PRECARIOUS WORK AND HEALTH IN WOMEN AND MEN IN EUROPE

An analysis of the fifth European Working Conditions survey.

MALIN JOHANSSON
ABSTRACT

Background: Changes in the global labour market and the new economy has resulted in people finding themselves in precarious employment, especially people with a low socioeconomic position. The class of the precariat are people who have neglected beneficial rights, and if their work life does not improve, it can have an impact on their own health, as well as the overall society leading to higher levels of inequality around the world.

Methods: The study is based on data from the 5th European Survey on Working Conditions (EWCS) from 2010. In this thesis, the included sample size is 18 229 women and 19 968 men, nested in 34 countries, in ages of 15 to 91. This thesis is a cross-sectional study where the aim is to assess the association between precarious work and health in relation to gender. The degree of precariousness was defined in three levels: low, medium and high. Using descriptive analyses, logistic regression analyses and an interaction analysis the association between precarious work, gender and self-rated health was examined.

Results: The distribution of precarious work among gender displays that the difference in proportions comparing women and men are statistically significant (p<0.05) at all levels of precarious work, where women have lower levels of precarious work than men. Analyses with the multiple logistic regression indicate that high level-precarious work was significantly associated with having less than good self-rated health (OR=1.41, 95% CI 1.26-1.58). The interaction analysis indicated that the association between precarious work and self-rated health does not differ between women and men.

Conclusion: Men have higher levels of precarious work. Precarious work is associated with having less than good-self rated health. However, there are no differences between gender, in the association between precarious work and less than good self-rated health.

Keywords: Education, Europe, Fifth European Working Conditions survey, Men, Precarious work, Self-rated health, Women.
# TABLE OF CONTENTS

1 INTRODUCTION ........................................................................................................... 1

2 BACKGROUND ............................................................................................................. 1

  2.1 Health ....................................................................................................................... 1

    2.1.1 Self-rated health ............................................................................................... 2

    2.1.2 The social gradient of health ........................................................................... 2

  2.2 Precariat ................................................................................................................... 4

    2.2.1 Three dimensions of the precariat .................................................................... 4

  2.3 Previous research .................................................................................................... 5

3 AIM AND RESEARCH QUESTION .............................................................................. 6

4 METHOD ...................................................................................................................... 6

  4.1 Data .......................................................................................................................... 6

  4.2 Measures ................................................................................................................. 7

    4.2.1 Outcome variable Self-rated health ............................................................... 7

    4.2.2 Precarious work .............................................................................................. 7

    4.2.3 Control variables ............................................................................................. 8

  4.3 Ethics ....................................................................................................................... 9

  4.4 Statistical analyses ................................................................................................. 9

5 RESULT ....................................................................................................................... 10

  5.1 Precarious work and gender .................................................................................. 10

    5.1.1 Self-rated health, precarious work and gender ............................................. 11

    5.1.2 Association between precarious work and self-rated health ..................... 12

6 DISCUSSION ............................................................................................................... 14

  6.1 Precarious work, gender, and self-rated health .................................................... 14

    6.1.1 Findings in relation to other studies and possible mechanisms .................. 14

    6.1.2 Contributions of findings ............................................................................... 15

  6.2 Strengths and limitations ...................................................................................... 15

    6.2.1 Limitations of secondary data ....................................................................... 16
1 INTRODUCTION

The restructuring of national economies and globalisation of labour markets and products has resulted in companies to seek higher levels of flexibility (Kalleberg, 2000, Vallas, 2015). Guy Standing (2011) highlights that the global capital wants a flexible and adaptive labour force that they can use and abuse. This has resulted in a higher level of labour insecurity which has manifested as a new class of precarious workers. The class of precarity, which are people working under unstable working conditions, whom rarely receive social benefits and are denied the right to join unions. The precarity class affects both the financial and psychological welfare of a country and the consequences of precarious work are severe and widespread (Standing, 2011; Quinlan, Mayhew & Bohle, 2001). Guy Standing (2011) implies that these unsecure conditions make people seek security elsewhere, e.g. in extreme left or right political parties. Precarious workers tend to seek political refuge in populistic conservative parties that propagate messages confirming their worldview, as established parties might not satisfy their beliefs (Standing, 2011). Precarious workers are more exposed to unhealthy and unsafe employment standards, including factors such as hazard exposure, and precarious workers have a higher risk of mortality and mental health morbidity (Marmot et al., 2008; Quinlan et al., 2001). The general objective of this thesis is to empirically study the association between precarious work and self-rated health in relation to gender using EWCS from 2010.

2 BACKGROUND

2.1 Health

The World Health Organization [WHO] defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (WHO, 1948, pp. 100). WHO (1998) highlights that health is a fundamental human right, and all individuals must have access to the same basic resources to achieve good health. WHO (2018) also states that health can be influenced by a variety of factors and can affect the quality of life. The social determinants of health highlight the aspect that individuals’ and community’s health is affected by the way we live, genetics, our income, educational level, the state of our environment, and relationships with family and friends (Dahlgren & Whitehead, 1991). According to the social determinants of health higher level of education is linked to improved health. There is also evidence that people with employment and employees that can influence their occupation are healthier (WHO, 2018).
2.1.1 Self-rated health

The definition of health from WHO can be difficult to operationalize (Wikman, Marklund & Alexandersson, 2005). Some researchers use self-rated health to assess how individuals experience their general health conditions. Self-rated health has also been used as a predictor for mortality combined with other health status indicators. Self-rated health measures people’s present health using the respondent’s own experiences. Thus, it is subjective, and it is related to people’s own assessments and definition of health (Wikman et al., 2005; Idler & Benyamini, 1997).

Self-rated health provides a direct, simple and global way of capturing different perceptions of health using inclusive and broad criteria’s (Wikman et al., 2005; Idler & Benyamini, 1997). However, some authors have argued that it is important to note that there is no direct objective measure of self-rated health, which would indicate that there are no clear criteria for the validity of self-rated health (Jylhä, 2009). Jylhä (2009, pp. 314) proposes that:

(1) Self-ratings of health are produced in a cognitive process that is inherently subjective and contextual, and (2) the basis of self-rated health lies in the biological and physiological state of the individual organism, and this explains its association with mortality.

Idler and Benyamini (1997) imply that self-rated health represents a measurement that is valuable when assessing health status. In terms of global health ratings, the respondents' view of global health status provides information about health in a unique way. Self-rated global health ratings are an irreplaceable dimension were individual’s health could not be assessed without using a subjective measure (Idler & Benyamini, 1997). Differences between gender indicate that women tend to report lower levels of self-rated health as compared to men. There is also an indication that people with a high level of education, e.g. university degree, report higher level of self-rated health than compared to those with a lower level of education (Wikman et al., 2005).

2.1.2 The social gradient of health

Health is not equally distributed in the population, and health has a social gradient found in all societies affecting all people (Ruger & Kim, 2006). The social gradient of health is a global phenomenon, seen in low, middle and high-income countries. Marmot (2015) implies that differences in health are not only related to financial aspects, it is also related to the access of social determinants, e.g. employment security and early childhood education. Implications are that groups with higher socioeconomic position have greater health status or higher levels of improvement in health, as compared to those groups with a lower socioeconomic position. The gradient can be pictured as a ladder, where health declines for each step down and improves for each step up. Groups with the lowest socioeconomic position have poorer health compared to groups with higher socioeconomic position (Marmot et al., 2012; Marmot et al., 2008). Marmot et al. (2008) apply a holistic view in terms of the social determinants of health and the social gradient. Implications are that health inequities between and within countries are caused by the unequal distribution of power, goods, income, and services on
both national and global levels. These factors have different impacts on people's lives in terms of access to health care, education, working conditions and their chances of having a flourishing life. The unequal distribution of health is not a natural phenomenon, it is results from a toxic and unfair combination of economic arrangements, poor social programmes, ill policies, and unfair politics. The combination of the daily living conditions and the distribution of health determinants constitute the social determinants of health, which are responsible for a major proportion of the health inequities within and between countries (Marmot et al., 2008).

The socioeconomic position is related to people's level of education, income, social class, occupation, and residential area. A person with a higher socioeconomic position, e.g. higher level of education, has progressively better health than those people with a lower socioeconomic position, e.g. lower level of education (Marmot et al., 2012). The association between socioeconomic position and health has been described as the reason for why individuals with low or no economic security have a higher mortality rate (WHO, 2008). Marmot et al. (2008) imply that education is needed to have the chance to achieve good health. The importance of education can be exemplified by children having access to good education so that they later in life have the same employment opportunities as their peers (Marmot et al., 2008). It is important to improve conditions in everyday life, such as employment conditions, to minimize health inequalities that exist around the world (WHO, 2008).

Different employment opportunities and occupational securities are related to the social determinants of health. In Europe, which has been influenced by global trends, the proportion indefinite employment contract has decreased in most countries and has been replaced by alternative employment contracts, e.g. fixed-term contract (Benach et al., 2007). These alternative contracts have increased dramatically which creates employment insecurities. Which also results in negative health consequences (Benach & Muntaner, 2011). In terms of the social gradient, a person with a high level of education with a fixed-term contract could be affected differently than a person with a lower level of education with a fixed-term contract. Aspects such as work security could be one of the indicators that could contribute to whether a person is negatively affected by what type of employment form the person has. A person with a high level of education with a fixed-term contract could still feel secure and have a good health because of the occupational security, while a person with a lower or no education could experience the opposite. In these aspects, the high-level educated person has a higher socioeconomic position with better health while the person with low or no education has a low socioeconomic position. Indicating that the type of employment and employment stability the person has affects the individual personal health in different ways (Benach et al., 2014; Benach & Muntaner, 2011). There is evidence that occupational conditions are one of the causes of health inequalities (Benach et al., 2014). Unsecure employment, such as precarious employment has been identified as an emerging social determinant of ill health (Pförtner, 2017).
2.2 Precariat

A global transformation is taking place and the new global economy has given rise to a new social class, the precariat. The sociologist Guy Standing (2011), who has developed the theoretical concept and perspectives of precarious work, states that the group of precariat are victims of the neoliberal revolution and globalization. The group of workers that constitute the new global class consist of casual workers, temporary workers and the working poor. The precariat is dominated by women, young people, old people, less educated people and migrants. Standing (2011) emphasises that women, mostly part-time workers, are more exploited than men. The reason why women are more exploited is because they conduct more uncompensated work outside of their main paid working hours, which could lead to ill health. Standing (2011) describes four different types of people in the precariat in terms of gender: 1) women who have partners in the salariat and treat work as a sideline 2) women who are single breadwinners, having triple burden of caring for children and elderly relatives while in need to having a paid job 3) men who have partners that make a reasonable income 4) male single earners that are only capable of obtaining a precariat job. Educated people are also included in the precariat, these people do not get employed in their line of education. This could be people that have obtained a relatively high level of education that need to accept a job that is what they believe is lower than their potential and qualifications, which could lead to the feeling of frustration (Standing, 2011). Implications are that people in the precariat will not only have neglected beneficial rights that will affect their own health, but precarious workers will also have an impact of the overall society if their collective rights within workplaces and in life do not improve. If these factors are not addressed, implications are that more people will become precarious employees, leading to higher levels of health inequalities globally (Standing, 2011, Quinlan et al., 2001, Marmot et al., 2008).

2.2.1 Three dimensions of the precariat

The precariat has been described by Guy Standing (2011) in three theoretical dimensions. The first dimension highlights the aspect that the precariat has a distinctive relation to production. This means that people in the precariat are being habituated to accept the life of unstable labour, such as zero-hour contracts, which result in unsecure living (Standing, 2011). The crowd labour is a term that describes a form of rapid labour transaction, this form of labour has increased globally, resulting in people being dependent contractors. This means that people are not employees nor self-employed. They are “taskers”, contracted to perform a task and whether the labour broker believes they performed adequate work or are polite enough, the taskers get paid. This could lead to a constant stress over the fact that they any day can go without pay or be replaced (Standing, 2011). Kalleberg (2009) emphasise that unsecure employments can create consequences for people, lack of security and the nature of work can generate high levels of stress that in the long run can lead to ill health. Therefore, it is important to understand how unsecure employments arrangements can generate insecurity and precarious work (Kalleberg, 2009). One approach that some labour brokers use to lower wages is to announce tasks online. This leads to people bidding down the wages to receive a task opportunity, and the person who can work for the lowest amount of salary usually gets the prospected task (Standing, 2011).
The second dimension emphasises that people in the precariat have no occupational identity, which could lead to one of the precarity traps, such as the poverty trap. A poverty trap means that people, to get financial support from the authorities, need to prove that they need financial support and are a deserving poor. To get different entitlement to a means-tested benefit, a certain level of needs must be achieved. There is a long bureaucratic process to being entitled mean-tested benefits, which will inhibit an individual who is working temporary employment to receive the entitlement. Once an individual receives entitlement they might be contracted for a new task, leading to them needing to wait months to receive benefits entitlements again (Standing, 2011). The third dimension of the precariat describes that the class of the precariat are having their civil and social rights taken away from them. Standing (2011) states that they are left out from the occupational community and they are losing their cultural rights since they can’t join the culture in the occupational community.

2.3 Previous research

Marmot et al. (2008) describe that low living standards are a powerful social determinant of health inequalities. Standing (2011) emphasise that people in the precariat are among those who have a low living standard. Marmot et al. (2008) accentuate the importance of protecting all workers and to reduce all negative effects of unsecure employment for people in the precariat. Social protection is needed and should be extended to all people with precarious work, these kinds of protections can reduce the risk of poverty (Marmot et al., 2008). Canivet et al. (2016) emphasise that precarious work can affect people’s mental health negatively. The study found that an unsecure employment situation is a predictor for poor mental health. Marmot et al. (2008) reinforce that statement when describing that poor mental health is associated with precarious work. Van Aerden et al. (2016) study indicate that European wage workers, in terms of de-standardized flexible employment, is related to lower general and mental health as well as lower job satisfaction. Alali et al. (2017) emphasise that precarious employment, in terms of non-standardized work arrangements in Belgium, is a serious threat to workers health and safety. One aspect that was highlighted in the study conducted by Van Aerden et al. (2016) and Holman (2013) was that the quality of the employment is an important factor that influences the social determinants of health. Interpretations are that the association between social/material deprivation and low employment quality could also result in poor health and poorer well-being, because it may hinder health-promoting effects, e.g. social protection (Scott-Marshall and Tompa, 2011). The general assumptions are that precarious work can lead to increased ill health and poverty for the person in the precariat (European Institute for Gender Equality [EIGE], 2017). It is important to examine the association between health and different work characteristics since different types of employment can result in long-term health consequences for workers (Scott-Marshall & Tompa 2011; Caldbick et al., 2014).

Previous findings indicate that women have higher levels of unsecure employment compared to men (Van Aerden et al., 2016). Coupaud (2017) and Puig-Barrachina et al. (2014) confirms the aspect of gender inequalities when describing that health inequalities in work are related to vulnerable employees (especially women and lower-income groups). Results show that
there are inequalities in relation to work, e.g. income, education and health aspects between women and men (Coupaud, 2017). For instance, previous studies display that negative health effects of precarious work in Europe are more pronounced among women compared to men which could be related to the obtained level of education (EIGE, 2017). Quan (2017) describes that millions of women, immigrants and other minorities with socially and economically disadvantaged employments are at risk to get trapped in unsecure employment. According to some authors, there is a need for further studies to examine the association between self-rated health, precarious work and gender (Scott-Marshall & Tompa, 2011).

3 AIM AND RESEARCH QUESTION

The aim of the thesis is to assess the association between precarious work and health in relation to gender.

Research objectives:

- To describe the distribution of precarious work among women and men; do men or women have more precarious work?
- To analyse the association between precarious work and health in women and men.

4 METHOD

4.1 Data

Data was collected from the 5th European Survey on Working Conditions (EWCS) from 2010. The European Foundation conducts surveys every fifth year for the Improvement of Living and Working Conditions. The surveys examine employment and working conditions and have been conducted five times between the years of 1990 and 2010. In the 5th survey of 2010, data about precarious work was assembled. Data from the survey of 2010 (5th survey) were collected from 34 countries and is sampled to be representative of inhabitants from the age of 15 and older. In every participating country a multistage, stratified random sampling method was used and face to face interviews was conducted in respondent’s homes which took about 44 minutes. One of the purposes of the 5th European survey is to examine precarious work (EWCS, 2010). After list-wise deletion in the including variables, the remaining sample size was 18,229 women and 19,968 men, nested in 34 countries, in ages of 15 to 91.
4.2 Measures

4.2.1 Outcome variable Self-rated health

The outcome variable is *self-rated health*. Self-rated health contained of five categorical levels, which were *very good, good, fair, bad and very bad*. To make the outcome variable dichotomous, self-rated health was recoded into two categorical levels. Very good and good health were recoded into *good health* and fair, bad and very bad health were recoded into *less than good health*.

4.2.2 Precarious work

One aspect that has been highlighted by previous researcher is that what kind of employment a person has is crucial when it comes to identifying precarious work (Vosko, 2006). However, it is important to take into consideration that precarious work does not have a universally accepted definition in Europe (Broughton et al., 2016; European Parliament, 2016). One suggestion of a conceptual framework for precarious employment is formed by Olsthoorn (2014) and this concept has been emphasised on by the European Parliament (2016; 2017). The concept is that by using a combination of insecure jobs (e.g. fixed-term contract), unsupportive entitlements (i.e. employed people get few entitlements to income support) and vulnerable employees (e.g. partners with significant income or wealth), and when these characteristics intersect, precarious employment can be defined (Olsthoorn, 2014; European Parliament, 2016; 2017).

In this study, it was decided to use Olsthoorns (2014) conceptual definition as a framework. The European Parliament (2017) has described the conceptual framework and defined precarious employment more in-depth. The European Parliament (2017) states that precarious employment is related to what type of employment (e.g. self-employed with employees and employed) and the type employment contract (e.g. an infinite contract, a fixed term contract, a temporary employment, training) a person has (European Parliament, 2016; 2017; Olsthoorn, 2014; Standing, 2011). Taking this into consideration, it was decided to use the questions regarding *employment contract* (indefinite contract, fixed term contract, temporary employment, apprenticeship, no contract, other) and the question *Are you mainly..?* (self-employed without employees, self-employed with employees, employed), because they are related to the definition of precarious work. The two questions *employment contract* and *Are you mainly..?* was collapsed into a combining variable. In the policy from the European Parliament (2017) *self-employed without employees* was excluded from the definition of precarious work. However, in this study, it was decided to include *self-employed without employees*. The International Labour Organisation (ILO, 2016) highlights the aspects that self-employed without employees should be included in the definition since they are at risk for precarious work. This because self-employed without employees can be financially deprived, meanwhile self-employed with employees can indicate that there is a more stable organisation with better financial aspects (ILO, 2016).
The collapsed variable given the name *Precarious work* included the categories low, medium and high precariousness. The categories low, medium and high were created in line with the definitions from the European Parliament policy (2017, Table 1). Low precarious work included the categories indefinite contract and self-employed with employees. Medium precarious work consists of fixed term contract and self-employed without employees. High precarious work consists of temporary employment/agency contact, apprenticeship and no contract. The residual categories were labelled as other.

<table>
<thead>
<tr>
<th>Recoding to precarious work</th>
<th>Low precarious work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indefinite contract</td>
<td></td>
</tr>
<tr>
<td>Self-employed with employees</td>
<td></td>
</tr>
<tr>
<td>Fixed term contract</td>
<td>Medium precarious work</td>
</tr>
<tr>
<td>Self-employed without employees</td>
<td></td>
</tr>
<tr>
<td>Temporary employment</td>
<td>High precarious work</td>
</tr>
<tr>
<td>Apprenticeship</td>
<td></td>
</tr>
<tr>
<td>No contract</td>
<td></td>
</tr>
</tbody>
</table>

The European parliament reports from the year of 2016 and 2017 have operationalized and conducted sophisticated analyses to identify these groups. They have analysed a variety of aspects to understand how precariousness is distributed across different types of employment.

### 4.2.3 Control variables

Previous research highlights that precarious work differs between age, gender and level of education (Quan, 2017, Coupaud, 2017). *Age* was recoded into <25, 26-35, 36-45, 46-55, 56-65, >66, and <25 is used as the reference category. *Gender* (male, female) has men as the reference category. *Level of education* was recoded into primary, secondary, and tertiary. The categories were recoded as: pre/primary education and primary education as primary education. Lower secondary education, secondary education and post-secondary education as secondary education. First stage of tertiary education and second stage of tertiary education as tertiary education. Education was used as a proxy for socioeconomic position because people in the precariat are people with different levels of education (Standing, 2011), and as described earlier, education is an important factor that affects health. Tertiary education is used as the reference category.

*Occupational sector* (private, public, joint private-public organisation or company, non-for-profit organisation NGO, other) with the reference category of private. The occupational sector is included as it might affect the association between precariousness and ill health. *Work affect your health* (yes, mainly positively, yes mainly negatively, no), with the reference category of yes, was included because it is one of the factors that influence health (Benach et
Experiences of stress in work was recoded into stress and no stress. The original categories: always, most of the time and sometimes are recoded as stressed, while rarely stressed and never stressed are recoded as no stress. The reference category is stressed. The variable was included as a control variable as previous research refers indicates that stress is one of the factors that characterize precarious work (Standing, 2011). More information about the sample and survey design can be found elsewhere (EWCS, 2010).

Analyses were adjusted for Country (the participating countries). Belgium, Bulgaria, Czech Republic, Denmark, Germany, Estonia, Greece, Spain, France, Ireland, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden, United Kingdom, Croatia, Former Yugoslav Republic of Macedonia (FYROM), Turkey, Norway, Albania, Kosovo and Montenegro were included, and Belgium was used as the reference category. The analyses were adjusted for country since I want to examine the association on an aggregated level in Europe.

4.3 Ethics

This study is based on secondary data which was anonymized directly during the process of the data collection. The respondents were all informed and consented to participate in the study. The information was confidentially retrieved from the respondents. Participating countries were members of the European Society for Opinion and Marketing Research (ESOMAR). Permission to use the raw data material was obtained by Eurofound.

4.4 Statistical analyses

The purpose of these analyses is to first examine the distribution of precarious work among women and men. Secondly, I examine how health is distributed among women and men based on level of precarious work. To present the results of the first research objective (Figure 1 and Table 2), descriptive analyses using a frequency table was performed. The cross table (Table 2) was conducted to address first research objective. Differences in proportions were assessed using a pairwise test of equality of proportions. Main variables through the entire analyses are self-rated health (less than good self-rated health) and precarious work.

To examine the association between precarious work and health in relation to gender, a logistic regression was used. I used this analysis to make the results more easily to interpret. The regression model can hold other independent variables fixed which makes it possible to understand how the value of the outcome variable changes using different predictors while holding others constant (Edling & Hedström, 2003). In a logistic regression, the association is presented through odds ratios (OR), which give information about the relative change of the odds when the value of the predictive variable changes. Because OR is a ratio, a higher value than 1.0 indicates that there is a positive association. An OR lower than 1.0 demonstrates that there is a negative association (Edling & Hedström, 2003) e.g., that there
are lower odds of the outcome given a certain level of exposure than the odds of the outcome in the reference exposure level. The confidence intervals (CI) using a 95% limit reflects the level of alpha of 0.05 and is a type of interval estimate of a population parameter (Edling & Hedström, 2003). The analyses were conducted using IBM SPSS Statistics 22.

The logistic regression was conducted in three phases, which is presented through Model 1, Model 2 and Model 3. Model 1 included precarious work, age, gender and country. Model 2 was further adjusted for education and occupational sector. The final Model 3 is a full model with all the control variables included simultaneously (adjusted for Model 2, work affect your health and stress) to estimate the association between precarious work and self-rated health. An interaction term between precarious work and gender was computed, which was added to the final regression model (Model3). The interaction analysis was conducted to examine differences between women and men, in the association between precarious work and health.

5 RESULT

5.1 Precarious work and gender

The distribution of precarious work across gender illustrates that men (n=19 968) and women (n=18 229) have statistically significant different distributions (Figure 1). The frequency analysis indicates that most men (68.4%, 95% CI 67.7-69) and most women (72.4%, 95% CI 71.7-73.0) have low level-precarious work. Almost one-fifth of all men (22.5%, 95% CI 21.9-23) and all women (20%, 95% CI 19.4-20.6) have a medium level-precarious work. Among men, 9.2% (95% CI 8.8-9.6) have a high level-precarious work while only 7.6% (95% CI 7.3-8) of women have a high level-precarious work. The difference in proportions comparing women and men are statistically significant (p<0.05) at all levels of precarious work, indicating a difference between gender in precarious work on a population level in Europe.
5.1.1 Self-rated health, precarious work and gender

The distribution of less than good self-rated health was analyzed according to precarious work (three levels) among women and men (Table 2). Men and women with low level-precarious work indicated the highest proportions of less than good self-rated health (men 22%, n=2979, and women 26%, n=3382). In medium level-precarious work 23% (n=1035) of men, and 27% (n=996) of women displayed less than good self-rated health. Among those with high precarious work, 20% (n=368) of the men and 22% (n=305) of the women were classified as having less than good self-rated health.

Table 2 Distribution of self-rated health among men and women according to precarious work (frequencies and percentages). Data from EWCS, 2010, n=38197 (47.7% women).

<table>
<thead>
<tr>
<th></th>
<th>Good Health</th>
<th>Less than good self-rated health</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men n (%)</td>
<td>Women n (%)</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>10676 (53.5)</td>
<td>9807 (53.8)</td>
<td>26844 (70.3)</td>
</tr>
<tr>
<td>Medium</td>
<td>3449 (17.3)</td>
<td>2651 (14.5)</td>
<td>8131 (21.3)</td>
</tr>
<tr>
<td>High</td>
<td>1461 (7.3)</td>
<td>1088 (6)</td>
<td>3222 (8.4)</td>
</tr>
<tr>
<td>Total</td>
<td>15586 (78,1)</td>
<td>13546 (74,3)</td>
<td>38197 (100)</td>
</tr>
</tbody>
</table>
5.1.2 Association between precarious work and self-rated health

In the next step, the association between precarious work and self-rated health was studied adjusting for control variables chosen in line with previous research and theory. In Model 1 (Table 3), people in high level-precarious work have 44% higher odds (OR=1.44, 95% CI 1.30-1.60) of less than good self-rated health than those with low level-precarious work, adjusted for precarious work, age, gender and country. The oldest age group (>66 years of age) has more than six times higher odds (OR=6.56, 95% CI 5.19-8.28) of less than good health as compared to the youngest group (< 25 years of age). The odds of having less than good self-rated health increases with age. Women have 12% higher odds (OR=1.12, 95% CI 1.06-1.18) of ill health as compared to men.

In Model 2, adjusted for variables in Model 1, and further adjusting for education and occupational sector (Table 3). Model 2 estimate that medium level-precarious work (OR=1.16, 95% CI 1.09-1.24) and high level-precarious work (OR=1.33, 95% CI 1.20-1.48) have significantly greater odds of having less than good self-rated health as compared with those of low level-precarious work. In terms of gender, model 2 indicate that women have 17% higher odds of self-rated ill health compared to men (OR=1.17, 95% CI 1.11-1.29).

The final Model 3 includes all the control variables simultaneously (Model 2, and variables work affect your health and stress). The results show that high level-precarious work was significantly associated with having less than good self-rated health (OR=1.41, 95% CI 1.26-1.58). There are 18% higher odds (OR=1.18, 95% CI 1.11-1.27) of having less than good self-rated health among those who are with medium level-precarious work compared to those with low level-precarious work. Women remain significantly associated with having less than good self-rated health, model 3 estimates that women have 28% higher odds (OR=1.28, 95% CI 1.21-1.35) than compared to men. In Model3, an interaction was included to examine whether the association between precarious work and self-rated health differ by gender. There was no statistical interaction between gender and precarious work in relation to self-rated health (p=0.198). Thus, there is no differences between men and women in their association with precarious work and self-rated health.
Table 3  Association between precarious work and less than good health. Logistic regressions, estimates presented as odds ratios (OR) with 95% confidence intervals (95%CI) Data from EWCS, 2010, n=38197 (47.7% women).

<table>
<thead>
<tr>
<th></th>
<th>Model 1*</th>
<th>Model 2*</th>
<th>Model 3*†**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>95%CI</td>
<td>OR</td>
</tr>
<tr>
<td>Precarious work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Medium</td>
<td>1.22</td>
<td>1.15-1.30</td>
<td>1.16</td>
</tr>
<tr>
<td>High</td>
<td>1.44</td>
<td>1.30-1.60</td>
<td>1.33</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;25</td>
<td>1.41</td>
<td>1.24-1.60</td>
<td>1.47</td>
</tr>
<tr>
<td>26-35</td>
<td>2.50</td>
<td>2.21-2.83</td>
<td>2.49</td>
</tr>
<tr>
<td>36-55</td>
<td>4.34</td>
<td>3.84-4.90</td>
<td>4.24</td>
</tr>
<tr>
<td>56-65</td>
<td>6.11</td>
<td>5.36-6.99</td>
<td>5.86</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>1.12</td>
<td>1.06-1.18</td>
<td>1.17</td>
</tr>
<tr>
<td>Women</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>3.10</td>
<td>2.75-3.48</td>
<td>2.76</td>
</tr>
<tr>
<td>Secondary</td>
<td>1.69</td>
<td>1.56-1.80</td>
<td>1.63</td>
</tr>
<tr>
<td>Tertiary</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Occupational sector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>0.98</td>
<td>0.92-1.04</td>
<td>0.97</td>
</tr>
<tr>
<td>Public</td>
<td>1.24</td>
<td>1.09-1.41</td>
<td>1.18</td>
</tr>
<tr>
<td>Joint</td>
<td>0.94</td>
<td>0.74-1.19</td>
<td>0.96</td>
</tr>
<tr>
<td>NGO</td>
<td>0.89</td>
<td>0.71-1.13</td>
<td>0.88</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Work affect your health</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, mainly positively</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes mainly negatively</td>
<td>3.58</td>
<td>3.24-3.96</td>
<td>0.88</td>
</tr>
<tr>
<td>No</td>
<td>0.88</td>
<td>0.71-1.13</td>
<td>0.88</td>
</tr>
<tr>
<td>Stress in work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress</td>
<td>0.74</td>
<td>0.70-0.79</td>
<td></td>
</tr>
<tr>
<td>No stress</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* = Country variable included, †*** = Fully adjusted model.
6 DISCUSSION

6.1 Precarious work, gender, and self-rated health

The aim of this thesis was to assess the association between precarious work and health in relation to gender. Results show that women have a lower level of precarious work compared to men. There is a significant association between precarious work and self-rated health. In relation to gender, results indicate that there were no differences between men and women in the association between precarious work and health.

6.1.1 Findings in relation to other studies and possible mechanisms

Previous studies show that precarious employment is associated with poor health (Puig-Barrachina et al., 2014; Quan, 2017), which confirms the findings in this thesis. Findings from a cohort study, conducted by Canivet et al. (2016) indicate that precarious employment is a predictor for poor mental health, which also supports the findings in this thesis since self-rated health can be associated with poor mental health. The unequal distribution of precarious employment shown in previous research is associated to precarious employment as a social determinant of health (Puig-Barrachina et al., 2014; Pförtner, 2017). Given the unequal distribution of precarious work in relation to less than good self-rated health in this thesis, the findings can confirm that statement. In that regard, the effects of social position and precarious employment can affect health negative (Pförtner, 2017). People can be affected by taking precarious employments because different job alternatives are not available, or people can handle unsecure employment because of e.g. employment stability (Benach et al., 2014; Benach & Muntaner, 2011).

A previous study conducted by Quan (2017) indicate that the damaging effects on precarious workers health can be linked to the extent of healthcare provision in each country. Meaning that the severity of health damaging effects is linked to the access of e.g. healthcare (Quan, 2017). Which could be one of the mediators for the distribution of self-rated health in this thesis. Precarious employment has increased over time in Sweden (Canivet et al., 2016), while Standing (2011) emphasise that it is also had increasing globally, leading to a widening gap in health inequalities (Marmot et al., 2008).

Implications are that some results from this thesis differ from previous findings, e.g. that women have a stronger association between precarious work and ill health as compared to men (EIGE, 2017). Results from previous studies show that one of the aspects, why women are more pronounced in high level-precarious work, is due to unexplained factors such as different treatments, and that same working conditions could affect men and women differently (Coupaud, 2017). However, this study suggests that males are more pronounced in high level-precarious work, contradicting previous findings. In a previous cross-sectional study conducted by Van Aerden et al. (2016) was evidence of an independent relation between adverse health and precarious employment. Unlike this thesis, women with the
lower socioeconomic position were at risk because they were especially overrepresented in precarious work (Puig-Barrachina et al., 2014; Quan, 2017).

### 6.1.2 Contributions of findings

Findings in this study may be of importance and could be challenging for policymakers, since they need to find a balance between the need for flexibility that exists on the labour market and handle, promoting and creating a sustainable and healthier employment. The findings are of importance since there is increasing evidence suggesting that there are negative side-effects of flexible employment since it affects social inequalities and public health negatively (Van Aerden et al. 2016; Holman, 2013; Puig-Barrachina et al., 2014; Coupaud, 2017). Van Aerden et al. (2016) emphasises that precarious work is not only occurring in the formal waged market, but also in the grey and informal labour market. However, these situations are outside of this study aim and further research is needed to clarify the association between non-formal employment forms (formal, grey and informal labour market), precarious work and health. Findings from this thesis could stimulate the discussion about low employment quality in relation to health. Health is an important factor and can impact the aspect of obtaining stable employment, promotions and beneficial working conditions. While unhealthy people are more likely to be outside of the labour force. Among workers, health is most likely to have an impact on the aspect of obtaining stable employment, promotions and beneficial working conditions (Van Aerden et al., 2016; Holman, 2013; Puig-Barrachina et al., 2014). Specific innovative features in this thesis are that the combination of precarious employment and self-rated health creates a comprehensive view of peoples perceived health in association to work. This approach reveals different variations in precarious work (low, medium and high) quality, indicating that precarious work and its effects on health needs to be addressed on the global labour market. Implications are that findings from this thesis can contribute to policymaker’s development of sustainable labour market policies.

### 6.2 Strengths and limitations

One strength in this thesis is the work-centred approach, where the construction of different levels in precarious work was conducted through the consideration of multiple employment situations as proposed by European Parliament (2016; 2017). Another strength is the use of validated data from EWCS. In the Quality Assurance report (Gallup Europe, 2010) a series of activities that addressed certain validation aspects, such as translation to ensure that the questionnaire used in the interview was valid when implemented in different countries. In the Quality Assurance report, different statements and explanations are provided on how different steps of the data collection were conducted to achieve a valid and reliable survey (Gallup Europe, 2010). Other strengths are the use of self-rated health as an outcome, as self-rated health is one of the only subjective and participant centred measures of well-being. Self-rated health has also been validated by its strong association with mortality (2009, Wikman et al., 2005, Idler & Benyamini, 1997). However, there are remaining challenges when using a subjective measure for health, as it might have a high cultural sensitivity both with regards to countries and subgroups. There might also be some limitations in the
potential categorical distinctions between different levels of general health, as used in this thesis.

The nature of the study design in this thesis limits any conclusions about causality. The reasons for this is because the thesis has a cross-sectional study design which lack temporality. We don’t know what event occurred first, ill health or precarious work. In this thesis, we are postulating that precarious work precedes ill health, however using the current study design we are unable to prove this which may be considered a limitation of the thesis. There is a potential for confounding because the estimates and the relationship can be affected by e.g. placebo effect, which indicates that results display a correlation between the estimates but when in fact there is none. Though there might be potential confounding, this thesis has adjusted for similar confounders as previous research, suggesting that potential confounders would be adjusted for (Alali et al., 2017; Canivet et al., 2016).

There is a risk that the construction of the categorical variables is not fully optimal. However, in terms of the given standards available, the perception is that they are acceptable. The main variable precarious work is based on European Parliament (2017) guidelines which makes it a good representation of the theoretical concept of precarious work. The limited time for writing this thesis could have affected the data cleaning negative, and better knowledge about previous theories and research could have resulted in a different selection of control variables leading to different findings. Therefore, modelling could be improved if more time existed.

6.2.1 Limitations of secondary data

The use of EWCS data could influence the findings of this thesis. Problems such as not being able to design the questions as desired and to add confounders that the EWCS survey did not include could lead to different findings. Questions such as *do you feel that there is a political movement that represents me*? and *how do political decisions affect your health and employment situations*? would have been interesting to add as a control variable to understand how precarious workers self-rated health is affected by political decisions.

Evaluation report conducted by Vercruyssen and Van Gyes (2017), and Gallup Europe (2010) presents how EWCS 2010 tackled different factors to keep a high quality. In these reports, aspects such as quality of the interviews, data entry and questionnaire development are described. Aspects are that some of the participating countries sent out postal mail, while others did not which could have affected the response rate since sending out letters in advance tend to lead to better response rate. Sampling errors have also been identified, were some people living in remote areas have been excluded, due to expensive costs. However, this has been rectified to some extent by having interviews over the phone (Gallup Europe, 2010).

6.3 Future research

In this thesis we examine the formal labour market, but it is likely that precarious work especially occurs in the informal labour market. Future research should explore how self-rated health and precarious work is distributed in informal- and grey labour markets to reach
highly exposed people. This could be done by exploring how people with low socioeconomic position experience their self-rated health, in relation to unsecure work arrangements in grey labour markets. Future research should also focus on repeating these analyses with different editions of periodic data, such as EWCS data which enables documentation of trends over time in employment precariousness.

7 CONCLUSION

Men have higher level of precarious work compared to women. Precarious work is associated with having less than good self-rated health, were high-level precarious workers have the greatest association of having less than good self-rated health. However, there are no differences between men and women in the association between precarious work and health.
REFERENCE LIST


