.449*** (0.720)				0.725 (0.347)	4.135*** (1.504)	2.772*** (0.903)				0.984 (0.501)	3.133** (1.483)	2.272** (0.880)	0.999 (0.508)	3.037** (1.472)	2.108* (0.855)
Skill *Ref. medium*																		
-very high				0.237 (0.242)	3.747*** (1.483)	1.943* (0.666)				0.246 (0.255)	3.734*** (1.492)	2.023* (0.761)	0.241 (0.257)	1.846 (0.942)	1.249 (0.560)	0.322 (0.250)	1.778 (0.931)	1.334 (0.632)
-high				0.985 (0.486)	1.220 (0.683)	1.459 (0.524)				0.753 (0.382)	1.306 (0.741)	1.089 (0.413)	0.749 (0.382)	0.993 (0.584)	0.951 (0.368)	0.794 (0.498)	0.951 (0.563)	0.900 (0.356)
-low				1.397 (0.486)	1.248 (0.557)	0.388** (0.186)				1.217 (0.450)	1.383 (0.626)	0.372** (0.185)	1.214 (0.451)	1.438 (0.653)	0.382* (0.190)	1.235 (0.462)	1.332 (0.611)	0.354 (0.177)
Cohabiting							1.896 (1.032)	1.377 (0.752)	1.188 (0.471)	1.943 (1.063)	1.298 (0.707)	1.104 (0.439)	1.957 (1.072)	1.322 (0.724)	1.127 (0.449)	1.992 (1.093)	1.306 (0.715)	1.060 (0.428)
Born in country							1.18e-07 (0.000)	0.707 (0.570)	0.216 (0.231)	3.66e-07 (0.000)	1.260 (0.992)	0.313 (0.333)	9.30e-08 (0.000)	0.777 (0.631)	0.226 (0.242)	3.36e-08 (0.000)	0.807 (0.658)	0.281 (0.305)
Tenure							0.961*** (0.011)	1.016 (0.013)	0.981** (0.009)	0.962*** (0.011)	1.017 (0.013)	0.979** (0.009)	0.962*** (0.011)	1.017 (1.013)	0.979** (0.009)	0.963*** (0.011)	1.018 (0.014)	0.986 (0.010)
Age at retirement							1.321 (2.033)	1.104 (1.485)	15.037* (25.762)	1.222 (1.885)	0.922 (1.164)	14.051** (22.554)	1.245 (1.926)	1.039 (1.395)	11.869 (19.049)	1.285 (2.009)	0.998 (1.335)	5.295 (8.560)
Age at retirement^2							0.995 (0.013)	0.999 (0.011)	0.976* (0.013)	0.996 (0.013)	1.001 (1.010)	0.976* (0.013)	0.996 (0.013)	1.000 (0.011)	0.977* (0.013)	0.996 (0.013)	1.000 (0.010)	0.984 (0.013)
Sector *Ref. private*																		
-public																0.654 (0.370)	1.433 (0.707)	0.924 (0.377)
-self-employed																1.027 (0.411)	0.782 (0.306)	0.187*** (0.101)
Country *Ref. Spain*	0.584 (0.219)	7.88e-08 (0.000)	0.041*** (0.030)	0.505* (0.181)	4.02e-07*** (0.000)	0.058*** (0.042)	0.238*** (0.106)	5.69e-08 (0.000)	0.015*** (0.012)	0.208*** (0.088)	3.14e-07 (0.000)	0.024*** (0.018)	0.209*** (0095)	5.44e-08 (0.000)	0.017*** (0.013)	0.214*** (0.097)	1.97e-08 (0.000)	0.016*** (0.012)
Constant	0.077*** (0.012)	0.058*** (0.011)	0.116*** (0.016)	0.074*** (0.014)	0.058*** (0.013)	0.131*** (0.019)	0.307 (14.377)	0.000 (0.020)	5.94e-33 (2.86e-31)	3.681 (172.701)	0.132 (5.321)	6.01e-32 (2.95e-30)	2.082 (97.909)	0.003 (0.137)	9.74e-30 (4.78e-28)	0.850 (40.470)	0.008 (0.349)	3.01e-19 (1.49e-17)
Observations	**1,041**			**1,041**			**1,041**			**1,041**			**1,041**			**1,041**		

Notes: The estimates present relative risk ratios and standard errors in brackets with "entitled" as base for the outcome variable. *p<0.1, **p<0.05, ***p<0.01

Appendix G Regression table relative risk ratio, Scandinavian females

Table 6. Relative risk ratio for retirement reasons (Scandinavian females)

Depended Variable Base (Entitled)	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other
		(1)			(2)			(3)			(4)			(5)			(6)	
Tertiary	1.043 (0.221)	1.506** (0.280)	1.332 (0.251)				1.321 (0.320)	1.590** (0.323)	1.547** (0.339)				1.388 (0.348)	1.390 (0.292)	1.677** (0.381)	1.409 (0.353)	1.401 (0.294)	1.650** (0.376)
Skill *Ref. medium*																		
-very high				1.044 (0.245)	1.890*** (0.364)	0.868 (0.187)				1.050 (0.278)	1.849*** (0.389)	0.848 (0.208)	0.985 (0.267)	1.735** (0.374)	0.759 (0.190)	1.004 (0.276)	1.883*** (0.416)	0.860 (0.221)
-high				0.830 (0.429)	0.989 (0.440)	1.106 (0.451)				1.286 (0.724)	1.236 (0.583)	1.510 (0.721)	1.202 (0.680)	1.153 (0.545)	1.366 (0.654)	1.264 (0.719)	1.277 (0.610)	1.455 (0.707)
-low				1.864 (0.705)	0.806 (0.329)	1.396 (0.474)				1.670 (0.762)	0.824 (0.370)	1.249 (0.519)	1.836 (0.831)	0.891 (0.403)	1.385 (0.583)	1.925 (0.869)	0.881 (0.398)	1.274 (0.542)
Cohabiting							1.162 (0.275)	1.683** (0.340)	1.086 (0.227)	1.183 (0.280)	1.717*** (0.349)	1.094 (0.229)	1.176 (0.279)	1.709*** (0.348)	1.087 (0.229)	1.161 (0.276)	1.736*** (0.356)	1.148 (0.244)
Born in country							1.126 (0.493)	0.569 (0.262)	0.430 (0.222)	1.135 (0.494)	0.555 (0.257)	0.435 (0.223)	1.149 (0.502)	0.563 (0.261)	0.436 (0.225)	1.172 (0.514)	0.548 (0.256)	0.399* (0.208)
Tenure							0.992 (0.009)	1.009 (0.007)	0.995 (0.007)	0.993 (0.009)	1.008 (0.007)	0.997 (0.008)	0.992 (0.009)	1.007 (0.007)	0.996 (0.008)	0.992 (0.009)	1.008 (0.007)	0.999 (0.008)
Age at retirement							14.717 (31.535)	1.429 (2.636)	543.930*** (1161.215)	19.322 (41.239)	1.742 (3.193)	726.063*** (1544.182)	15.758 (33.836)	1.414 (2.606)	564.964*** (1209.18)	18.274 (39.685)	1.957 (3.660)	596.499*** (1287.214)
Age at retirement^2							0.973 (0017)	0.994 (0.015)	0.945*** (0.016)	0.971* (0.017)	0.992 (0.014)	0.943*** (0.016)	0.973 (0.017)	0.994 (0.015)	0.945*** (0.016)	0.972* (0.017)	0.991 (0.015)	0.945*** (0.016)
Sector *Ref. private*																		
-public																0.943 (0.237)	0.664* (0.139)	0.571*** (0.123)
-self-employed																1.312 (0.683)	0.968 (0.397)	0.192*** (0.122)
Country *Ref. Sweden*	2.411*** (0.544)	5.104*** (0.992)	7.149*** (1.371)	2.268*** (0.261)	5.071*** (0.945)	6.082*** (1.098)	1.414 (0.380)	3.740*** (0.824)	3.767*** (0.879)	1.236 (0.323)	3.622*** (0.766)	3.094*** (0.687)	1.388 (0.379)	4.074*** (0.915)	3.686*** (0.871)	1.343 (0.368)	3.966*** (0.893)	3.763*** (0.892)
Constant	0.263*** (0.041)	0.272*** (0.041)	0.258*** (0.039)	0.261*** (0.037)	0.270*** (0.037)	0.307*** (0.040)	4.42e-28 (2.94e-26)	4.921 (285.092)	1.16e-76*** (7.74e-75)	9.00e-32 (5.97e-30)	0.009 (0.504)	1.50e-80*** (9.91e-79)	5.11e-29 (3.41e-27)	5.823 (337.036)	3.71e-77*** (2.47e-75)	5.87e-31 (3.96e-29)	0.000 (0.018)	8.62e-78*** (5.80e-76)
Observations		**1,091**			**1,091**			**1,091**			**1,091**			**1,091**			**1,091**	

Notes: The estimates present relative risk ratios and standard errors in brackets with "entitled" as base for the outcome variable. *p<0.1, **p<0.05, ***p<0.01

Appendix H Regression table relative risk ratio, Western females

Table 7. Relative risk ratio for retirement reasons (Western Females)

Depended Variable Base (Entitled)	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other
	(1)			(2)			(3)			(4)			(5)			(6)		
Tertiary	1.612**	2.024***	1.541**				1.950***	1.930***	1.395*				2.167***	1.880***	1.394	2.054***	2.069***	1.317
	(0.319)	(0.428)	(0.263)				(0.422)	(0.428)	(0.275)				(0.509)	(0.447)	(0.295)	(0.490)	(0.508)	(0.283)
Skill *Ref. medium*																		
-very high				1.777**	1.327	1.327				1.531	1.604*	0.800	1.164	1.299	0.704	0.940	1.340	0.653
				(0.463)	(0.292)	(0.292)				(0.438)	(0.411)	(0.204)	(0.347)	(0.348)	(0.188)	(0.293)	(0.350)	(0.179)
-high				0.449	1.799	1.799				0.397	0.284	1.331	0.302	0.229	1.190	0.271*	0.236	1.119
				(0.332)	(0.685)	(0.685)				(0.302)	(0.294)	(0.578)	(0.233)	(0.238)	(0.525)	(0.211)	(0.246)	(0.500)
-low				1.343	0.452**	0.452**				1.311	0.835	0.499*	1.596	0.991	0.542	1.605	1.055	0.547
				(0.356)	(0.157)	(0.157)				(0.381)	(0.322)	(0.187)	(0.480)	(0.389)	(0.206)	(0.487)	(0.419)	(0.209)
Cohabiting							1.347	1.627*	1.128	1.424	1.724**	1.149	1.396	1.626*	1.125	1.399	1.681**	1.112
							(0.308)	(0.405)	(0.231)	(0.327)	(0.427)	(0.235)	(0.322)	(0.406)	(0.231)	(0.325)	(0.425)	(0.229)
Born in country							0.937	0.885	0.830	0.847	0.848	0.917	0.857	0.847	0.915	0.842	0.876	0.890
							(0.282)	(0.306)	(0.251)	(0.259)	(0.296)	(0.280)	(0.262)	(0.296)	(0.279)	(0.259)	(0.310)	(0.272)
Tenure							0.983**	1.006	1.031***	0.985*	1.007	1.032***	0.984*	1.005	1.032***	0.980	0.999	1.031***
							(0.008)	(0.009)	(0.008)	(0.008)	(0.009)	(0.008)	(0.009)	(0.009)	(0.008)	(0.259)	(0.009)	(0.008)
Age at retirement							3.196	4.770	77.046***	3.852	6.274	78.597***	3.659	5.061	71.255***	3.594	8.050	51.246***
							(4.371)	(6.450)	(101.806)	(5.228)	(8.482)	(103.751)	(5.028)	(6.866)	(94.377)	(0.498)	(11.276)	(67.768)
Age at retirement^2							0.987	0.985	0.961***	0.986	0.983	0.961***	0.986	0.985	0.962***	0.986	0.981*	0.964***
							(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Sector *Ref. private*																		
-public																1.790**	4.672***	1.262
																(0.431)	(1.344)	(0.280)
-self-employed																1.234	1.381	0.505
																(0.644)	(0.425)	(0.260)
Country *Ref. Germany*																		
-Netherlands	*0.168***	*2.867***	1.920***	0.169***	1.881***	1.881***	0.365**	5.545***	6.300***	0.376**	5.366***	6.715***	0.354**	5.092***	6.578***	0.398*	4.672***	7.047***
	(0.079)	*(0.674)*	(0.373)	(0.079)	(0.371)	(0.371)	(0.180)	(1.522)	(1.652)	(0.186)	(1.487)	(1.770)	(0.176)	(1.417)	(1.756)	(0.199)	(1.344)	(1.916)
-Belgium	*0.623*	*2.044**	1.109	0.633	1.207	1.207	0.433**	1.553	0.648	0.473**	1.670*	0.716	0.415***	1.493	0.675	0.450**	1.381	0.704
	(0.191)	*(0.577)*	(0.285)	(0.194)	(0.310)	(0.310)	(0.145)	(0.465)	(0.185)	(0.157)	(0.499)	(0.205)	(0.140)	(0.451)	(0.195)	(0.154)	(0.425)	(0.206)
Constant	0.146***	0.060***	0.139***	0.158***	0.167***	0.167***	3.20e-11	4.09e-19	1.26e-52***	7.74e-14	8.64e-23	7.90e-53***	4.57e-13	6.25e-20	1.67e-51***	6.14e-13	6.60e-26	2.62e-47***
	(0.020)	(0.011)	(0.018)	(0.021)	(0.021)	(0.021)	(1.31e-09)	(1.68e-17)	(4.98e-51)	(3.15e-12)	(3.54e-21)	(3.13e-51)	(1.89e-11)	(2.57e-18)	(6.63e-50)	(2.55e-11)	(2.81e-24)	(1.04e-45)
Observations	**1,263**			**1,263**			**1,263**			**1,263**			**1,263**			**1,263**		

Notes: The estimates present relative risk ratios and standard errors in brackets with "entitled" as base for the outcome variable. *p<0.1, **p<0.05, ***p<0.01.

Table 8. Relative risk ratio for retirement reasons (Southern females)

Depended Variable Base (Entitled)	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other	Illness	Leisure	Other
		(1)			(2)			(3)			(4)			(5)			(6)	
Tertiary	0.814	4.214***	1.778				1.157	4.964***	2.161*				0.787	4.015**	2.359	0.922	3.997**	1.910
	(0.474)	(1.635)	(0.741)				(0.751)	(2.152)	(0.961)				(0.530)	(2.196)	(1.246)	(0.632)	(2.257)	(1.031)
Skill *Ref. medium*																		
-very high				0.967	5.243***	0.731				1.801	5.914***	1.109	2.009	2.979*	0.734	2.092	2.349	0.683
				(0.747)	(2.606)	(0.465)				(1.436)	(3.040)	(0.724)	(1.684)	(1.783)	(0.527)	(1.776)	(1.476)	(0.519)
-high				2.124	2.880	0.714				2.279	2.896	0.802	2.430	1.365	0.518	2.832	1.093	0.427
				(1.414)	(1.977)	(0.547)				(1.649)	(2.039)	(0.627)	(1.869)	(1.062)	(0.435)	(2.233)	(0.882)	(0.368)
-low				0.875	1.889	0.482**				0.853	1.944*	0.588	0.842	2.150*	0.622	0.877	2.293**	0.577
				(0.361)	(0.749)	(0.176)				(0.372)	(0.782)	(0.222)	(0.368)	(0.880)	(0.236)	(0.387)	(0.952)	(0.223)
Cohabiting							1.753	1.255	1.077	1.842	1.249	1.120	1.821	1.235	1.091	1.803	1.230	1.085
							(0.780)	(0.474)	(0.365)	(0.830)	(0.470)	(0.381)	(0.819)	(0.469)	(0.373)	(0.814)	(0.470)	(0.374)
Born in country							3.26e-07	0.669	2.31e-07	4.03e-07	1.235	4.36e-07	2.19e-07	0.730	1.89e-07	3.92e-07*	0.814	3.22e-07
							(0.000)	(0.503)	(0.000)	(0.000)	(0.882)	(0.000)	(0.000)	(0.544)	(0.000)	(0.000)	(0.605)	(0.000)
Tenure							0.976	0.978*	1.001	0.975*	0.981	1.002	0.976*	0.978	1.000	0.973*	0.972**	1.010
							(0.014)	(0.013)	(0.012)	(0.014)	(0.013)	(0.012)	(0.014)	(0.013)	(0.012)	(0.015)	(0.014)	(0.013)
Age at retirement							0.018***	0.739	0.166	0.018***	0.878	0.163	0.018***	0.700	0.162	0.018***	0.667	0.156
							(0.015)	(0.973)	(0.196)	(0.015)	(1.183)	(0.192)	(0.016)	(0.949)	(0.193)	(0.016)	(0.920)	(0.183)
Age at retirement^2							1.031***	1.002	1.013	1.031***	1.001	1.013	1.031***	1.002	1.013	1.031***	1.003	1.014
							(0.008)	(0.010)	(0.10)	(0.007)	(0.011)	(0.010)	(0.007)	(0.011)	(0.010)	(0.007)	(0.011)	(0.010)
Sector *Ref. private*																		
-public																0.679	2.332	1.046
																(0.569)	(1.312)	(0.574)
-self-employed																1.534	1.454	0.331**
																(0.699)	(0.627)	(0.162)
Country *Ref. Spain*	*0.387**	*0.087***	0.141***	0.360**	0.189***	0.160***	0.124***	0.072***	0.050***	0.137***	0.170***	0.068***	0.142***	0.090***	0.047***	0.139***	0.084***	0.048***
	(0.204)	*(0.055)*	(0.079)	(0.180)	(0.116)	(0.085)	(0.078)	(0.050)	(0.031)	(0.077)	(0.111)	(0.040)	(0.088)	(0.065)	(0.030)	(0.088)	(0.061)	(0.031)
Constant	0.072***	0.073***	0.108***	0.071***	0.055***	0.150***	7.85e+55***	5536.791	1.42e+26*	9.85e+55***	28.439	2.21e+26*	7.16e+55***	40924.02	2.56e+26	1.12e+56***	181739.3	3.84e+26*
	(0.015)	(0.015)	(0.018)	(0.019)	(0.017)	(0.030)	(2.10e+55)	(228964.3)	(5.19e+27)	(2.73e+57)	(1200.725)	(8.10e+27)	(1.99e+57)	(1740201)	(9.47e+27)	(3.12e+57)	(7858625)	(1.40e+28)
Observations		694			694			694			694			694			694	

Notes: The estimates present relative risk ratios and standard errors in brackets with "entitled" as base for the outcome variable. *p<0.1, **p<0.05, ***p<0.01.