Investigating the Relationship between Job Insecurity and Health in Europe: A Focus on Cardiovascular Disease

Kalliopi Sivri, BSc, MSc

Thesis submitted to the University of Nottingham for the degree of Doctor of Philosophy

June 2019

Acknowledgements

After a long and challenging journey, including both physical and mental ill health, I finally reached the finishing line. There are so many people to thank for being there for me when I did not believe in myself. I cannot name everybody here, but I would like to briefly express my gratitude to the following people.

First and foremost, I would like to thank Professor Stavroula Leka and Dr Shirley Thomas, who have been very patient with me, and helped me with my academic endeavour as best they could. I know it was not easy. I would also like to thank Dr Elena Nixon for her guidance and support.

Secondly, I would like to thank my mother, Sundy, and my fiancé, Chris, who stayed by my side when I was in a very dark place emotionally. They have been amazing. I would also like to thank my grandma, my brother, my father and his family, and my close friends who have always been supportive.

Thirdly, I would like to thank my therapist, Louise Bellamy, who helped me keep going and not give up on my goal. Nurturing self-love and acceptance was not an easy pathway.

Finally, I would like to sincerely thank the University of Nottingham and Economic Social Research Council for funding my PhD and providing so many opportunities to grow as a researcher, and the Arts and Humanities Research Council and the U.S. Library of Congress for giving me the opportunity to work among great scholars. I am immensely grateful.

Abstract

Background: The economic crisis, which commenced in 2008, had several negative consequences for both nations and individuals. The overall economic situation of nations affected growth, development and employment opportunities. Consequently, unemployment levels and job insecurity for those employed both increased. This thesis aims to explore the impact of job insecurity on a specific group of employees: those affected by cardiovascular disease. Specifically, the thesis aims to explore the interactions between job insecurity and other work-related factors and add knowledge on how employees who had a heart attack and returned to work experience employment protection and social support at work. The thesis also aims to explore the role of work-related factors and employment protection in these employees' recovery and transition back to work while managing their cardiovascular disease.

Methods: The current thesis is based on the biopsychosocial model of health by Engel (1977) that includes biological, psychological and social elements. Additionally, the thesis incorporates the job demands-control-support (JDCS) model, which aims to explain how job insecurity is affected by other work-related factors that, consequently, directly and indirectly, affect health-related outcomes. The current thesis uses a mixed-methods approach, with qualitative findings complementing quantitative findings through an integrative process. The proposed model of job insecurity and health, which is developed based on the literature, is quantitatively tested on a sample (N= 1,584) retrieved from the European Working Conditions Survey (2010). The quantitative study employed exploratory factor analysis, hierarchical multiple regression (HMR), moderation and mediation analyses (Hayes, 2013), confirmatory factor analysis and multilevel structural equation modelling (MSEM). The qualitative study was based on semi-structured interviews with 30 employees (15 English and 15 Greek) who had a heart attack between 2008 and 2016 and returned to work. It adds cognizance of employees' experience of employment protection, support and job insecurity. The qualitative study also highlights similarities and differences between the samples in these two countries that were differently affected by the 2008 financial crisis.

Results: In the quantitative part of this thesis, the proposed model was partially confirmed with key structures working as expected, and some sub-hypotheses not being confirmed. Separate HMRs indicated significant results for most hypothesised relationships. However, the results were slightly different when all interactions were tested at the same time with MSEM. Focusing on the MSEM

results, JDCS had the expected function in the model, and was associated with job insecurity, financial security/confidence, health, wellbeing and work-related stress. Job insecurity was negatively associated with health and work-related stress as expected, but not wellbeing, presenteeism and work-life balance. Presenteeism and work-life balance were associated with work-related stress, and wellbeing was positively associated with financial security/confidence. The qualitative part of this thesis yielded five key themes: employment rights and security after a heart attack, economic situation, health after a heart attack, self at work after a heart attack, and resources and support after a heart attack. Findings from the interviews showed that employment protection provisions are not always clear to employees, and perceptions of job insecurity are affected by organisational culture, work experience and expertise, business relationships and networks, and job role flexibility.

Conclusion: The integration of quantitative and qualitative findings indicates that workplace social support and job insecurity had an important impact on employees' health, recovery and transition back to work after a heart attack. EPL and policies affect how employees experience job insecurity, demands and control at work upon their return after sick leave. However, it seems that employment protection and support are not always clear and officially communicated by employers. Lack of adequate inspection of employers' and managers' practices is causing inconsistent support provision to employees, consequently affecting levels of job control and security. Further action and research are necessary to encourage the comprehensive implementation of both employment protection and health and safety legislation and policies, requiring employers to implement effective risk assessments for employees' return to work after a heart attack.

Table of Contents

Acknowledgements **2**

Abstract **3**

Abbreviations **10**

1. Chapter One: Introduction 11

1.1. Background: Financial Crisis and Non-Communicable Diseases 11

1.2. The Biopsychosocial Model of Health 15

1.3. Social Determinants of Health and Job Insecurity 18

1.4. Job Insecurity and CVD 19

1.5. Job Insecurity in Europe 22

1.6. Research Questions and Thesis Plan 25

2. Chapter Two: Literature Review 28

2.1. Research Questions One and Two: A Model on Job Insecurity and Health-related Outcomes 29

2.1.1. Independent factors 29

2.1.1.1. Demographics and covariates 29

2.1.1.2. Workplace social support 30

2.1.2. Dependent factors and mediators 31

2.1.2.1. Job insecurity 31

2.1.2.2. Financial security/confidence 34

2.1.2.3. Employability 35

2.1.2.4. Responsibility to dependents: Children and elderly/disabled relatives 38

2.1.2.5. Job demands and job control 39

2.1.2.6. Interactions between health-related outcomes 41

2.1.3. The combination of models and the role of job insecurity 42

2.2. Research Questions Three to Six: Job Insecurity and Employment Protection 47

2.2.1. Information on employment protection 47

2.2.1.1. Employment protection in England 51

2.2.1.1.1. Straight after the heart attack: Sick leave and recovery ... 52

2.2.1.1.2. Back to work after the heart attack: Reasonable adjustments for employees with health conditions 53

2.2.1.1.3. Facing an unfair dismissal 54

2.2.1.2. Employment protection in Greece 55

2.2.1.2.1. Straight after the heart attack: Sick leave and recovery ... 56
2.2.1.2.2. Back to work after the heart attack: Reasonable adjustments for employees with health conditions ... 56
2.2.1.2.3. Facing an unfair dismissal ... 57
2.2.1.3. Temporary employment and flexicurity ... 57
2.2.1.3.1. Flexicurity and the Euro Plus Pact ... 59
2.2.1.3.2. Implications ... 59
2.3. Conclusion ... 60

3. Chapter Three: Methodology ... 63
3.1. Introduction ... 63
3.2. Research Design ... 63
3.2.1. Justification for mixed-methods approach ... 63
3.2.2. A mixed-methods design: Quantitative before Qualitative ... 65
3.3. Data sources ... 67
3.3.1. Quantitative: European Working Conditions Survey (2010) ... 67
3.3.2. Qualitative: Interviews with English and Greek employees ... 71
3.4. Analysis Strategy ... 72
3.4.1. Quantitative data: Statistical Analysis ... 73
3.4.2. Qualitative data: Thematic Analysis ... 74
3.5. Ethical Considerations ... 75
3.5.1. Quantitative study: EWCS 2010 Secondary data from Eurofound ... 75
3.5.2. Qualitative study: Semi-structured interviews through the English and Greek NHS and cardiac charities ... 76
3.6. Conclusion ... 78

4. Chapter Four: Testing the two-level multi-mediation model for job insecurity and health-related outcomes across the European Union ... 79
4.1. Background ... 79
4.2. Aim of the Quantitative Study ... 80
4.2.1. Study hypotheses ... 80
4.3. Method ... 83
4.3.1. Design ... 83
4.3.2. Datasets and samples ... 83
4.3.3. Procedure ... 83
4.3.4. Measurement ... 84
4.3.4.1. Item identification ... 84
4.3.4. Analysis ... 91

4.3.5. Preparation of datasets 92
4.4. Results 93
4.4.1. Normality, multicollinearity and linearity 93
4.4.2. Missingness 99
4.4.3. Scale identifiability and reliability 99
4.4.4. Measurement Invariance Test 100
4.4.5. Descriptive analysis 102
4.4.6. Bivariate correlations 103
4.4.7. Hierarchical Multiple Regressions 112
4.4.8. Group differences 117
4.4.11. Structural Equation Modelling: The statistical model 118
4.4.11.1. Specification and identification 118
4.4.11.2. Model fit and re-specification 118
4.4.11.2.1. Confirmatory factor analysis 122
4.4.11.2.2. One-level Model: CFA to SEM 123
4.4.11.2.3. Two-level Model: MSEM 125
4.5. Discussion 135
4.5.1. Strengths of the current study 137
4.5.2. Limitations of the current study 137
4.6. Conclusion 139

5. Chapter Five: Factors Affecting the Reintegration to Work of Employees with a CVD in England and Greece 140

5.1. Background 140
5.1.1. Rationale 141
5.1.2. Purpose of the current study 142
5.2. Method 143
5.2.1. Study design 143
5.2.2. Participants 143
5.2.3. Materials 144
5.2.4. Procedure 146
5.2.7. Analysis 149
5.3. Results 150
5.3.1. Demographic characteristics 150
5.3.2. Themes 153
5.3.2.1. First theme: Employment rights and security after a heart attack 154

5.3.2.1.1. Employment rights 154
5.3.2.1.2. Perception of job security and employability 156
5.3.2.2. Second theme: Economic situation 159
5.3.2.1. Marketplace 159
5.3.2.2. Personal financial strain 161
5.3.2.3. Third theme: Health after a heart attack 162
5.3.2.3.1. Life changes and keeping the balance 163
5.3.2.3.2. Impact of health on working life 165
5.3.2.4. Fourth theme: Self at work after a heart attack 167
5.3.2.4.1. Perception of self and stigmatisation at work 167
5.3.2.5. Fifth theme: Resources and support after the heart attack 169
5.3.2.5.1. Colleagues 169
5.3.2.5.2. Organisation 170
5.3.2.5.3. Employment protection: Law, policies and practices 172
5.4. Discussion 174
5.4.1. Strengths of the current study 177
5.4.2. Limitations of the current study 178
5.5. Conclusion, implications and future research 179
5.6. Reflexivity 180

6. Discussion 182
6.1. Introduction 182
6.2. Revisiting the Overall Model: A Summary of Findings 183
6.2.1. Key quantitative findings 184
6.2.2. Key qualitative findings 186
6.3. Job Insecurity and Health-Related Outcomes for Employees with a CVD: Integrating Findings 188
6.3.1. The impact of job insecurity on health status 190
6.3.2. The impact of job insecurity on wellbeing 191
6.3.3. The impact of job insecurity on work-life balance 192
6.3.4. The impact of job insecurity on presenteeism 194
6.3.5. The impact of job insecurity on work-related stress 195
6.4. The Job Demands-Control-Support Model and Job Insecurity: Integrating Findings 196
6.4.1. Job demands affecting levels of job insecurity 196
6.4.2. Job control affecting levels of job insecurity 197
6.4.3. Workplace social support affecting levels of job insecurity 198

6.5. Employment Protection, Job Insecurity and Health 199
6.5.1. Employees' experiences..... 199
6.5.2. Gaps in legislation 200
6.5.3. Gap between policy and practice..... 201
6.6. Strengths and limitations of this research 203
6.6.1. A summary of strengths 203
6.6.2. A summary of limitations..... 205
6.6.3. Contribution..... 207
6.7. Conclusions, implications and recommendations for future research, policy and practice.....208

References.....210

Appendix 242
Appendix A: Quantitative Study 242
A1. Letter of approval from the University of Nottingham..... 242
A2. Proposed model with detailed hypotheses on mediation, covariates and other interactions..... 244
A3. SPSS: Statistical preparation to mediation and moderation analysis. 247
A3.1. Hierarchical multiple regressions: Secondary checks..... 247
A3.2. Mediation analysis..... 250
A3.3. Moderation analysis..... 257
A4. Mplus: Model results..... 258
A4.1. One-level SEM: The model 258
A4.2. Two-level SEM results..... 260
Appendix B: Qualitative Study.....266
B1. Letter of approval from the University of Nottingham..... 266
B2. Letter of approval from the East Midlands- Leicester South Research Ethics Committee..... 268
B3. Participant Information sheet..... 272
B4. Leaflet 276
B5. Consent form..... 277
B6. Debriefing form..... 278

Abbreviations

BPS = Biopsychosocial
CHI = Caring for family (children)
CVD = Cardiovascular disease
E = Employability
ELD = Caring for elderly/disabled family members
EPL = Employment Protection Legislation
EWCS = European Working Conditions Survey
FS = Financial security/confidence
HRB = Work-related Health-risk Behaviour (Presenteeism)
HS = Health Status
JDCS= Job Demands-Control-Support Model
JI = Job Insecurity
MSEM = Multilevel Structural Equation Modelling
NCD = Non-communicable Disease
SEM = Structural Equation Modelling
W = Wellbeing

1. Chapter One: Introduction

The current chapter will present the aim, focus and contribution of this thesis, the research questions, and thesis plan linking into the next chapter. The aim of this doctoral study is to investigate the impact of job insecurity on employees' life with CVD, one of the most prevalent non-communicable diseases in European countries – cardiovascular disease (CVD) – and to investigate differences between two countries with different economic backgrounds, England and Greece. Job insecurity, as a facet of potential unemployment, is currently of great interest to social scientists due to its growing impact and negative consequences on employees and the workplace. The current thesis aims to contribute by adding knowledge on how European employees with a CVD are affected by experiences of job insecurity and lack of employment protection, taking into account personal and work-related factors. It aims to identify challenges and gaps with a view to informing current employment protection policy and practice.

The wider context of the non-communicable disease (NCD) problem, as stated by the World Health Organization (WHO), will be presented below. Findings from recent studies of the epidemiological causes of NCDs show that they are highly prevalent in low- and middle-income developed countries (WHO, 2010). By contrast, developing countries still primarily focus on preventing infectious or communicable diseases such as HIV/AIDS, malaria, tuberculosis, etc. (Alwan, 2011; WHO, 2004; 2008). As stated, this research will focus on the impact of job insecurity on health in terms of the prevalence of CVD in the 27 states that were members of the European Union in 2010 (EU27). CVD is one of the most prevalent NCDs, with 17.3 million deaths annually (WHO, 2010). However, the literature review will present findings on the impact of job insecurity not only in Europe but also worldwide in order to highlight the need for further research in this important area.

1.1. Background: Financial Crisis and Non-Communicable Diseases

Capitalism has been described as a process of creative destruction, which involves the constant creation of new markets, goods, means of production and forms of transportation, the constant elimination of old ways and structures, and people taking the risk of change (Levine, 2013). However, people with personal and/or health difficulties and/or whose only employment opportunities are low-wage employment with few, if any, benefits do not experience change as the ones who are financially certain about their future (Levine, 2013; Schumpeter, 1976).

As another capitalistic turmoil, the global economic/financial crisis of 2007-2008, gradually created many market changes and problems not only in the economy, human capital and the wider financial world but also, and most importantly, in the area of development, health, and wellbeing of humans. This financial crisis is considered one of the worst since the Great Depression of the 1930s. In addition, this crisis had a domino effect: it was initiated with a decline in the United States (US) which then spread globally and consequently affected the European economy, and the European sovereign debt or Eurozone crisis emerged in 2009 (Furceri & Mourougane, 2009;2012). The financial problems have mainly been attributed to a complex interaction between existing policies that promoted homeownership using loans. This eventually shocked the internal financial system of banks and insurance companies due to non-stop lending to the masses. However, there have been many suggestions and assumptions by experts with respect to the causes (Furceri & Mourougane, 2009; 2012; Grahl, 2009).

The financial crisis affected market trends and had impacts at the macroeconomic level. Stable and efficient financial markets cannot exist in the absence of a sound macroeconomy (Randzio-Plath, 2001). The financial crisis affected the economy, provision of resources, working life, career opportunities, long-term employment, development, research, innovation, health, and the prevalence, treatment and control of diseases (communicable and non-communicable). It had an impact on all these because of their need for financial resources. Consequently, when resources are limited due to a financial crisis, the outcomes and actions become limited too (Campello, Graham, & Harvey, 2010; Gelos, Rennhack, Walsh, & Berkmen, 2009; Marmot & Bell, 2009; Newman, 2008). It is counterproductive because individuals all over the world become afraid of taking risks to develop/improve due to financial instability and uncertainty; their decision-making process may be heavily influenced by the fear of brutal consequences due to restrictions imposed by the financial crisis. These limitations may affect how the system works, as it ends up full of individuals scared of investing, proposing ideas, using their intuition, being assertive and having an impact (Campello et al., 2010; Sayegh, Anthony, & Perrewé, 2004). This is how the problem spreads and is magnified by the behaviour of the masses: massive behavioural tendencies affect how the system develops a problem, recovers and reinvents itself (Le Bon, 2009).

The financial crisis has brought some changes in the field of work. All sectors – public, private and social – have been affected by the financial changes and instability of recent years. Apart from restructuring and downsizing, the

nature of employment started changing too. Lay-offs and temporary employment started increasing to accommodate fluctuating needs due to organisations' financial constraints. Nevertheless, temporary employment is the first factor to blame for the increasing phenomenon of job insecurity. Unstable employment cannot guarantee continual development, benefits, income and prospects for the individual. Therefore, employees feel insecure about their job and everything related to it. This insecurity causes psychological distress and work-related stress to employees (Adkins, Werbel, & Farh, 2001; Furceri & Mourougane, 2009; M. Virtanen et al., 2005).

Regarding the impact of job insecurity on health, findings support that job insecurity has a negative effect on health, both directly and indirectly (László et al., 2010; McDonough, 2000). Humanity has reached a point of significantly improving global health by controlling communicable and non-communicable diseases. However, the increase of NCDs has now evolved into a global issue. Apart from the effect of economic crisis on controlling communicable diseases, NCDs are also heavily impacted. Research has shown that the shift in the economy has incrementally affected organisational structures, policies, needs, goals and people making ends meet; all these changes, directly and indirectly, affect all the people involved in organisations across the globe (Alwan, 2011; WHO, 2008). Studies have shown a link between job insecurity and the prevalence of NCDs. Economic hardship and burdened occupational lifestyle due to job insecurity have been linked to difficulty in managing chronic illnesses such as CVD (Jeon, Essue, Jan, Wells, & Whitworth, 2009; Sharma & Majumdar, 2009; Stuckler, Basu, Suhrcke, Coutts, & McKee, 2011). As our current economic system is capitalism, having a job and being able to develop a career and earn money are the main goals for all 'productive units' of this system. The importance of having or losing a job lies precisely on the elements of existence, survival, and self-actualisation through a job in the capitalistic system. Human nature is wired to strive for existential continuum; as Maslow (1943) indicated, not being able to cover needs instantly creates biological, psychological and social difficulties and needs for reinvention and resilience (Friedman, 2009; Maslow & Lewis, 1987; Ventegodt, Merrick, & Andersen, 2003).

NCDs are non-infectious and usually chronic diseases. The key NCDs include CVDs, mental ill-health, cancer, diabetes, chronic kidney disease, autoimmune disease, asthma, osteoporosis, Alzheimer's disease, cataracts, respiratory diseases and others. In 2008, two-thirds of 57 million deaths were attributed to NCDs globally. NCDs contribute to the global burden of disease, with 48% for

CVDs, 21% for cancer, 12% for chronic respiratory diseases, and 3% for diabetes contributing to the total NCD numbers (Alwan, 2011; Bank, 2011; WHO, 2011). Several studies have tried to identify physical, psychological, social, and economic factors that contribute to the prevalence of NCDs.

Each year, two million out of the three billion employed people in the world die due to work-related diseases, with 26% of these deaths due to circulatory/cardiovascular problems (CVD) (Hämäläinen, Takala, & Saarela, 2007; Takala et al., 2014). Circulatory system diseases scored the second-highest death rate in the findings of Takala et al. (2014), behind only malignant neoplasms. This clearly indicates that we must start tackling death rates from another perspective: what makes people behave in ways that undermine optimal health. In 2010, 180,000 people died in the UK due to CVD (Townsend et al., 2012). The question here is what work-related risk factors contribute to CVD prevalence. On whether job insecurity increases CVD, Slopen et al. (2012) studied employed women and found that job insecurity was not directly related to CVD prevalence but was directly related to CVD risk factors, which include financial insecurity/poverty, coping with stress, alcohol intake, high blood pressure, smoking, diet, sex, age, ethnic background, family history, cholesterol levels and physical inactivity. CVD accounts for 45% of all deaths in Europe and 37% of all deaths in the EU (Townsend et al., 2012; Wilkins et al., 2017).

Ennis et al. (2015) analysed data from the Surveillance, Epidemiology and End Results programme between 1973 and 2007 in the United States, aiming to investigate the relationship between unemployment rates and the health behaviour of pancreatic and breast screening. Their results indicated that for every 1% increase in unemployment, there was a 7.4% decrease in diagnosing breast cancer early. Linking job insecurity to these results, there is a rising concern that people who fear to lose their job may be concerned about taking time off work to attend both routine screening appointments and screening appointments booked to address potential health concerns. In that way, worries caused by job insecurity may affect the extent to which employees prioritise their health over work. In addition, further studies support that poor psychological health and/or mental ill-health, even if not very severe, can crucially affect health-related behaviours for people who have to maintain optimal behaviour as part of their treatment or even just take necessary preventive actions for their health (Lin et al., 2004; Prince et al., 2007). Kivimäki et al. (2002) found that job insecurity, through its effect on mental health, affects how frequently people use health services. For CVDs, Chamnan, Simmons, Khaw, Wareham, and Griffin (2010)

suggested that a stepwise screening approach for CVD stratification using a simple risk score, which incorporates collected data, would be equally effective to current UK practices but have the benefit of saving time on screening visits. This approach could potentially help all employees, who tend to overwork and not take time for medical appointments.

Kim et al. (2013) concluded that excessive work might lead to health-risk behaviours, which dramatically increase the risk of haemorrhagic stroke. For instance, extended duration of strenuous activity during work and longer regular working time were positively associated with increased haemorrhagic stroke risk regardless of employment status and stroke subtypes. Excessive work is related to work intensification and job insecurity. Employees who experience more pressure and less protection at work tend to force themselves into heavy workloads to decrease the likelihood of dismissal, trying to do more in less time. Organisations usually prefer highly productive employees even if that sometimes is to the expense of their own health balance and wellbeing (Golden, 2012; Ladipo, Mankelow, & Burchell, 2005). Other findings support that adverse life experiences, the environment (such as the workplace) and low economic resources do affect the likelihood of developing health-risk behaviours, which consequently increase CVD prevalence among young-old adults (Cornaz, Taffé, & Santos-Eggimann, 2009).

1.2. The Biopsychosocial Model of Health

The constructed theoretical framework for this particular research is in line with the biopsychosocial (BPS) model by Engel (1977;1980;1981). The model's value lies in its multidisciplinary approach to explain, understand and to analyse poor health and wellbeing at many levels. Engel first proposed the BPS model to increase understanding of health and illness. The initial aim of the model, as proposed by Engel, was to help physicians better understand their patients' health issues by considering not only physiological/medical aspects but also psychological and sociological wellbeing. The model is linked to health psychology, where the reciprocal influences of biology, psychology, behavioural and social factors on health and illness are examined.

This multidisciplinarity is the reason why Engel's model was chosen and used as the basis for the proposed theoretical model of this research. In detail, Engel's model was developed from the social cognitive theory of Bandura and Walters (1971) as an extension of social learning theory, whereby health is affected by not only biological factors but also psychological and social factors. Practitioners

in medicine and other fields have to understand the individual as a whole entity combining biological, psychological and social needs in order to resolve issues. When this model is applied to the workplace, issues such as stress and coping arise. As the dynamics between employees and their environment cannot be examined only at one level, this study employs the BPS model to understand the impact of job insecurity from a social, psychological and biomedical perspective. For example, employees' increased levels of endocrine responses – the release of adrenal hormones, catecholamines and cortisol – may be the red flags for upcoming risks in the working environment. Stressed employees who experience job insecurity are likely to perceive work demands and react in a different way than relaxed employees (Engel, 1977; Frankenhaeuser, 1989). Understanding the biopsychosocial factors which affect how people respond to job insecurity will help us understand their link to unhealthy behaviours and morbidity.

The BPS model incorporates biological causes of disease, which are linked to pathology, ineffective treatment, need for medication, screening and doctors' advice, and lifespan development. However, apart from the frequent reference to biological causes, this model also includes psychological causes, which are linked to stress, anxiety, depression, psychological discomfort, lack of perceived wellbeing, etc. It also includes social causes, which are linked to personal life, free time, socialising with family, friends, bonding, social support, etc. (Engel, 1977; Santrock & Santrock, 2008).

The biological factors in the BPS model are considered the primary determinants of the way a human behaves and may play a significant role in the development of mental ill-health. As opposed to environmental factors, biological factors exist and happen in the body. A biological factor can take the form of a physical, physiological, neurological, chemical or genetic condition, which can affect the way an individual thinks or acts (Sarafino & Smith, 2014). In the current study, such factors include age, sex, CVD condition and overall health status. Stress is the individual's physical reaction to environmental stressors; therefore, it could be part of the biological factors. However, since stress is linked to psychosocial hazards, it is often seen through the psychological prism (Bunker et al., 2003). Consequently, work-related stress is part of the psychological factors, as elaborated below.

The psychological factors in the BPS model refer to thoughts, feelings and other cognitive characteristics that affect the attitude, behaviour and functions of the human mind. These factors can influence how a person thinks and behaves. The psychological factors include learned cognition, psychodynamic processes and

personality traits (Sarafino & Smith, 2014). In the current study, psychological factors include employees' perception and experience of wellbeing, work-related stress, presenteeism as a work-related health-risk behaviour, job insecurity, employability, work-life balance, financial security/confidence, job demands and job control. This study considers financial security/confidence in terms of employees' subjective view on their financial situation; therefore, it is included in the psychological factors due to the influence of personal characteristics and attitudes. Personal knowledge of finances can influence one's sense of financial confidence and security (Hilgert, Hogarth, & Beverly, 2003). Additionally, job demands and control, which are part of the job demands-control-support model, are also presented as psychological factors.

The social factors in the BPS model are the aspects in our environment that directly influence or affect lifestyles. There are many such factors in any population. In the current study, social factors include ethnicity, family (childcare and caring for elderly/disabled relatives), social support at work, education level obtained, years of work experience, work contract, and sector. With respect to employment as part of socioeconomic status, all types of jobs were included, but the research focus was on the employment contract, work experience and sector. Inclusion of social factors cannot be exhaustive due to the complexity of social life; therefore, the social factors for the current research were selected based on the context of work (Engel, 1977; Sarafino & Smith, 2014).

Jakab and Lázár (2007) explicitly employed a biopsychosocial and economic approach for their longitudinal study in Hungary. In their nationwide representative survey, the researchers defined job stress as job insecurity, job dissatisfaction, lack of co-worker support and lack of control over work. Their findings clearly demonstrated the negative impact of job stress and its components, e.g. job insecurity, on the levels of work ability and work-related illness. In 2002, male and female employees experiencing work-related stress had, respectively, four times and double the risk of depression compared to employees who did not self-report work-related stress. Meanwhile, work-related stress significantly deteriorated work ability without any illness for both male and female employees. Quality of life and behaviours that enhance it were significantly affected by the levels of job stress and insecurity (Jakab & Lázár, 2007).

Even if Engel's model and biopsychosocial approach has received criticism for using this model as a euphemism for psychosomatic illness (McLaren, 2009), it is unique in epistemologically combining biological, psychological and social approaches and understanding (Engel, 1981).

1.3. Social Determinants of Health and Job Insecurity

Social determinants of health are the social and economic elements within a society that may affect the public health status. They are risk factors that may lead to poor health and disease within a population (Wilkinson & Marmot, 2003). There is no universal definition of the social determinants of health, but there is a consensus amongst scholars on what affects public health. In addition, the social determinants of health are not only linked to health but also the economy. Ill health is linked to higher costs and expenses for both individuals and society. The WHO has suggested the following as the social determinants of health: social gradients, stress, unemployment, social support, social exclusion, availability of healthy food, availability of healthy transportation, addiction and early childhood development (Wilkinson & Marmot, 2003; 2005). The social gradients are linked to socioeconomic status (SES), which affects life expectancy and levels of morbidity. SES is 'a composite measure that typically incorporates economic status, measured by income; social status, measured by education; and work status, measured by occupation' (Dutton & Levine, 1989, p.30). It is a combined economic and sociological measure of an individual's work experience and of an individual's or his/her family's economic and social position in relation to others, based on household income, overall educational background and occupation. Apart from the fact that educational background and SES may influence people's health behaviours, people with lower SES in countries requiring payment for screening programmes may not be able to afford screening and treatment for CVD (for example) and so may be at higher risk of developing health problems (Adler et al., 1994).

Work-related stress is a risk factor for health and wellbeing. For example, work intensification due to job insecurity increases employees' levels of work-related stress (Cox, Griffiths, & Leka, 2005; Ladipo et al., 2005; Zeytinoglu et al., 2007). Similarly, unemployment and the fear of unemployment affect levels of health through their physical impact on people, e.g. psychological distress and pressure (Bartley, 1994). Social support, such as the structures which financially and socially help employees after losing their job, may buffer the impact of work-related stress and play a crucial role in sustaining optimal health levels while unemployed (McKee-Ryan, Song, Wanberg, & Kinicki, 2005). Social exclusion is directly linked to SES and its consequences. Findings support that people experiencing poverty are usually found in financially and socially poor living and working environments, having sparse support networks and ultimately living a life

of poor health (Cattell, 2001).

The list of social determinants is non-exhaustive, considering that the by-products of all those determinants also impact on health (Marmot & Wilkinson, 2005). With respect to job insecurity, it could be understood as the combination of two primary social determinants of health with respect to NCDs: stress and (fear of) unemployment. For an individual experiencing job insecurity, these two social determinants are constituted by the stress caused by anticipated unemployment and the hopelessness stemming from the fear of unemployment and its consequences (Winefield, Winefield, Tiggemann, & Goldney, 1991).

The Whitehall II study conducted on British civil servants supported that employees should be asked if they experience job insecurity, instead of only considering unemployment rates: the results showed that job insecurity should be addressed as a chronic stressor, and thus a determinant of health (Ferrie, Shipley, Marmot, Stansfeld, & Smith, 1995). Burgard, Seefeldt, and Zelner (2012) conducted a study with employed adults in Michigan, USA, in 2009-2010; they concluded that those with feelings of high job insecurity had higher levels of poor self-rated health. They underlined that economic recessions and the lack of job creation might aggravate the problem of job insecurity and make the whole situation worse. Therefore, there is a compelling need to understand the importance of dealing with psychological health as a risk factor for NCDs, particularly during periods of recession when job insecurity strongly affects employees' psychological state (Gili, Roca, Basu, McKee, & Stuckler, 2012; Simou & Koutsogeorgou, 2014; Uutela, 2010).

1.4. Job Insecurity and CVD

CVD includes all diseases that affect blood circulation and the normal function of the heart. These diseases include coronary heart disease (angina and heart attack), stroke, heart failure, congenital heart disease, heart valve disease and cardiomyopathy. Coronary heart disease (CHD) and stroke are caused by atherosclerosis, which means blocked arteries due to atheroma (fatty material). The location of the blood clot and whether it blocks the blood vessels that deliver oxygen to the heart or the brain respectively increase the risk of a heart attack or a stroke (Townsend et al., 2012; Yusuf, Reddy, Ôunpuu, & Anand, 2001). Having a heart attack affects people’s life, both physically and psychologically. The British Heart Foundation’s statistics for 2019 indicate that 28% of all UK deaths were caused by heart diseases and that 11 of every 46 victims were younger than 75 years old. In addition, around 60% of people with a CVD have at least one other

health condition (British Heart Foundation, 2019). Investigating the impact of job insecurity on CVD is essential because people who already have CVD and may struggle with mental ill-health such as depression/anxiety, which is exacerbated by job insecurity, may experience further health complications, such as more heart attacks. Having a heart attack is an emotional situation for the individual. Recovering and managing the long-term effects of CVD on overall health and wellbeing – e.g. decreased stamina – is also an emotional situation for the individual (Steptoe & Brydon, 2009; Steptoe & Kivimäki, 2012; Strike & Steptoe, 2004). Therefore, it is crucial to investigate the extent to which employees' needs, such as sick leave, a phased return, support and adjustments at work, are in place and aim to alleviate employees' worries, both about their health and their ability to continue working.

There are specific risk factors which increase the likelihood of getting blocked arteries. These include high blood pressure (hypertension), being physically inactive, high blood cholesterol, being overweight or obese, smoking, family history of heart disease, diabetes, ageing, and being male. Hypertension has been linked to stress – the body's reaction to demands – and distress, which is a psychological state caused by inability to adapt to stressors (Lazarus, 2006; Selye, 1976). Work-related stress increases the prevalence of health-risk behaviours such as the desire to smoke or eat fatty foods and unwillingness to exercise; this is the body's survival response to the 'emergency': slowing down the body's energy expenditure (metabolism) in order to endure more and deal with the stressor (Sarafino & Smith, 2014). However, this reaction system is more effective with physical stressors than psychological ones. Family history genetically increases the predisposition to developing a CVD. Diabetes is linked to the prevalence of CVD because high blood glucose levels cause blood vessels to deteriorate. With respect to sex and age, studies suggest that men and older people are at higher risk of developing a CVD than women and younger people (Resnick & Howard, 2002; Sarafino & Smith, 2014; Townsend et al., 2012).

Regarding the direct connection between CVD risk factors and the impact of job insecurity, research shows that job insecurity causes stress. In particular, job insecurity is a source of stress involving potential job loss, fear and anxiety, and can increase the likelihood of both physical/psychological ill health and accidents at work (Greenhalgh & Rosenblatt, 1984; Probst, 2008; Probst & Brubaker, 2001). Chronic psychosocial stress causes hypertension, which increases the risk of CVD (Spruill, 2010). Health-risk behaviours that increase CVD risk, such as smoking, lack of exercise, and unhealthy eating, may develop due to stress. The

combination of stress caused by job insecurity and other work-related matters increases the chances of developing hypertension and a CVD; therefore, it is vital to understand the risks posed to health by job insecurity (M. Virtanen et al., 2013).

The meta-analysis by Virtanen et al. (2013) provides evidence of a modest association between job insecurity and incidences of CHD, which is the most common CVD and includes myocardial infarction/heart attack, stable and unstable angina, and sudden cardiac death (Wong, 2014). This association was found to be partly attributable to the more deprived socioeconomic circumstances and less favourable profile of risk factors among people with job insecurity. Several questions need further investigation. The extent to which other health conditions, such as mental ill-health, contribute to the impact of job insecurity on CVD and CHD remains unclear. In addition, job insecurity only represents part of the psychosocial work environment. Factors such as increased workload and decreased job control could partly mediate the effect of job insecurity on CHD, while other psychosocial factors (including support from supervisors, co-workers and family members) could act as buffers. Another question is whether indirect indicators of job insecurity (such as downsizing or temporary employment), financial insecurity and a poor psychosocial work environment (such as high effort or demands, low control, and low social support at work) have additional health consequences. In summary, findings suggest that perceived job insecurity seems to be, at best, a modest risk factor for CHD at the population level. However, we cannot rule out the possibility that it could be harmful to coronary health in certain contexts, particularly for vulnerable individuals.

Studies have suggested the expected impact of job insecurity on CVD. M. Virtanen et al. (2013) conducted a study on 174,438 participants from 13 countries to explore the impact of perceived job insecurity on CHD incidence. Interestingly, there was an association between perceived job insecurity and the incidence rates of CHD among employees. This association was highly attributable to socioeconomic factors and the general state of financial insecurity. This means that employees who are not financially independent – e.g. no family support, no savings, in debt, loans in their name, covering family expenses – experience more psychological distress, hypertension and further symptoms at the thought of losing their job (Footman & Tumanov, 2013).

From another point of view, SES is related to family status, education, income and occupation. Individuals with high SES experience strains such as job insecurity in a less psychologically intense way than people with low SES; this is the main reason why mortality and morbidity due to CVD are higher for the latter

(Page, Lane, Taylor, & Dobson, 2012). More specifically, and as mentioned above, there is comorbidity between hypertension and psychological distress; hypertension, or high blood pressure, is a risk factor for CVD. In particular, employees who experience psychological distress due to job insecurity and low SES are more likely to develop hypertension and consequently be at high risk of CVD occurrence (Dekker & Schaufeli, 1995; Footman, Roberts, Tumanov, & McKee, 2013; Mirowsky & Ross, 2003). Furthermore, Tsutsumi, Kayaba, and Ishikawa (2011) found that male employees with low occupational status experience higher occupational stress, which was linked to a higher risk of stroke.

Furthermore, job insecurity has an impact on employees' health through experiences of burnout (Westman, Etzion, & Danon, 2001). Burnout is a psychological strain caused by chronic work stressors, which include emotional exhaustion, depersonalization and reduced personal accomplishment (Schaufeli, Leiter, & Maslach, 2009). Employees overwork, over-try, overstay, work under pressure and eventually become chronically stressed. All these have a direct and indirect impact on employees' health and wellbeing, which increases the likelihood of CVD among them (Ahola, Toppinen-Tanner, Huuhtanen, Koskinen, & Väänänen, 2009; Melamed, Shirom, Toker, Berliner, & Shapira, 2006; Toppinen-Tanner, Ahola, Koskinen, & Väänänen, 2009; Westman, Etzion, & Danon, 2001).

1.5. Job Insecurity in Europe

This section will present findings on job insecurity and its varying impact on employees' wellbeing, prosperity and health in different European countries. Relatively few studies include most European countries and the more representative studies with respect to the number of participating European countries will be presented first. Smaller studies with fewer countries will then be presented to better frame our understanding of findings within Europe.

It could be expected that countries with higher financial insecurity due to the economic crisis and debt, such as Greece, Spain, Portugal and Ireland (OECD, 2018), will also score higher on the impact of unemployment and fear of job insecurity. Erlinghagen's (2008) study incorporates a multilevel analysis of 45,680 participants from 17 European countries (Austria, Belgium, the Czech Republic, Germany, Denmark, Spain, France, Finland, Greece, Portugal, Poland, Norway, the Netherlands, Ireland, Sweden, the UK and Hungary). It revealed that there were indeed cross-country differences in perceptions on job insecurity. However, the differences were not only due to different economies. Findings on job insecurity and selected macro-indicators showed that job insecurity was not

necessarily caused in a similar manner in countries such as Portugal, Spain and Greece. For instance, the scores for social security and job stability were lower for Greece than for Portugal and Spain, but the three countries had similar scores for job insecurity. In addition, the scores for employment protection (the extent of dismissal protection) were higher for Greece than for Portugal and Spain, but the scores for job insecurity were similar among the three countries. Job insecurity in Europe is not just perceived as a personal problem but as a potential problem for the whole society; the causes need to be tackled.

The findings of Erlinghagen's study highlight that there is no simple correlation between economic and societal factors in an environment with respect to perceived job insecurity. Erlinghagen's study enhances theoretical understanding of why European countries may have differences in perceived job insecurity and that further, more extensive research is required to address the study's limitations and investigate this matter. Erlinghagen suggested that future research should investigate employment conditions affecting job insecurity and country-specific factors, test the impact of job insecurity through longitudinal analyses, include self-employed people, and use a multi-item variable for job insecurity. Both microeconomic perspectives, where job insecurity is a personal problem (self-perceptions), and macroeconomic perspectives, where job insecurity is society's problem (including legislation, policies), contain differences between European counties, e.g. Greece and Belgium. There are also determinants of job insecurity related to both macroeconomic and microeconomic perspectives.

Another large study was conducted by László et al. (2009) on the impact of job insecurity on health in 16 European countries, with a total sample of 23,245 employees. Job insecurity was significantly associated with poor health in the Czech Republic, Greece, Denmark, Germany, Hungary, the Netherlands, Poland, European Russia, and Israel. On the other hand, job insecurity was not significantly associated with poor health in Austria, Italy, France, Spain and Switzerland. There was also no effect in Belgium and Sweden. The findings of that study were intriguing because an association between job insecurity and health was found in both countries that severely experienced the financial crisis/cuts and countries which were financially stronger (e.g. Greece and Germany, respectively), suggesting that job insecurity has an impact on health regardless of a country's financial situation. However, the study's limitations must be considered: in particular, the very small sample for some countries might have affected the accuracy of the findings. Therefore, further large studies in European

countries are required to extensively explore differences and their causes between European countries.

Stuckler et al. (2011) studied the effects of the 2008 recession and consequences such as job insecurity in 10 European countries; Austria, Finland, Greece, Ireland, the Netherlands, the UK, the Czech Republic, Hungary, Lithuania and Romania. The results indicated that levels of morbidity and mortality had considerably increased between 2000 and 2009, with a high increase in suicide rates, especially in countries severely affected by the crisis, such as Greece and Ireland. Cross-country differences with respect to suicide rates and declining wellbeing rates were explicitly shown in this study. Mediterranean countries scored higher on perceived job insecurity than English-speaking and Continental countries, e.g. Germany, Austria, Belgium and Luxembourg (Origo & Pagani, 2009).

Muñoz de Bustillo and De Pedraza (2010) conducted research on five European countries (Belgium, Finland, Germany, Spain and the Netherlands) to explore the determinants of job insecurity. The number of participants ranged from 3,500 in Finland to 85,000 in the Netherlands. As stated by the authors, each female employee's objective situation in the labour market explains her subjective job insecurity. The research included both male and female employees but mainly focused on women because perceived self-insecurity was considerably higher for them, even after controlling for the different labour market characteristics related to sex. The findings demonstrated that job insecurity is negatively associated with education and positively associated with ageing and temporary job contracts (not part-time). Non-permanent contracts and instability regarding job continuity and prospects do trigger job insecurity; these are profoundly affected by legislative frameworks and infrastructures, which will be covered later in the thesis. Country differences with respect to the state-of-the-art for employment affect how people experience moving from 'jobless' to 'having a job', full-time to part-time, and permanent to temporary jobs. This fundamental understanding sheds light on how cross-country differences develop within Europe (Blossfeld & Hakim, 1997; Erlinghagen, 2007, 2008).

Furthermore, Näswall and De Witte (2003) studied the impact of job insecurity and employees' wellbeing in four European countries: Belgium, the Netherlands, Italy and Sweden. Their findings showed that manual workers, older employees, contingent/casual employees and those with lower education experienced the highest levels of job insecurity and the lowest levels of wellbeing. Their findings were similar for all four countries. Their findings were also similar

to those of Muñoz de Bustillo and De Pedraza (2010) on the determinants of job insecurity, particularly age and education.

1.6. Research Questions and Thesis Plan

Based on the overall literature on CVD and job insecurity, as outlined above, this research will focus on employees' health status, employment issues, personal issues and country differences between the UK and Greece due to their different economic backgrounds and situations during the financial crisis. The Greek economy is weaker and has been more affected by the crisis than that of the UK (Gelos et al., 2009; Karanikolos et al., 2013; Kentikelenis et al., 2011; Simou & Koutsogeorgou, 2014). Identifying the differences and similarities between the UK and Greece will be a way to establish knowledge and generalise findings on the impact of job insecurity on health in countries with different economic backgrounds; further exploration of best practices to deal with job insecurity would be the next step.

Health-related outcomes in this thesis include employees with a CVD, self-reported health status, wellbeing and work-related stress, work-life balance, and the work-related health-risk behaviour of presenteeism. Presenteeism is defined in terms of lost productivity that occurs when employees attend work despite illness and underperform due to ill health (Cooper & Dewe, 2008). Presenteeism is negatively associated with employees' health and wellbeing (Skagen & Collins, 2016). Key employment issues include perceived job insecurity and the interaction with perceived employability, and experiences of employment protection. Key personal issues include the impact of having difficulty 'making ends meet' (financial insecurity/confidence) and the responsibility of caregivers to household's caretakers/dependents.

The thesis is based on the following research questions:

Quantitative part:

1. Are perceptions of job insecurity negatively associated with health-related outcomes in European employees with a CVD? If so, is there an interplay and interaction between job insecurity, health-related outcomes and other work-related and personal factors?
2. Are perceptions of job insecurity positively or negatively associated with work-related and personal factors for European employees with a CVD?

Qualitative part:

3. What are the perceived key factors associated with reintegration to work of employees with a CVD who had a heart attack?
4. Do experiences of employment protection and workplace social support significantly improve employees' sense of job security, quality of life and health after a heart attack?
5. Are experiences of employment protection and workplace social support similar or different between English and Greek employees who had a heart attack?
6. Are there any gaps in the implementation of Employment Protection for employees with a CVD? What are the future needs in policy and practice?

The thesis is structured in five further chapters, whose contents are briefly summarised below:

- Chapter 2 presents the literature review and the main theoretical concepts guiding the two empirical studies. Key concepts are discussed, and the model development and rationale of integration are presented.
- Chapter 3 presents the research design based on mixed methods and methodological decisions supporting the implementation of quantitative and qualitative studies.
- Chapter 4 presents the results of the quantitative study on a sample of 1,584 European employees with a CVD. The quantitative study tests the adapted conceptual model used in this research, which is built upon the BPS model and incorporates the JDCS model.
- Chapter 5 presents the results of the qualitative study on a sample of 30 employees (15 English, 15 Greek) who returned to work after a heart attack. Findings on experiences of job insecurity, employment protection and workplace social support are presented, alongside highlighted similarities and differences between the English and Greek samples.
- Chapter 6 presents an overall discussion and integration of the research results. The thesis's contributions are highlighted, as well as limitations and recommendations for research policy and practice.

The literature review in Chapter 2 will present how this research is theoretically grounded, approached and conducted. The following literature review aims to cover significant knowledge with respect to the interplay of job insecurity with other work-related and personal factors during a period of economic/financial

crisis in Europe. This literature review will cover knowledge linked to the adopted and adjusted theoretical framework for this doctoral study, which is based on the BPS model of health (Engel, 1977). It will additionally explicate the importance of selected variables that will be used in the quantitative and the qualitative parts of this research and discuss EPL and policy.

2. Chapter Two: Literature Review

The purpose of this chapter is to present previous research and findings, which support the rationale of this thesis and the proposed conceptual model that informs the quantitative and qualitative studies. A review of the literature was carried out focusing on the impact of job insecurity on health and its relation to other factors that also affect and/or are affected by job insecurity. The literature is used to support and inform the design of the empirical studies, which aim to inform current knowledge on the impact of job insecurity and employment protection on employees who had a heart attack and returned to work after sick leave. A systematic review was not chosen on this occasion because the aim of this chapter was to provide a summary and overview of the selected topic instead of answering a focused research question (Kysh, 2013). Systematic reviews including meta-analyses are the most robust approach regarding data analyses and drawing conclusions on current evidence. However, the strict eligibility criteria which stem from a specific research question may eliminate a lot of studies which provide a summary of a topic and result in the loss of useful information (Boland, Cherry, & Dickson, 2017; Gough, Oliver, & Thomas, 2017). The aim of the current literature review instead is to present what is already know about job insecurity, workplace social support, and employment protection in relation to work- and health-related outcomes, set the basis for the development of a theoretical model, and identify gaps and controversies in literature (Bryman, 2015).

The sources cited in this literature review were collected from the libraries of the University of Nottingham (UK), the Library of Congress (USA), and online databases such as Ovid, EBSCO, Web of Science, Scopus, JSTOR, Mendeley, PsycINFO, MEDLINE and SpringerLink. There was no restriction regarding publication year for the sources during the search, although the focus was on papers published after the economic crisis began in 2008. Most of the searching process took place between 2013 and 2016; however, regular checks of the literature after that period were completed to keep the thesis up to date. Terms searched through the databases included: 'job security/insecurity', 'job certainty/uncertainty', 'employment protection', 'employment security/insecurity', 'financial security/insecurity', 'financial certainty/uncertainty', 'financial confidence', 'economic/financial crisis', 'health', 'physical health', 'mental health', 'CVD', 'heart attack', 'CHD', 'myocardial infarction', 'work-related stress', 'job stress', 'stress at work', 'wellbeing', 'work-life balance/imbalance', 'work-life conflict', 'health-risk behaviour', 'work-related health-risk behaviour', 'sickness presenteeism', 'presenteeism', 'working sick', 'employability', 'responsibility to

dependents/family/family members', 'caring for family', 'caring for disabled family members', 'caring for children', 'caregivers and caretakers', 'pressure at work', 'job demands', 'work demands', 'job control', 'control at work', 'work-related control, 'social support', 'social support at work', 'workplace social support', 'educational background', 'education', 'knowledge', 'type of contract', 'permanent/temporary employment', 'precariousness', 'flexible work', 'flexicurity', 'European working conditions', 'employment legislation/policy/practice', 'health and safety at work', 'sick leave', and 'employment rights'.

2.1. Research Questions One and Two: A Model on Job Insecurity and Health-related Outcomes

Each research question consists of certain hypotheses supported by previous findings. As mentioned in the introduction, the quantitative part is based on two research questions:

1. Are perceptions of job insecurity negatively associated with health-related outcomes in European employees with a CVD? If so, is there an interplay and interaction between job insecurity, health-related outcomes and other work-related and personal factors?
2. Are perceptions of job insecurity positively or negatively associated with work-related and personal factors for European employees who have a CVD?

2.1.1. Independent factors

Independent/exogenous factors include demographics and covariates (country, sector, sex, age, education, contract and experience), and social support provision at work. Previous findings on their impact on the dependent factors are presented below to support the proposed model.

2.1.1.1. Demographics and covariates

There is research indicating that country differences (both cultural and economic) may affect levels of job insecurity, unemployment and health in European countries (Stuckler et al., 2009). In addition, previous findings show that there are differences between the private and public sector with respect to work-related experiences, which may include an effect on perceptions of job insecurity (Bartley & Ferrie, 2001; Buelens & Van den Broeck, 2007). Moreover, previous research shows that both gender and age differences affect perceptions of job insecurity (Gaunt & Benjamin, 2007; Hank & Erlinghagen, 2011). Previous research has also shown that levels of education and years of work experience,

understood through the impact of job stability (consistent with many years of experience in an organisation), may affect sense of job control, job insecurity, employability and consequently financial security/confidence (Green & Leeves, 2013; Gregorio & Lee, 2002; Groot & De Brink, 2000; McGuinness & Wooden, 2009; Neumark, 2000; Ross & Reskin, 1992; Zavras et al., 2012). Additionally, the type of contract (with respect to precariousness) and the number of working hours have been found to affect employees' work-life balance and financial situation (Bohle, Quinlan, Kennedy, & Williamson, 2004; Lewchuk, De Wolff, King, & Polanyi, 2003).

2.1.1.2. Workplace social support

According to many scholars, social capital consists of social support, networks and social trust, which all affect employees' health (Ferlander, 2007). Social capital, and consequently support, is described as 'the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalised relationships of mutual acquaintance or recognition' (Bourdieu & Richardson, 1986, p.248). Social capital at the labour market level is conceptualised as a social contract concerning working life (Suikkanen & Viinamäki, 1999). Work intensification makes it more difficult for people to spend time with family and friends, which increases the significance of the workplace as a source of social capital. Therefore, working life as a source of social capital is seen as a source of employees' health and wellbeing (Liukkonen, Virtanen, Kivimäki, Pentti, & Vahtera, 2004).

Social support includes four functions: emotional support (offering empathy and care), tangible/instrumental support (financial assistance and/or other services), informational support (guidance), and appraisal/companionship support (sense of social belonging and self) (Heaney & Israel, 2008; Slevin et al., 1996; Taylor, 2011; Uchino, 2006). Studies have shown that social support may help with work-life balance and conflict (Kinman & Jones, 2008; Kossek, Pichler, Bodner, & Hammer, 2011; Warren & Johnson, 1995). Previous research has showed that both formal and informal workplace social support affect the sense of job control and, consequently, job insecurity, employability and its consequences on health and wellbeing (Constable & Russell, 1986; Greenhalgh & Rosenblatt, 1984; Jang, 2009; Kinman, Wray, & Strange, 2011; Thomas, Goodwin, & Goodwin, 1985; Thompson & Prottas, 2006; Wittekind, Raeder, & Grote, 2010). Support provision is linked to better health, wellbeing, and lower levels of stress (Schwarzer & Leppin, 1991; Thoits, 2010; Viswesvaran, Sanchez,

& Fisher, 1999). Presenteeism, which is the work-related health-risk behaviour in this research, has been linked to harmonious relationships with colleagues; employees who experience heavy workloads, psychological distress and precarious job status but receive support from their colleagues have been found more likely to go to work ill (Biron & Saksvik, 2009). Social support is usually treated as the buffer or moderator of the relationship between job strain, caused by low control and high demands, and outcomes such as health and wellbeing. Social support has an impact on the levels of control experienced by employees. Consequently, sense of control affects experiences of insecurity and demands, which adds the element of mediation that will be explored in the proposed model (De Lange, Taris, Kompier, Houtman, & Bongers, 2003; Thompson & Prottas, 2006; Van der Doef & Maes, 1998, 1999).

The benefits of multifaceted support are numerous. Apart from the social support from colleagues, employer and manager, employees who received counselling for 12 months through an employee assistance programme reported a 10% decrease in sick leave, a 21% decrease in job insecurity, a 14% decrease in being late for work, and a 10% decrease in leaving work early (Gabriel & Liimatainen, 2000; Jenkins & Coney, 1992; Spicer, 1987). Employers should provide such support to their employees to improve employees' health and wellbeing, especially for those with a health problem such as a CVD.

2.1.2. Dependent factors and mediators

The work- and person-related dependent/endogenous factors include job insecurity, financial security/confidence, employability, responsibility to dependents (caring for children and elderly/disabled relatives), job demands and job control. The health-related dependent/endogenous factors include self-reported health status, wellbeing, work-life balance, health-risk behaviour (presenteeism) and stress. Previous findings on their interactions are presented below to support the proposed model. Literature on the impact of work- and person-related factors on the health-related factors is also presented below.

2.1.2.1. Job insecurity

Low job security is linked to poor self-reported health and wellbeing, and high levels of psychological distress and work-related stress in both females and males, which increases the risk of cardiovascular mortality (Burchell, 2011; Ferrie, Marmot, Griffiths, & Ziglio, 1999; Kivimäki et al., 2002; Marmot, 2015; Marmot & Wilkinson, 2005). Common themes are the impacts of unemployment on people's

physical and mental health; however, job insecurity includes one more factor that is not persistent in the case of unemployment: anticipation and fear of job loss (Ferrie et al., 1995). Unemployed individuals experience the reality of unemployment; they do not anticipate loss. By contrast, job insecurity entails constant fear of losing your job and anticipating the worst. A person who is constantly afraid of losing their job and is unsure how to react remains constantly on alert (Ferrie, 2001; László et al., 2010). The psychological distress caused by job insecurity is associated with hypertension and consequently increases the likelihood of heart problems, e.g. CVD, heart failure, or stroke (Footman et al., 2013).

Cheng and Chan (2008) also examined the impact of job insecurity on employees, focusing on the aspects of organisational tenure, age and sex. Employees with longer tenure and who were older had poorer physical and psychological health compared to younger employees with shorter tenure, regardless of sex. Job insecurity clearly affected employees' health levels: the impact was higher for those who set work and career as a priority in their life. Employees who hold lower-status jobs, such as manual jobs (blue-collar workers), and less-educated people have been found to experience more psychological distress due to job insecurity than people with higher job status and a better educational background due to their lack of specialities and social networks. Increased levels of unemployment have an impact on job certainty and overall health in a society (Näswall & De Witte, 2003). Self-perceptions of low employability due to lack of previous working experience and limited education/training have been linked to how people deal with job insecurity (Silla, De Cuyper, Gracia, Peiró, & De Witte, 2009). In addition, experiences of past unemployment and perceived unemployment increase fear of unemployment and job insecurity among employees. This finding supports the inextricable connection between levels of unemployment and levels of job insecurity in a society (Gimpelson & Oshchepkov, 2012).

A study on job insecurity and health conducted in Denmark by Rugulies et al. (2007) concluded that job insecurity could indeed be a predictor of poor health. In particular, results showed that employees who experienced job insecurity were likely to experience poorer health than employees who did not experience job insecurity. However, the results were mainly significant for women and the men with poor labour market opportunities.

Literature also shows that job insecurity affects work-life balance by putting pressure on employees, especially those who have children; this occurs because

job insecurity, work intensification, lone parenting and increased demands for parents to be involved in their children's education overlap (Burchell, Wichert, & Nolan, 2002; Dex, 1999; Dex & Bond, 2005; Dex & Smith, 2002). Previous research showed that job insecurity has an impact on family life, including caring for children and elderly/disabled relatives (Council of Europe Publishing, 2005; Larson, Wilson, & Beley, 1994; Stone & Short, 1990). Therefore, the impact of job insecurity will be tested for both work-life balance and caring for family members.

With respect to health-risk behaviours, the current research focuses on one work-related health-risk behaviour, namely presenteeism. Previous studies concur that presenteeism negatively affects health (Bergström et al., 2009; Sanderson & Cocker, 2013). Presenteeism is caused by attendance pressure factors, which are related to work-related factors such as job insecurity, personal/family factors and attitudinal factors (Schabracq, Winnubst, & Cooper, 2003). Therefore, the proposed model incorporates presenteeism as part of the main health-related outcomes, as seen above. Job insecurity has been found to impact on levels of presenteeism: employees who experience subjective job insecurity are more likely to go to work while feeling unwell (Hansen & Andersen, 2008; Heponiemi et al., 2010; Johns, 2010).

Employees who would struggle to maintain their current living standards in the case of job loss are thought to be more in need of their job, especially employees with financial dependents. This type of financial dependence is a form of job dependence that might make employees more vulnerable to the impact of job insecurity (Cheng & Chan, 2008; Greenhalgh & Rosenblatt, 1984; Richter, 2011). The 2010 European Working Conditions Survey did not include a question on job dependence (e.g. Would you be able to make ends meet if you lost your job?); therefore, perceived financial security/confidence was used: 'Thinking of your household's total monthly income, is your household able to make ends meet?'. Job-dependent employees, who experience lack of job control and are consequently insecure about their job, may also feel insecure and psychologically distressed about their financial situation (Giannetti, Madia, & Moretti, 2014). Previous research showed that financial insecurity did not moderate the relationship between job insecurity and mental health because people faced with job insecurity may be vulnerable to mental ill health even if they do not feel financially insecure (Rajani, Giannakopoulos, & Filippidis, 2016).

De Cuyper, Bernhard-Oettel, Berntson, Witte, and Alarco (2008) found that job insecurity mediated the relationship between employability and wellbeing, which indicated that employability was negatively associated with job insecurity.

Therefore, the mediating role of job insecurity between employability and health-related outcomes will be tested.

2.1.2.2. Financial security/confidence

Financial security and confidence are affected by the existence and increase of unemployment at country level, which is linked to lack of employment opportunities in organisations. Thoughts and behaviours with respect to finances are also affected by one's financial literacy and confidence (Tokar Asaad, 2015). Financial insecurity could easily be linked to potential poverty and limited resources, which are social determinants of health (Marmot & Wilkinson, 2005). Lackf of financial security may affect households' welfare and prosperity. It may affect the coverage of all primary and secondary household needs such as housing security, food security, tax/bills payment, members' health insurance/treatment provision, education and personal development activities. Studies in the United States have illustrated that households experiencing food insecurity due to financial insecurity (low or no income) show dramatically higher levels of poor health, wellbeing and morbidity (Stuff et al., 2004). That can be due to individual differences, malnutrition through inability to buy healthy and/or enough food supplies, but also due to stress caused by overall financial insecurity. There is strong evidence that financial insecurity elevates levels of psychological distress, seeking help for psychological distress, and nonspecific physiological illness (Catalano, 1991). In addition, housing insecurity due to mortgage indebtedness heavily increases the burden of job loss and financial insecurity, causing individuals to experience lower wellbeing (Nettleton & Burrows, 1998). In addition, even permanent employees have been found to experience financial insecurity and uncertainty, especially during sick leave, due to the impact of volatile markets on their organisation and uncertainty about the level of their earnings (lower income due to sick pay) (Lewchuk, Clarke, & De Wolff, 2008).

Lack of financial security/confidence or financial strain is a strong predictor of poor health status, because it is linked to an individual's ability to take care of themselves and/or others and access resources. Financial strain is not only associated with poverty but also cognitive capacity, self-esteem and depression among adults (Kahn & Pearlin, 2006). Financial strain has also been found to mediate the interaction between job loss, depression and reduced personal control. Furthermore, personal control mediates the adverse impact of financial strain on self-reported poor health (Price, Choi, & Vinokur, 2002). Kahn and Pearlin (2006) conducted a retrospective study on 1,165 adults aged 65 years and older

to investigate the extent to which long-term financial strain/insecurity harms an individual's health. They concluded that the longer the duration of financial hardship, the greater the negative effect of financial insecurity on health. The findings specifically suggested the relevance of cumulative experiences of job insecurity throughout one's life, rather than a short-term experience; the impact on health of early experiences of financial strain may be obviated if they do not last throughout adulthood. On the other hand, research has shown that, besides duration, the timing of financial strain is important. Individuals who experience financial strain during childhood are more likely to have lower cognitive functioning than others later in life, although that may be due to their parents' low cognitive functioning too (Szanton, Thorpe, & Whitfield, 2010). Linking to previously mentioned findings, lower cognitive functioning is associated with financial strain and poor health, both as a cause and a result (Price et al., 2002).

The Whitehall II study by Stafford et al. (2004) suggested that financial insecurity only partly explains the interaction between job insecurity and health; therefore, it is necessary to explore this aspect while focusing on the European economy and examining more than one country. Whereas the Whitehall study was conducted on the UK public sector, the current study will focus on Europe because there are available datasets for all European Union countries that cover the period of the recent recession. These may help in generalising the effect of job insecurity on populations.

Employees who struggle with their finances and standard of living may experience higher levels of work-life imbalance due to the excessive demands upon them (Madipelli, Sarma, & Chinnappaiah, 2013; Pichler, 2009). Additionally, they are more likely to work while feeling unwell due to increased insecurity; therefore, levels of presenteeism tend to increase when the number of employees with financial difficulties and job insecurity increases (Aronsson & Gustafsson, 2005; Aronsson, Gustafsson, & Dallner, 2000). Lastly, financial difficulties in an employee's organisation, which may make them financially insecure, are one of various causes of work-related stress (Michie, 2002).

2.1.2.3. Employability

Employability is people's capability to find and maintain their job, which is heavily dependent upon business needs and what the employee can offer at that particular time (Hillage & Pollard, 1998). However, the idea of self-perceived employability includes not only an individual's actual abilities but also their perceptions about them (Brown, Hesketh, & Williams, 2004). The increased pace

of organisational changes, which not only affect work-related issues but also personal issues and roles, exacerbate vagueness and insecurity. These trends massively drive employers towards employability initiatives. These trends also drive employees towards resilience in order to remain employable (Fugate, Kinicki, & Ashforth, 2004; Lifton, 1999). Career success has been linked to resilience and ability to adapt (Hall, 2002; Hall & Mirvis, 1995). Pursuant of that definition, Fugate et al. (2004) proposed three dimensions to the concept of employability: career identity, personal adaptability, and social and human capital. Employability is a highly person-oriented psychosocial construct, which coincides with the latest trend of individual responsibility regarding career management and development (Hall & Mirvis, 1995). Career identity is inextricably linked to an individual's understanding of 'who one wants to be' and 'what one wants to do' in relation to given opportunities at a certain time. Therefore, individuals with a clear view of these cognitive components, will flexibly direct themselves towards available pathways leading to the desired outcome. Moreover, the employee's knowledge, skills and abilities (KSAs) are crucial regarding the selection process (McClough & Rogelberg, 2003). An amalgam of the three elements constitutes personal adaptability: realisation of opportunities, the skill to adapt, and a predisposition to personal growth and change (Ashforth & Fugate, 2001; Fugate et al., 2004). Individuals who are proactive in their workplace, rather than reactive or passive, are more satisfied in the long term and have better career prospects. Proactivity goes hand-in-hand with adaptability (Crant, 2000; McArdle, Waters, Briscoe, & Hall, 2007). The social and human capital is the investment made by employees and employers towards achieving future desirable outcomes. The social and human capital incorporates all the opportunities that may stem from networking (Fugate et al., 2004).

Available opportunities to develop and organisational demands are essentially outside employees' sphere of influence (McQuaid & Lindsay, 2005). The changing nature of work, e.g. lifetime work security versus employment, and the changes in public employment policies have shifted focus to the development of skills and lifelong learning process. Employability can be a useful tool, but unrealistic expectations regarding employment may not be in line with the market's workforce demands (Baruch, 2001). Historical focus on lifelong employment has today shifted to lifelong employability (Forrier & Sels, 2003). Employability could also be understood as the capacity to remain 'attractive' in the labour market (Baruch, 2001; De Grip, Van Loo, & Sanders, 2004; Sanders & De Grip, 2004). Employability does not just entail being able to get a job and

satisfy the market's needs; it primarily concerns the individual's empowerment to perceive themselves as employable. The former focus is external and the latter is internal (Harvey, 2001). Employability has been presented and promoted as an effective way to make employees feel more empowered, thereby increasing their feeling of trust towards their organisation.

Nevertheless, organisations started using employability as a tool to replace commitment or avoid necessary actions for establishing organisational commitment. Commitment is an essential part of the psychological contract: employees agree to exert effort for the betterment of their organisation in order to receive relevant benefits (bonuses, remuneration, etc.) (Nicholson & Johns, 1985). In addition, job security is a means to commitment. Baruch (2001) suggests that it would be unacceptable for organisations to promote employability as a replacement for the psychological contract. Unfortunately, employability has merely been seen as a way to smoothly deal with job insecurity, rather than a powerful tool that can affect the economy through entrepreneurship. It is quite usual for educated people to perceive the value of employability as a way to prepare for foreseeable restructuring and/or redundancy, instead of a means of empowerment (Baruch, 2001). Employability could also be seen as the new career pattern; as preparation for a future career with the current or potentially a new employer (Peiperl & Baruch, 1997). The old type of psychological contract covered aspects that lead to a consistently productive organisation and a satisfied, even inspired, employee, where job security sets the ground (win-win). Although the new relationship approach between employer and employee has been devised to ease economic pressure, it does not ultimately lead to consistent and thorough success. The lack of success stems from individuals becoming dissatisfied, demotivated, desperate and uncertain about their future; even worse, they are motivated by fear. Three scenarios indicate what could hinder the success story of this relationship type: the win-lose situation where the organisation remains productive in the short-term but employees cannot continue and/or commit due to low prospects; the eventual 'lose-win' situation where the highly skilled employees leave their company for better opportunities elsewhere; and the 'lose-lose' situation where both organisations and employees become immersed in a hopeless, non-entrepreneurial environment, affecting development within the community (Baruch, 2001).

Research shows that people who perceive themselves as employable enjoy higher levels of life satisfaction during periods of job insecurity (Silla et al., 2009). In addition, deliberate provision of education and career development, combined

with resilience, enhance self-perceived employability (Wittekind et al., 2010). Studies have shown that the employability affects the levels of wellbeing and health, and also has a buffering effect on the impact of job insecurity on health and wellbeing (Berntson & Marklund, 2007; La Valle, 2002; Otterbach & Sousa-Poza, 2016). Silla et al. (2009) conducted a study on 639 Belgian employees and found that perceived employability moderated the relationship between job insecurity and wellbeing. However, Kirves, De Cuyper, Kinnunen, and Nätti (2011) found that perceived employability did not buffer the positive relationship between job insecurity and psychological symptoms. In the present study, employability will be tested for its impact on job insecurity and moderating effect on the interactions between job insecurity and health-related outcomes.

As mentioned earlier, employability may be negatively associated with job insecurity and job insecurity may be associated (positively or negatively) with lack of work-life balance, presenteeism and work-related stress (Anderson & Pontusson, 2007; Aronsson et al., 2000; Burchell, 2011; Burchell et al., 2002; De Cuyper & De Witte, 2006; Kivimäki et al., 2002; Marmot, 2015; Marmot & Wilkinson, 2005). Therefore, apart from checking the mediating effect of job insecurity, this study will test whether employability is directly associated with work-life balance, presenteeism and work-related stress.

2.1.2.4. Responsibility to dependents: Children and elderly/disabled relatives

Responsibility to dependents is split into two parts: caring for children and caring for elderly, disabled, and elderly disabled relatives. This division is necessary due to the different care elements for each group: e.g. educating children compared to providing nursing/medical care to elderly and disabled relatives. In addition, people who are younger may have to care for their children and elderly parents, whereas older people may have grown-up children and their parents may have passed away. Studies have shown that people with dependents (e.g. children and/or disabled relatives) to support will experience higher levels of distress due to job insecurity and will not invest much time in attending to personal and family matters. Therefore, the health and health-risk behaviours of employees with dependents will be more affected by job insecurity (Erlinghagen, 2007; De Witte, 1999). Muñoz de Bustillo et al. (2010), as mentioned earlier, conducted a study of five European countries and found variation in policies and the social context supporting families, which can differently shape the implications of having dependents. Welch's (2004) study found that parenthood can moderate the

association between job insecurity and wellbeing. Hewitt, Baxter, and Western (2006) found that both employed and unemployed men with preschool children reported worse health than men with the same employment status with older children, and that women in full-time employment with children reported worse health than women with children in part-time or no employment. Employees with children experience both benefits and costs with respect to their wellbeing, with parents facing greater parenting stress than employees without children. Current policies can help to control these benefits and costs (Busby & James, 2011; Umberson, Pudrovska, & Reczek, 2010). For instance, research shows that deregulation and flexibility of the labour market leads to job insecurity, which consequently leads to life course insecurity, in turn affecting employees' decisions on parenthood and childcare (Golsch, 2005).

Individuals who care for elderly/disabled relatives have been shown to experience psychological distress and work-related stress due to the overall burden of caregiving. Women were also found to spend more time caring for elderly/disabled relatives than men (Singleton, 2000). Additionally, employees who need to care for elderly/disabled relatives face more difficulties regarding balancing their time between work and caregiving. Finding time to provide care for elderly/disabled family members may put pressure on employees, particularly those without flexible work (Haley, 2003; Merrill, 1997; Singleton, 2000; Wolf, Freedman, & Soldo, 1997).

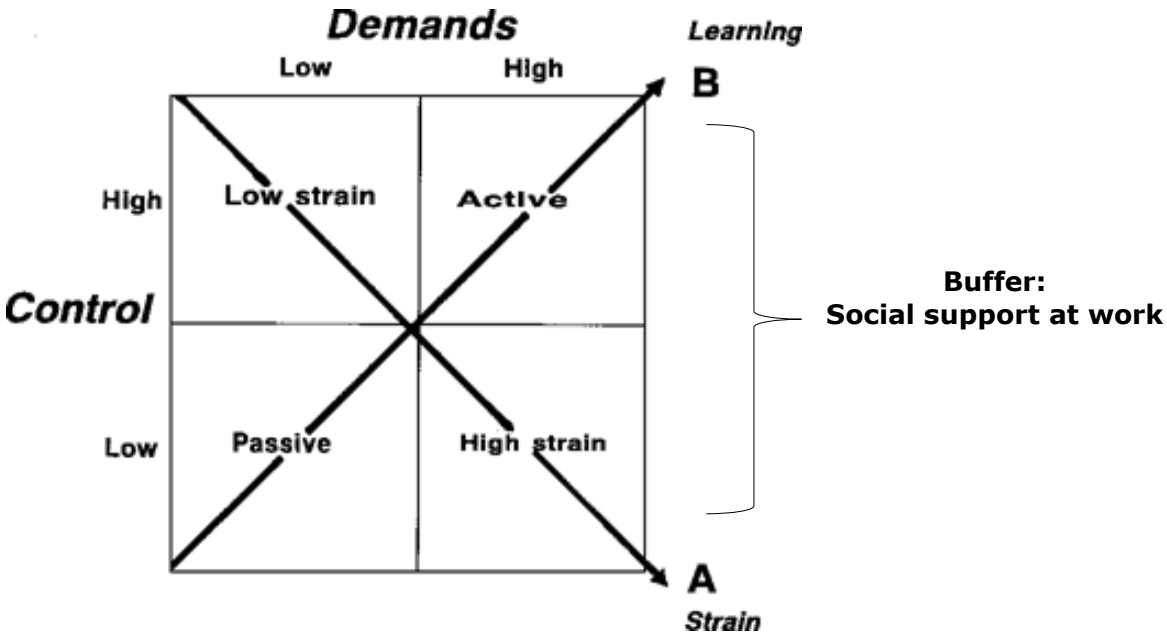
2.1.2.5. Job demands and job control

One of the most influential models in research on the relationship between work and health is the job demand-control (JDC) model, also known as the job strain model. The JDC model identifies two crucial aspects in the work situation: job demands and job control (Karasek, 1979). In the 1980s, a social dimension was added to the model, resulting in the job demands-control-support (JDCS) model (Johnson & Hall, 1988; Johnson, Hall, & Theorell, 1989). The concept of workplace social support was derived from the broader literature on social support. In one of the earliest and subsequently most-used definitions, Cobb (1976) defined social support as information leading the employee to believe that s/he is loved, valued and belongs to a network of communication and mutual obligation.

In their review of CVD research, Schnall, Landsbergis, and Baker (1994) concluded that epidemiological studies generally support the model. Job demands can be quantitative (e.g. task requirement and job content), cognitive (e.g.

workload and work pace), emotional (e.g. social factors and work schedule), and physical (e.g. organisational factors: control, environment, culture, interpersonal relationships, role, home-work interface) (Cox & Griffiths, 1996; Eurofound, 2007; International Organization for Standardization/ISO, 1991, 1996, 2004). Job control, which is sometimes called decision latitude, refers to the person's sense of control and ability to manage his/her work activities.

Figure 2.1. The job demand-control model adapted from Karasek (1979)



As Figure 2.1 depicts, employees who experience low sense of job control and high demands are prone to job strain. Job strain is a form of psychosocial stress that occurs in the workplace, and is also a risk factor for CVD (Kivimäki et al., 2012). In addition, low sense of control impacts on the extent to which employees experience job insecurity. The buffer hypothesis of the JDCS model treats social support as a moderator of the negative impact of high strain; therefore, the impact of job strain on job insecurity and other work-related factors is affected by the levels of workplace social support (Greenhalgh & Rosenblatt, 1984; Johnson & Hall, 1988; Schreurs, Hetty van Emmerik, Günter, & Germeys, 2012).

Many studies support that high job strain has an impact on health, wellbeing, work-life balance, work-related stress and presenteeism. Job strain increases the likelihood of CVD; therefore, it is important to understand the role of job demands and control in relation to job insecurity in the proposed model (Belkic, Landsbergis, Schnall, & Baker, 2004; De Jonge, Bosma, Peter, & Siegrist, 2000; Demerouti, Le Blanc, Bakker, Schaufeli, & Hox, 2009; Johnson & Hall, 1988; Johnson et al., 1989; Kinman & Jones, 2008; Kuper & Marmot, 2003; McDonald, 2003; Nyberg et al., 2013; Schnall et al., 1994; Theorell & Karasek, 1996). In addition, previous research has found that job control may moderate the relationship between job insecurity and health; therefore, further research may confirm this (Barling & Kelloway, 1996; Schreurs, Van Emmerik, Notelaers, & De Witte, 2010). With respect to the interaction between job control and job demands, some studies show that employees who experience job control may cope with job demands in a more constructive and less stressful way. Previous findings indicate that this may happen due to other factors, such as employees' self-efficacy. Consequently, the proposed model will explore the effect of job control on job demands (Schaubroeck, Jones, & Xie, 2001; Schaubroeck & Merritt, 1997). Due to the above-explained impacts on health-related outcomes of not only job demands and control but also social support at work, the JDCS model was found the most suitable model to enrich the proposed model.

2.1.2.6. Interactions between health-related outcomes

Research shows that work-related stress affects health status, levels of wellbeing, work-life balance and health-risk behaviours such as presenteeism (Bell, Rajendran, & Theiler, 2012; Elstad & Vabø, 2008; Heraclides, Chandola, Witte, & Brunner, 2012; Jung, Lee, & Arakida, 2007; Tennant, 2001; Thoits, 2010). With respect to presenteeism, research identifies a reciprocal interaction between presenteeism and health, whereby health conditions affect presenteeism and vice versa (Schultz, Chen, & Edington, 2009; Skagen & Collins, 2016; Yang, Zhu, & Xie, 2015). Additionally, presenteeism affects wellbeing and work-life balance (Cullen & McLaughlin, 2006; Skagen & Collins, 2016). Yamashita and Arakida (2006) identified five key consequences of presenteeism: aggravation of quality of life and health, increased health-related costs, adverse effects on colleagues, increased accidents at work and deterioration of the quality of services. Research shows that managers who allow a culture of presenteeism at work and aim to improve their staff's work-life balance ultimately experience their own lack of work-life balance (Cullen & McLaughlin, 2006). Research also shows

that lack of work-life balance impacts on employees' wellbeing and health (Lunau, Bambra, Eikemo, van Der Wel, & Dragano, 2014).

2.1.3. The combination of models and the role of job insecurity

Levels of morbidity are affected by the levels of wellbeing, overall health, stress, lifestyle and behaviours. The current research focuses on the extent to which various working conditions, combined with perceived job insecurity, increase the likelihood of experiencing poor health, lack of wellbeing and work-life balance, and work-related stress, and ultimately developing health-risk behaviours. This research focuses on the work-related health-risk behaviour of presenteeism. Due to the nature of the data, the impact of certain factors could not be retrospectively studied through a cross-sectional study. The impact of predictors and mediators on health-related outcomes was studied on employees with a CVD, seeking to understand their interactions.

The three approaches of the BPS model have been embedded into the suggested theoretical framework. In particular, the suggested theoretical framework links biological and psychological/behavioural outcomes to psychological and social factors. In addition to Engel's model, the proposed theoretical framework encompasses economic/financial factors to enhance understanding of the current state-of-the-art concerning the Eurozone crisis and increasing job insecurity. The demographics are mainly a combination of social and biological factors: e.g. country of origin, sector, age, gender, and CVD status. The effects of job insecurity and perceived employability illustrate the impact of social elements on psychological state. The rates of perceived job insecurity represent the extent to which an employee feels insecure and afraid of losing his/her job, combined with limited prospects of finding another job. Financial difficulty is more related to the effects of economic factors on psychological state. Responsibility to dependents (children/ disabled relatives) is an amalgam of social, economic and psychological factors due to its link to the provision of emotional and physical support. Behaviours that escalate the likelihood of increased morbidity are outcomes directly linked to the biological aspects of the model.

Particularly, the proposed theoretical framework includes continuous, nominal, and ordinal variables. It includes demographics which are controlled for their effect, social support as the independent/exogenous variable alongside other covariates (education, experience, type of contract), and other predictors and mediators such as job insecurity, employability, financial security/confidence, responsibility to dependents (caring for children and elderly/disabled relatives). It

also includes key outcomes, which were checked for inter-interactions, and include health status, wellbeing, work-life balance, health-risk behaviour (presenteeism), and work-related stress. The demographics include age, which is focused on the adult working population (>18 years old), without upper limit. The research includes both sexes to build a model applicable to both. Health status reflects the individual's perspective and personal rating on their levels of health, as well as their medical history, e.g. severe incidents such as suffering a stroke or heart attack. Employment type concerns whether the individual has part-time/full-time and permanent/temporary employment. Educational background reflects levels of completed education and academic achievements. Country of origin should not be confused with country of residence.

Demographics such as country of origin (EU27), sector (private, public or joint), sex (female or male), age (adults), education level (any), type of contract (permanent or temporary), and years of experience in the organisation were explored to better understand the nature of the sample. However, some variables were treated as control variables and some as covariates. Country, sector, sex and age were treated as control variables because the aim was to see how the model works regardless of those variables' impacts. It would otherwise be difficult to ensure internal validity, lack of variable contamination, and similar model function across different countries, sectors, sexes and ages (Cheng & Chan, 2008; Näswall & De Witte, 2003; Spector & Brannick, 2011; Witte, 1999). Education, experience and type of contract were included as covariates to take their effect into consideration.

Additionally, workplace social support was treated as the main independent variable of the model due to its effect on various factors. Job demands and job control were checked for their impact on job insecurity and health-related outcomes due to previous findings mentioned earlier. Regarding the mediators selected from the literature, financial security/confidence represents the difficulties faced by employees and measures their subjective view and confidence about financial matters in their life. Responsibility to dependents represents the needs and pressure that working individuals must address in caring for their children and/or disabled relatives, especially as they are often the most important contributors to household resources. Due to the subjective nature of perceived financial security/confidence, which can be affected by the level of perceived job insecurity, financial security/confidence was tested as a potential mediator of the relationship between job insecurity and health-related outcomes, rather than a moderator.

As mentioned above, the quantitative part of this research focuses on using theoretical knowledge to build a new work-related biopsychosocial model incorporating the JDCS model alongside a range of factors aiming to understand the interplay between job insecurity and other factors. The qualitative part then enriches our understanding of employees' views and experiences regarding job insecurity, employment protection and return to work. The initial version of the model is depicted in Figure 2.2; the final version is discussed in the thesis's final chapter. The literature review indicates the need for further research on the impact of job insecurity to not only include more countries and sectors but also build a comprehensive model presenting the interplay between work-related and personal factors. The aim of the proposed model is to create an adapted version of both the BPS and JDCS models, which also creates a link to the impact of employment protection legislation (EPL) and policies on employees' experience of job insecurity, job demands, control and support at work. The work-related biopsychosocial model developed in this study is linked to gathering knowledge on employees' experiences of EPL, policies and practices with respect to job insecurity after a heart attack.

The hypotheses linked to the research questions and the proposed model based on them are presented below (Figure 2.2):

Research questions (1-2):

1. Are perceptions of job insecurity negatively associated with health-related outcomes in European employees with a CVD? If so, is there an interplay and interaction between job insecurity, health-related outcomes and other work-related and personal factors?
2. Are perceptions of job insecurity positively or negatively associated with work-related and personal factors for European employees who have a CVD?

Primary Hypotheses (H1-H2):

H1. Job insecurity* will be:

a) negatively associated with health-related outcomes (health status, wellbeing, work-life balance), and positively associated with presenteeism as a health-risk behaviour, and work-related stress;

b) negatively associated with financial security/confidence, employability and responsibility to dependents (children and elderly/disabled relatives);

c) associated with JDCS and employability.

H2. Financial security/confidence* and responsibility for dependents* (caring for children and elderly/disabled relatives) will be:
a) positively associated with health-related outcomes (health, status, wellbeing, work-life balance), and negatively associated with presenteeism and work-related stress;
b) associated with JDCS.

*Mediating/moderating effect will be checked.

Secondary Hypotheses (H4-H5):

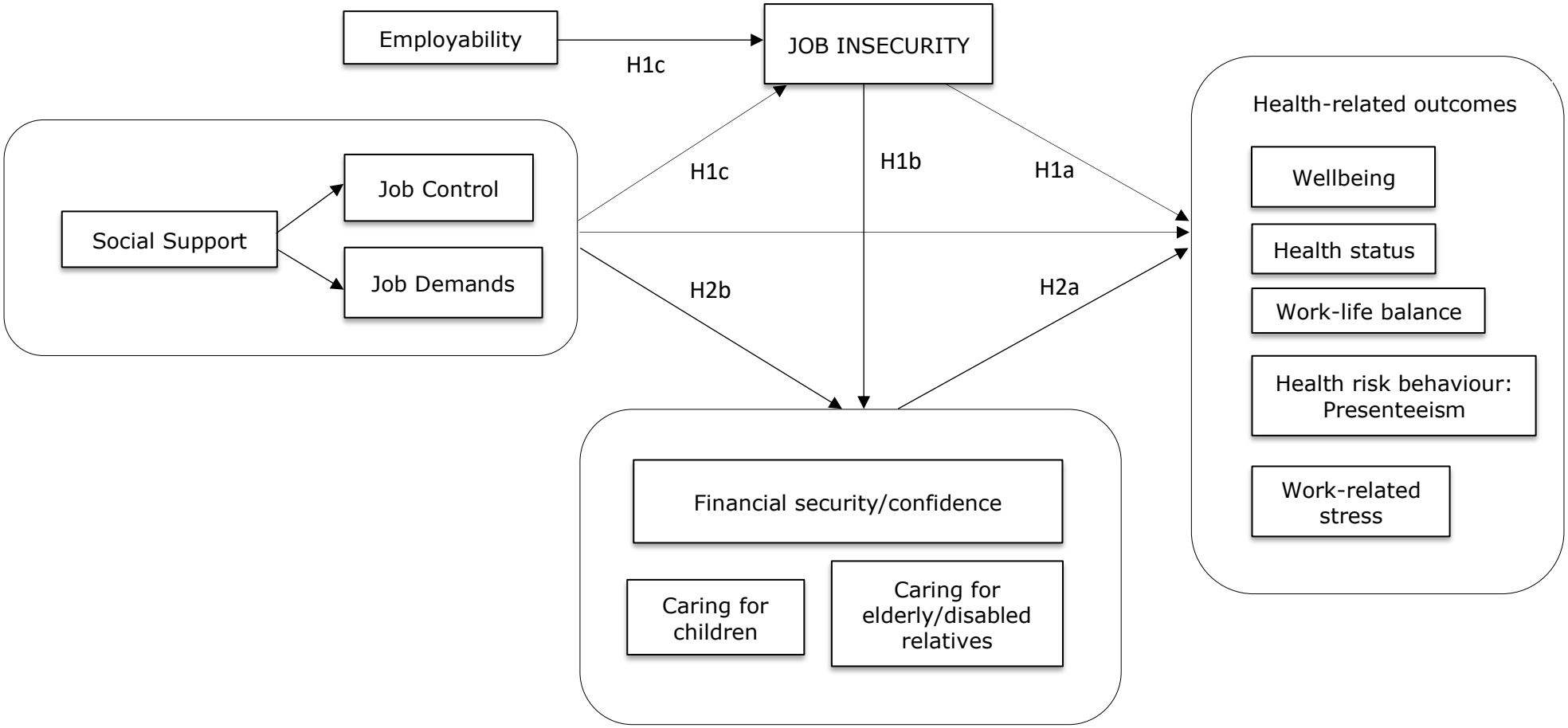
H3. There is going to be an interplay between the health-related outcomes.

H4. Employees, who feel supported at work will experience an increased sense of job control and lower levels of job demands.

H5. Employees' level of education, years of experience and type of contract will affect job insecurity and other work-related factors.

Note: The version of the model which includes all the hypotheses of mediation based on the literature is available in Appendix A.2.

Figure 2.2. Multi-mediational model controlled for country, sector, sex and age differences



2.2. Research Questions Three to Six: Job Insecurity and Employment Protection

The role of EPL and policies will be presented below to demonstrate the ways it affects employees' experience of job insecurity, job demands, control and social support at work. This part of the literature is the core of the qualitative study. In addition, this part of the thesis focuses not generally on CVD but specifically on employees who had a heart attack. It is important to focus on a specific condition in the qualitative study to achieve research accuracy and rigour.

Literature relevant to the following research questions will be presented below, aiming to set the basis for the qualitative study in Chapter 5:

3. What are the perceived key factors associated with reintegration to work of employees with a CVD who had a heart attack?
4. Do experiences of employment protection and workplace social support significantly improve employees' sense of job security, quality of life and health after a heart attack?
5. Are experiences of employment protection and workplace social support similar or different between English and Greek employees who had a heart attack?
6. Are there any gaps in the implementation of Employment Protection for employees with a CVD? What are the future needs in policy and practice?

2.2.1. Information on employment protection

The definition of employment protection aims to set protective boundaries for employers and incorporate control of not only firing procedures but also hiring procedures. Dismissal or employment protection is considered a microeconomic measure for job insecurity, which uses rules and provisions to restrain employers' ability to dismiss employees (Büchtemann & Walwei, 1996). The firing procedures usually involve redundancy, severance, prenotification and collective dismissals. On the other side, regarding hiring procedures, EP focuses on conditions related to short-term, temporary, or fixed-term contracts; favouring disadvantaged groups (e.g. people with mild disabilities); training opportunities and development, etc. There has been much discussion around the topic of employment protection and especially employment protection legislation (EPL). EPL is quintessentially a set of regulations that establish limits on organisations. EPL comprises all the measures taken to protect the working standards for employees, either driven by legislation or customary policies/practices, the latter

referring to those regulations unanimously agreed between employers and employees, but not legally mandated (ILO, 2012; OECD, 1999). These policies and good practices are followed with a view to ensuring the effectiveness of EP; filling a gap wherever legislation does not act. However, the law and policies co-support and co-enhance each other in many ways (Barone, 2001; Bertola, Boeri, & Cazes, 1999; Pissarides, 2001). From an employment security point of view, all employers must provide a written statement to employees within two months of them joining; this should set out certain information about their employment and rights. This statement includes information regarding their title, job, workplace, length of employment, working hours, holiday arrangement, termination, sick leave, disciplinary matters, etc. However, the element of psychosocial support is not usually seen in contracts or further discussed (Gold, 2009).

The Organisation for Economic Co-operation and Development (OECD) has established the EPL Index, which is a valuable tool for measuring countries' degrees and strictness of EPL. The OECD has 34 members, of which 24 are in Europe. The OECD member countries are: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxemburg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the UK, and United States. Therefore, the EPL Index has only been tested in these countries. The index includes 18 items, whose classification is grounded on three different areas (OECD, 2013a, 2019). These areas are related to specific requirements on collective dismissal, employment protection for a regular employee and his/her individual dismissal, and finally the control of temporary employment. The 18 items measure these three areas using a coding system: e.g. numbers of temporary contracts, units of time (notice and severance pay), ordinal scale scores 0-4 or yes/no. Consequently, the levels of EPL strictness within each OECD member country are calculated by the indicators' results, combining numbers on the regulation for regular contracts, collective dismissals, and temporary employment. Obviously, effective comparisons can only be drawn for OECD member countries where EPL strictness has been equivalently measured. Changes to EPL strictness within OECD member countries are obvious due to current financial instabilities. There has been a shift from permanent employment to flexible employment. In the OECD's 2013 report, New Zealand had no protection for collective dismissals, but Belgium was ranked highest; New Zealand also scored the lowest with respect to EP, whereas Germany was ranked highest.

Earlier findings also indicate that EPL strictness has been higher in Greece than in the UK (Cazes & Nesporova, 2004; OECD, 2013b).

In the past there have been studies supporting various views with respect to EPL's use and effectiveness in the real labour market world. For instance, there have been arguments that EPL increases permanent employment, but decreases the ratio between employment opportunities and the wider population. This decrease may potentially contribute to higher levels of unemployment in the society (Belot, Boone, and Van Ours, 2007). However, there are findings suggesting that EPL does not necessarily increase the levels of unemployment in the society. In a previous study on this issue, Portugal and the United States were compared in order to see whether EPL is associated to unemployment rates. Interestingly, Portugal has very strict EPL contrary to United States, but the levels of unemployment are similar (OECD, 1999; Pissarides, 2001). This suggests that there are confounding variables and other factors that have not been considered and affect unemployment. For instance, organisations may be reluctant to start firing employees regardless of EPL due to the costs that the firing process implies in the short term. This has an impact on the general levels of unemployment in a country. The tendencies to keep or fire employees is not only affected by organisations' preference, but mainly the economic fluctuations and instability, which force organisations to financial cuts regardless of EPL needs (Barone, 2001; Lazear, 1990). Instability within an organisation supersedes EP standards due to viability needs and even labour laws may get altered in order to serve these needs (Clauwaert & Schömann, 2012). During volatile times strict EPL increases binding and decreases turnover. Employees' intentions to quit may be inhibited due to the application of legislation that protects their employment rights (Micco & Pagés, 2006). Nevertheless, when job insecurity is considered, the understanding of the situation gets more complicated than previously assumed; employees force themselves to work more to prove that they are valuable to the organisation (Staufenbiel & König, 2010).

Barone (2001) mentions that EPL reduces both job destruction and job creation, which causes a constant debate from an economic perspective on whether EPL is a useful tool or not. EPL increases the length of employment due to the pressure placed upon the employers not to easily or unfairly dismiss their employees. However, due to this exact pressure on employers to keep employed as many employees as possible, there is a counterproductive effect in the long term. Employers are much more hesitant to hire new people. They are afraid of having to keep and pay more people during a potential recession, considering the

impact of global financial crisis hitherto. They are afraid that if they keep more people, this will eventually drive company's profitability to lower levels and even threat with downsizing and/or shut down. In addition to this, there are many European countries that have fixed-term contracts, which enhances temporary employment. However, the intriguing point is that they do not only have fixed-term contracts, but also heavy EP taxes. The former promotes job creation and the latter promotes job destruction, respectively. These two policies are somehow in conflict. EPL does not necessarily increase unemployment; unemployment is likely to increase due to employees who support both contradicting policies at the same time. Support of these contradicting policies at the same time deteriorates and sabotages the efficiency of practice (Barone, 2001; Cahuc & Postel-Vinay, 2002).

There have been findings suggesting that employees do substantially prefer job flexibility and they would not mind changing jobs if they are sure that there will be opportunities for transition, not unemployment. In other words, the new wave of job protection combined with temporary employment is not unfounded, but individuals need to experience some kind of job security within the labour market(Barone, 2001; Cahuc & Postel-Vinay, 2002; Wilthagen & Tros, 2004). However, a study by Clark and Postel-Vinay (2009) on job protection and job security in 12 European countries suggested that employees experience higher levels of security when they are permanently employed in the public sector, followed by permanently employed in the private sector. Their findings also suggested that EPL strictness is negatively associated to job security and what makes employees experience security, regardless of permanent or temporary employment, is the existence of Unemployment Insurance Benefit. From a wider perspective, this conclusion has a valid point because strict EPL is likely to make individuals feel more insecure during the recession because organisations may not fire, but they do not hire either.

It is obvious that there are many debating oppositions with respect to the levels of EPL strictness and job flexibility. It would be better said that both are needed, but a conditional approach to their use is vital. In other words, EPL is necessary for the optimal job protection and employees' welfare, but the levels and differentiations of strictness affect how employment evolves and mirrors the solutions to financial crisis. The current state-of-the-art may not be the prevalence of permanent employment, but secure flexible employment. Strict EPL is better used under the spectrum of permanency, which has started being an out-dated trend nowadays (Viebrock & Clasen, 2009a). Employees still need to feel secure

by knowing that there are non-stop opportunities for employment for them regardless of contracts' length. Multiple secure temporary fixed-term contracts, which substantially contribute to individual's career skills, could be the pieces of the employment puzzle, which is labelled permanent employment. In that sense, both flexibility and security are achieved. Flexibility comes to the front as a need to support economy and organisational growth, and security as a need for individuals' welfare and wellbeing. Therefore 'flexicurity' has been proposed as the new term aiming to fight against job insecurity and unemployment. For example, the application of flexicurity which is attempted through the decrease in firing costs may contribute to flexible job transitions, which counteracts unemployment (Kugler & Saint-Paul, 2004; Wilthagen & Tros, 2004).

Belot et al., (2007) analysed how employment protection affects the economy and concluded that low levels of employment protection have a positive impact on economic growth. Even if employment protection has been blamed for labour turnover decrease and increase of unemployment's duration, Pissarides (2001) supports that employment protection does not decrease job creation when it is optimally used. Additionally, regulations, which promote employment opportunities, and affect levels of job insecurity are under the Decent Work Agenda, which was launched in 1999 by ILO. There are four objectives, which lead to decent work for all employees; these are rights at work and international labour standards, employment and income opportunities, social security, and social dialogue. Improvement in these objectives, improves the impact of EP (Fudge, McCrystal, & Sankaran, 2012).

2.2.1.1. Employment protection in England

British labour law was characterised by a deliberate policy of abstentionism of the state. Until the 1960s, employment protection was delegated to voluntary collective agreements concluded between employers and trade unions. British labour law was fundamentally reformed between 1960 and 1970, but the comprehensive statutory employment protection was still a recent affair in the 1990s. However, current employment legislation in England has vastly changed and complies with the standards and rules by the European Union for members (European Commission, 2019; Kruppe, Rogowski, & Schömann, 1998; Turner, 2013).

Employment protection should not only protect one's job, which is affected by sick absence due to a health problem, but also help employees go back to work and do their job as best they can without experiencing lack of job control, and

consequently job insecurity. Employees, who had e.g. a heart attack, have employment and recovery needs, which are currently addressed by legislation on sick leave, provision of adjustments at work, and unfair dismissals. These are presented below for the UK.

Legislation aiming to control job insecurity through mental health protection and promotion at work for employees is covered by health and safety law. All employers in the UK must comply with EPL and the Health and Safety at Work Act (1974) and the Management of Health & Safety at Work regulations (1992). By following this act, employers must provide a safe working environment, a safe system of work, safe equipment, protection from hazards and provision of necessary training; the right to fair and just conditions. Nevertheless, this legislation and act focus mostly on physical hazards rather than psychosocial hazards at work without addressing the issue of 'fair exchange' (Ales, 2013; Cushway, 2014; Riesenhuber, 2012). Therefore, initiatives have emerged such as PRIMA-EF aiming to cover that gap (Leka, Cox, & Zwetsloot, 2008; Leka & Kortum, 2008). Additionally, Management Standards for work-related stress are available by the HSE in the UK, but they are voluntary and not used by all employers (EU-OSHA, 2002; HSE, 2019; Sivris & Leka, 2015). Additionally, EU-OSHA (2019) provides guidelines on risk assessment for psychosocial risks and stress, which are available to all employers in the UK.

2.2.1.1.1. Straight after the heart attack: Sick leave and recovery

The current UK employment legislation and rights on sick leave instructs employees to take time off work if they are ill and that they need to give their employer proof if they are ill for more than seven days (GOV.UK, 2019b). If employees are off work for seven days or less, they can self-certify as sick and do not need to give their employer a fit note or other proof of sickness from a medical professional. Employees must give their employer a doctor's fit note if they have been ill for more than seven days in a row and have taken sick leave including non-working days (weekends and bank holidays). Fit notes are free if the employee has been ill for more than seven days when they ask for one. The doctor might charge a fee if they ask for the fit note earlier. The fit note states that the employee is either 'not fit for work' or 'may be fit for work'. If the fit note states that the employee 'may be fit for work', employers must discuss any changes that might help the employee return to work (for example, different hours or tasks). The employee must be treated as 'not fit for work' if there is no agreement on these changes. As explained below, employers must make changes to an

employee's working conditions if they are disabled. These changes are known as 'reasonable adjustments' and could include working shorter hours or adapting equipment employees use at work (GOV.UK, 2019b).

There is no automatic right that an employee will be paid by his employer during periods of sick leave. The position is entirely contractual, and any entitlement must be found in the employment contract. Therefore, the Social Security Contributions and Benefits Act 1992, and Statutory Sick Pay (SSP) have become of most significance (Turner, 2013). Statutory holiday entitlement is built up while an employee is off work sick no matter how long they are off work. Any statutory holiday entitlement that is not used because of illness can be carried over into the next leave year. If an employee is ill just before or during their holiday, they can take it as sick leave instead. The employers cannot force employees to take holidays/annual leave instead of a sick leave when they are eligible for a sick leave, but an employee can ask to take their paid holiday for the time they are off work sick. They might do this if they do not qualify for sick pay, for example. When an employee changes their holiday to sick leave, they are paid SSP which will count towards the amount of holiday pay they have received. The exceptions to this rule are employees who do not qualify for SSP, were off work sick and being paid 'occupational sick pay', just returned to work (GOV.UK, 2019b).

Employees who are off work sick for more than four weeks may be considered long-term sick. A long-term sick employee is still entitled to annual leave. Employers can dismiss an employee who is long-term sick, only if they have first tried to help the employee return to work by working flexibly or part-time, doing different or less stressful work (with training if necessary), and consulted with the employee about when s/he could return to work and if health will improve. An employee can take their case to an employment tribunal if they think they have been unfairly dismissed (GOV.UK, 2019b).

2.2.1.1.2. Back to work after the heart attack: Reasonable adjustments for employees with health conditions

It is employers' legal responsibility to make reasonable adjustments to make sure employees, who have a health condition or a disability (physical or mental), are not substantially disadvantaged when doing their job. Equality law (Equality Act 2010) recognises that achieving equality for disabled people and people with health conditions may mean changing the way that employment is structured. Employers must pay for any necessary adjustments at work (GOV.UK, 2019a).

This applies to all types of employees e.g. permanent, temporary, trainees, contract employees etc.

A failure to make reasonable adjustments counts as unlawful discrimination. There are three reasonable adjustment requirements, which should be followed by all employers: 1) change how things are done, 2) make changes to overcome barriers created by the health condition, 3) provide extra equipment. Some examples of reasonable adjustments are allowing employees to have a phased return to work, including flexible hours, part-time working or working from home, making physical changes in the working environment e.g. installing certain furniture or equipment, doing things another way e.g. not lifting heavy loads after a heart attack, and offering employees recreation/relaxation and refreshment facilities. Additionally, if an employee needs adjustments due to a health condition, that is not a valid reason for an employer to dismiss or not promote the employee if s/he is the best person for the role. Employees with a health condition should discuss the adjustments with their employer to agree the best and most effective adjustments for them (EHRC, 2019; GOV.UK, 2019b; HSE, 2019).

2.2.1.1.3. Facing an unfair dismissal

Lack of effective and appropriate adjustments after e.g. a heart attack may hinder employees' ability to do their job, which can consequently lead to unfair dismissals. Unfair dismissals happen when the employers do not give a valid reason and justification for dismissal, do not act reasonably in the circumstances, are not consistent with the cause of dismissal, have not fully investigated the situation before dismissing you, do not follow formal disciplinary or dismissal process. Some situations when a dismissal may be unfair include if the employee asked for flexible working, refused to give up working time rights (e.g. rest breaks), exposed wrongdoing in the workplace (whistleblowing), were forced to retire, joined a trade union, took part in legal industrial action, needed time off for jury service, applied for maternity/paternity/adoption leave, and tried to enforce right to receive working tax credits. Part-time or fixed-time employees should not be treated less favourably than full-time or permanent employees. Employees, who are dismissed, must be given at least the notice stated in their contract or the statutory minimum notice period, whichever is longer. Employees have the right to ask for a written statement from their employer giving the reasons for dismissal if they have completed two years' service. Employers must provide this statement regardless of whether the employee was dismissed while on maternity leave. Employees, who are threatened with dismissals or unfairly

dismissed, can get help from a third party to solve the issue by mediation, conciliation and arbitration. Before 6th April 2012, employees had to be employed for a year to qualify for the right to claim unfair dismissal at the tribunal. Since 6th April 2012, the qualifying period has been increased to two years. However, since 25th June 2013 there has been no qualifying period for employees, who have been unfairly dismissed due to political opinions or affiliations (GOV.UK, 2019b).

Additionally, some employers use the Bradford Formula, which is voluntary, as a guide for dismissal to calculate a score which indicates the level of absenteeism for each employee. However, this approach is very problematic because it does not factor in any chronic illness and it can lead to discrimination and/or unfair dismissals if not re-adjusted (Chignell, 2018).

2.2.1.2. Employment protection in Greece

Greek labour law had defied separate codification, at least in the area of employment protection with some legislation introduced in the 1980s on collective labour law. The main regulations for employment protection in Greece formed part of the Civil Code, which was in force since 1946. However, after being a member of the EU, employment legislation in Greece complies with the standards and rules by the European Union (EuropeanCommission, 2019; Kruppe et al., 1998).

EPL is presented below for Greece as provided by the relevant ministry. As in the UK, the legislation aiming to control job insecurity through mental health protection and promotion at work are covered by legislation on health and safety regarding psychosocial risks. In Greece, all issues concerning employment rights and occupational safety and health (OSH) are under the responsibility of the Ministry of Labour and Social Security. Under law 1568/1985 in Greece, employers are legally responsible for protecting and promoting occupational health and safety for their employees. In addition to this law, there is the transposition of the 1989 EC Framework Directive, which provides a more accessible and simplified version of the existing law (Leka, 2003). All employers must comply with health and safety at work legislation, but there is a gap regarding the psychosocial risks caused by the lack of direct and indirect employment protection as mentioned earlier. EU-OSHA (2019) provides guidelines on risk assessment for psychosocial risks and stress, which are available to all employers in Greece (available in Greek in the relevant ministry). However, as mentioned earlier, this is voluntary.

2.2.1.2.1. Straight after the heart attack: Sick leave and recovery

Employees must inform their employer about their health problem as soon as possible. They must promptly provide a fit note ideally from a doctor from their Social Insurance Institute. Employees, who fail to comply with the above may be dismissed. Employees get paid their salaries based on article 657 AK only if the health issue was not deliberately caused by the employee, at work or outside work. There are specific time limits, which indicate a short-term illness or a chronic health problem. Employees with at least ten days of employment in an organisation can have 15 days of short-term paid sick leave. Employees with 1-4 years of employment in an organisation can have one month of short-term paid sick leave. Employees with 4-10 years of employment in an organisation can have three months of short-term paid sick leave. Employees with 10-15 years of employment in an organisation can have four months of short-term paid sick leave. Employees with more than 15 years of employment in an organisation can have six months of short-term paid sick leave. Employers must cover either half or full their wage. If an employee is paid daily, the employer should cover the number of average shifts per fortnight or month (YPAKP.GR, 2019).

The Social Insurance Institute usually starts providing health-related benefits after the fourth day of reported sickness. All employees in Greece must be insured. The employees, who claim a sick leave more than once a year, which does not last more than three days, do not receive any benefits. The employees, who claim a sick leave once or twice a year, which lasts more than three days, receive benefits on the fourth day of sick leave (first incident) and on the first day of sick leave (second incident). Employees' holidays are not used instead of a sick leave at first. If an employee has reached the limit of allowed short-term sick leave, as indicated above, holidays are used to cover the rest days off work (YPAKP.GR, 2019).

2.2.1.2.2. Back to work after the heart attack: Reasonable adjustments for employees with health conditions

The online platform of the Greek Ministry of Work and Pensions does not provide further information and guidance with respect to reasonable adjustments at work for employees with health conditions and disabilities. However, it provides a link to the organisation in Greece, which provides support and guidance to people with disabilities. This organisation mainly focuses on community support, housing and further benefits rather than empowering employees with disabilities

and health conditions at work (OPEKA.GR, 2019; YPAKP.GR, 2019). Interpretation of reasonable adjustments for employees with health conditions is not clear.

2.2.1.2.3. Facing an unfair dismissal

The contract of indefinite duration is terminated at any time freely by the employer as long as s/he complies with the legal formalities; providing a written termination of the employment contract and paying the compensation. However, in the case of a fixed-term contract or a work contract, there must be an important and justified reason for its termination (Article 672 of the Code of Civil Procedure). The employer can terminate the contract during the sickness of the employee, where the employer may dismiss the sick employee under the restrictions of Article 281 AK. A dismissal is deemed unfair when it occurs because an employee refuses to change his/her contracted hours. The online platform of the Greek Ministry of Work and Pensions does not provide further information and guidance with respect to action on unfair dismissals (YPAKP.GR, 2019).

2.2.1.3. Temporary employment and flexicurity

Rodgers (1989) identified four dimensions of the labour market: 1) the degree of certainty of continuing work, 2) control over the labour process, which is linked to the presence or absence of wages, pace of work, and trade unions, 3) the level of regulatory protection, and 4) income level. This multidimensional approach to temporary/precarious work highlights the broad range of labour market insecurities while missing the social processes and relationships, which turn somebody into a temporary employee. Temporary/precarious employment is defined by Vosko (2010, p.2) as 'work for remuneration characterised by uncertainty, low income, and limited social benefits and statutory entitlements' (Strauss & Fudge, 2013; Vosko, 2006; 2010). Traditional forms of permanent employment have been replaced by a system of precariousness that allows organisations to adjust the number of their manpower to actual number needed by firing and hiring accordingly. This is called numerical flexibility, which gives organisations the ability to match the relationship between customer demand, manpower needed and manufacturing capacity (Atkinson, 1984; Skorstad & Ramsdal, 2009). Greater flexibility is the term that can be used to summarise a range of modern forms of societal work, which started replacing the 'normal' working relationship and regulated working conditions. This flexibility aims to remove working-world structures, regulations, and orientation, which are against rapid operational adapting to markets' change (Hilderbrandt, Lorentzen, &

Eberhard, 2001). Flexicurity stands for this 'flexibility' and 'security' regarding employment. The model of flexicurity firstly started in Denmark in the 1990s as a new welfare model for a proactive labour market. It aims in empowering employees and focuses on a dynamic economy. It consists of three areas: flexible labour market, social security, and active labour market policy for the unemployed. In detail, flexicurity is designed based on the following policies: flexible and reliable contracts, lifelong learning strategies, labour market policies put in place, and social security structures for feasible and successive job transitions. This practically means that people will be able to change and find new desirable and prestigious jobs without difficulty, they will be able to evolve their career and skills through these various jobs, they will be able to experience the above due to effective implementation of the practices/policies across organisations and the country. They will also be able to 'survive', be financial independent, keep evolving, and investing on their development while finding themselves unemployed or in a transition period. The approach of flexicurity explicitly aims to set a basis for employees' security despite of employment type or status. Flexicurity supersedes the problem of unemployment and focuses on creating opportunities. Through the implementation of flexicurity Denmark's unemployment rates dropped from 10.2% to 5.2% within a decade; flexicurity presented as the Danish job miracle (Jørgensen, 2000, 2011; Madsen, 2005).

The best examples with respect to flexicurity's implementation have been Denmark and the Netherlands so far. The rest of Europe has started considering the wider application of it across European countries while global crisis has severely and inevitably affected the Eurozone. There are suggestions of a European market labour reform and flexicurity is first on the line. Austria has also successfully implemented the policy model of flexicurity (Viebrock & Clasen, 2009b; Wilthagen & Tros, 2004). It is worth mentioning that there are significant differences between Western and Eastern Europe. Even if there is interest for implementation, the needs are different; therefore, its application will have to take into consideration different factors. The whole concept of flexicurity was conceived in a totally western country, which explains why various factors have not been considered. The EPL and unemployment infrastructures vary between Western European countries, let alone eastern European ones. The eastern European countries persistently struggled with military issues, which lead them not to pay much attention on labour market reform such as flexicurity. It is more difficult for countries in any type of transition to consider reforming their labour market. There are initiatives across eastern European countries, however, more focus and

support are needed in order successfully implement flexicurity (Cazes & Nesporova, 2001; European Commission, 2006; Viebrock & Clasen, 2009).

2.2.1.3.1. Flexicurity and the Euro Plus Pact

The Euro Plus Pact fully supports the promotion of flexicurity within Eurozone in order to tackle the rising difficulties by the European sovereign debt crisis 2010. In particular, the Euro Plus Pact was initiated in 2011 and advocated by France and Germany for wider application within Europe. The Euro Plus Pact is a reformation of the Stability and Growth Pact (SGP) initiated in 1998. There have been criticisms of SGP due to Pact's violations, which lead to necessary actions and reform. Consequently, the Euro Plus Pact aims to foster employment opportunities and competitiveness, reinforce financial stability and sustainable public finances, and coordinate policies with respect to taxes. All these components drive the goals of European countries that partake in the Euro Plus Pact. The Pact is an agreement between 28 member states of the European Union. The Euro Plus Pact specifically promotes the implementation of national flexicurity pathways with a view to support the economy and the National Reform Programmes, which are in line with the European Employment strategy. The Pact will definitely play a significant role in the proper implementation of EPL with a view to control the effects of job insecurity and financial insecurity. Nevertheless there may be many caveats of its application due to country-differentiated financial and social difficulties, which will have to be dealt with caution by nations (Addison & Teixeira, 2003; Barnard, 2012; Boonstra, 2005; Wilthagen & Tros, 2004).

2.2.1.3.2. Implications

There has been a lot of debate around flexible (zero-hours contract) and temporary employment and the extent to which it causes damage to employees' health. Policies that emphasise labour market flexibility and deregulation have deteriorated working conditions and standards for many employees (ILO, 2008). European studies dominate the field of temporary employment contrary to other OECD countries scoring equally or higher on temporary employment. This has potentially occurred due to the existing Euro Plus Pact, which promotes a mindset of flexibility within Europe and various ways to ensure financial sustainability, employment opportunities and labour market stability (Barnard, 2012; De Cuyper et al., 2008). Benavides, Benach, Diez-Roux, and Roman (2000) have argued that the use of temporary employment may offer some benefits. However, if it was

going to be applied to the wider population, the implications would be numerous due to constant job seeking. Additionally, having people either temporarily employed or underemployed or merely satisfied with their employment would have a huge impact from a macroeconomic perspective; an impact not only economically driven, but also health driven because precariousness at work increases psychological morbidity (Virtanen et al., 2005).

The application of flexicurity may be somewhat beneficial, but a consistent psychological contract and permanent experience for employees, decreases the likelihood of job insecurity and consequently its effect on employees' health and the likelihood of developing a CVD. Additionally, employees, who experience a health problem while they are on temporary employment may face job insecurity with a different intensity compared to those in permanent position. Lack of extensive exposure to precarious employment eliminates the chances of psychological distress on employees and the number of accidents and injuries at work, which is quite important for organisations' welfare (Hammarström, Virtanen, & Janlert, 2010; Underhill & Quinlan, 2011; Waenerlund, Virtanen, & Hammarström, 2011; Walwei, 2002). Temporary employment may have various drawbacks for both employees and employers. There is a debate of whether temporary employment is a win-win situation for both (Von Hippel, Mangum, Greenberger, Heneman, & Skoglind, 1997). It may be more cost-effective to organisations and offer variety and growth to employees, but there are some caveats. If employees are less skilled and unable to contribute or even cause harm to the organisation, this will set the approach of temporary employment ineffective (Nollen, 1996). The drawbacks for employees are usually linked to perceived insecurity, poor psychological and physical wellbeing unless a mindset of employability is nurtured. The conclusion is that there are indeed some benefits for the economy, but the most important and difficult task for nations is to well manage this type of employment and the balance pros and the cons (De Cuyper & De Witte, 2006, 2007).

2.3. Conclusion

The aim of the current thesis is to focus on the impact of job insecurity and employment protection on the rise of NCDs, focusing on CVDs, in Europe. Previous literature has supported the fact that stress induced by perceptions of job insecurity increases the levels of physical and mental ill health. Bisig et al. (2000) found that perceptions of insecurity affected ten different self-reported indicators of health and health-related behaviours. Research shows that work-related stress,

psychological distress and mental ill health affect overall health, therefore, being a risk factor for CVD recurrence. When work-related stress becomes a chronic experience, it can lead to psychological distress and mental ill health such as generalised anxiety, depression, and burnout. Providing multifaceted psychosocial support to employees may buffer the impact of employment uncertainty and promote health among employees (Ferrie et al., 1999; Floyd, Povall, & Watson, 1994; Marmot, 2015; Schnall, Dobson, Rosskam, & Elling, 2018). Existing literature suggests an integrated approach as an effective way to deal with work-related psychosocial risks, which incorporates prevention, protection and treatment of those risks while keeping the employee an active participant at all stages (EU-OSHA, 2005).

This literature review aimed to set the basis and familiarise the reader with the background and the relevant findings so far. All model factors were presented and supported with relevant literature. As this research aims to add knowledge to the current literature on this topic, the aim also includes the identification, presentation and generalisation of similarities and differences across European countries with a focus on two countries with very different economies; England with a stable economy and Greece facing difficulties due to the economic crisis.

It is important to inform current policies and practices in order to control NCDs and their cost (World Bank, 2011). The economic insecurity does have an impact on health, which is affected by existing policies (Catalano, 1991). Employees, who are affected by the financial crisis and job insecurity, but also by a CVD, may perceive themselves in a personal crisis, which ultimately needs support and resolution (Hoff, 2014). With respect to Europe, there are differences between Western and Eastern Europe, which affect the health outcomes. Differences on lifestyle and health-risk behaviours are affected by psychosocial and economic factors, which have to be tackled in order to decrease NCD prevalence (Micco, 2006). There are studies such as Burgard's et al. (2012) and Bartley's (2005) stating that job insecurity should definitely be treated at a national level and should be dealt with using primary rather than secondary and tertiary prevention methods. Evidence shows that employees who hold temporary jobs and experience instability due to lack of employment protection, suffer from higher morbidity levels than employees who have a permanent job and experience stability and security (Virtanen et al., 2005). Nevertheless, findings support that 'temporary but secure jobs' are preferred by employees than 'permanent but insecure jobs'; the length of a contract may not be important when the employee perceives that s/he is not at risk of unemployment (Origo & Pagani, 2009).

Regarding macro and micro policies for job insecurity, Anderson & Pontusson (2007) analysed how macro and micro policies affect perceived job insecurity using data collected from 15 OECD countries. Their analysis showed that employment protection at a national level reduces the levels of job insecurity. Therefore, it is necessary to investigate how employment protection affects employees' wellbeing, insecurity and health-related behaviours; especially for employees diagnosed with a CVD. Previous studies on the positive impact of flexicurity on wellbeing at a national level in Denmark by Madsen (2002) and at an organisational level in Europe by Origo and Pagani (2012) could provide a further understanding on ways to deal with the impact of job insecurity on health.

Fear of potential dismissal due to relevant experience or due to surrounding factors, e.g. people losing their jobs, heavily contribute to higher levels of uncertainty and psychological distress. If nations set individuals' health as priority, employing proper and sound EPL and policies will be an effective strategy to deal with NCDs control through the context of working life (Domenighetti, d'Avanzo, & Bisig, 2000; OECD, 2013b; WHO, 2010).

The following chapters will present the methods used for the current thesis, the studies and the discussion on mixed methods results. This research has two main parts, a quantitative study and a qualitative study. The aim is to combine the quantitative and qualitative findings through a mixed-methods approach to better understand the ways job insecurity is linked to other factors, the ways employees understand and experience employment protection, and how legislation and policies on employment protection affect employees' experiences of job insecurity, job demands, job control and social support. The quantitative study focuses on employees with a CVD from the European Union, and the qualitative study focuses on employees with a CVD, who had a heart attack, from the UK and Greece. To get a fuller picture of the impact of job insecurity on employees affected by a CVD in Europe, mixed methods were employed as outlined in the next chapter.

3. Chapter Three: Methodology

3.1. Introduction

The current research is divided into two studies. The thesis uses mixed methods as the methodological approach. Mixed methods involve collecting, analysing and interpreting qualitative and quantitative data in two studies, which explore a similar phenomenon (Onwuegbuzie & Leech, 2006). The first study (Chapter 4) focuses on testing the proposed theoretical model on the quantitative data of the European Working Conditions Survey (2010). The second study (Chapter 5) focuses on exploring the factors of the quantitative model at a qualitative level in order to enrich the understanding of concepts, explore areas, which were missed on the quantitative part, and identify areas for future research.

A mixed-methods approach was selected due to its significance and logic of inquiry. With a mixed method, the current research presents deduction through testing the model's hypotheses, induction through the discovery of patterns through the thematic analysis of the interviews, and abduction through the explanation and interpretation of both quantitative and qualitative results (Creswell & Creswell, 2017; Johnson & Onwuegbuzie, 2004)

The following sections of this chapter present in more detail the overall methodology for the current thesis. The chapter starts by explaining the full mixed-methods research design: qualitative and quantitative elements. The chapter continues by explaining the general data sources and data analysis strategies for each method used. The last part focuses on the ethical issues and actions taken to comply with National Health System (NHS) and University standards.

3.2. Research Design

3.2.1. Justification for mixed-methods approach

The use of mixed methods enriches the research with a variety of data interpreted with multiple perspectives and viewpoints (Greene, Benjamin, & Goodyear, 2001). Mixed methods are employed when a quantitative or qualitative method alone is not enough to understand a multifaceted issue. Various situations, which include human behaviour, are complex by nature; therefore integrating quantitative and qualitative findings can help to comprehend its relations, interactions and implications by combining quantifiable findings through statistics with the potential insight and enrichment of qualitative findings (Mack, 2005). It is necessary to employ a mixed-methods approach when the aim of the research is to not only confirm a theoretical framework, but also to enrich current

understanding of an issue by exploring other related areas, or vice versa. Previous research suggests that mixed methods and the integration of quantitative and qualitative data are justified by eight key functions. These functions include triangulation, answering various research questions, explaining findings from multiple perspectives, developing new hypotheses and testing, developing instruments, acquiring research completeness, and better identifying research weaknesses (Doyle, Brady, & Byrne, 2009). In particular, triangulation is defined as an 'attempt to map out, or explain more fully, the richness and complexity of human behaviour by studying it from more than one standpoint' (Cohen, Manion, & Morrison, 2002, p.141).

Researchers who conduct quantitative research gather and develop knowledge by using a post-positivistic and deductive approach. Researchers employ scientific reasoning, which is based on cause and effect, reduction to specific variables and hypotheses and questions, use of measurement and observation, and the test of theories (Creswell & Creswell, 2017), while a qualitative approach is the one in which the researcher employs an inductive approach and makes knowledge claims based on constructivist and interpretivist viewpoints where the researcher and the object of study are interactively linked and affected by social constructs (Sale, Lohfeld, & Brazil, 2002). In a quantitative approach, observations are treated as entities and the observer/researcher is separate from them; being able to observe a phenomenon without having an effect on it compared to the qualitative approach (Johnson & Onwuegbuzie, 2004; Sale et al., 2002). A quantitative researcher collects numeric data to identify relationships between variables whereas a qualitative researcher collects open-ended data to identify themes, suggest future research and/or develop theory from the data (Bryman, 2015).

Each part of this research represents an interpretation of findings from a particular point of view. The quantitative study reflects the theory testing and gathering of positivistic knowledge whereas the qualitative study reflects the exploration of themes and patterns in the same topic, which have not been covered in the quantitative data. Both aspects of this research are crucial to present a well-rounded argument on how experiences of job insecurity are related to other factors and affect people who returned to work after a cardiovascular episode (heart attack). The following sections present how the quantitative and qualitative parts were structured.

3.2.2. A mixed-methods design: Quantitative before Qualitative

The aim of mixed methods is to enhance understanding of the impact of job insecurity by exploring qualitative data after having analysed the quantitative data. The proposed model, which is presented in Chapter 4, is built on previous research and theory on the biopsychosocial model and the job demands-control-support model. As job insecurity is a well-researched topic, responses were quantitatively benchmarked with the 2010 European Working Conditions Survey (EWCS) by Eurofound before progressing into the qualitative phase. The first two research questions (quantitative study) explore the interplay between job insecurity and other work-related and personal factors, which link to the next four research questions (qualitative study) about the role of employment protection in the UK and Greece regarding job insecurity, employees' overall work experience after the heart attack and country differences.

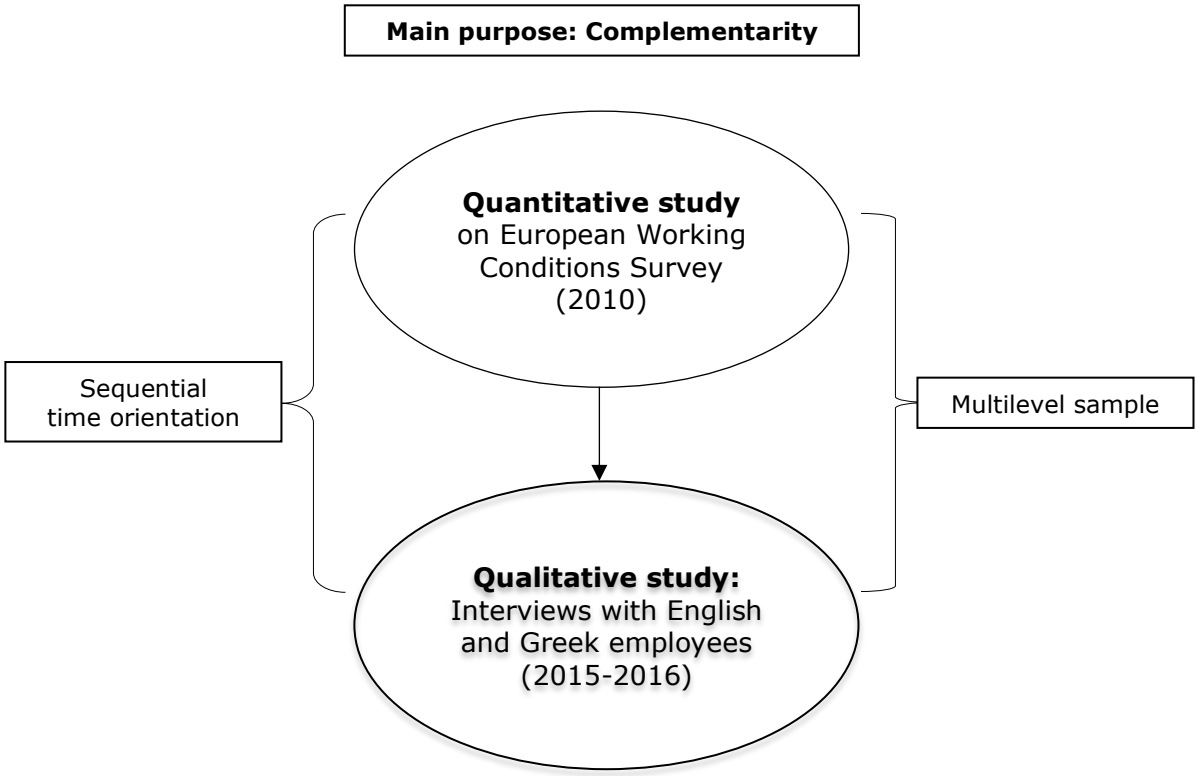
There are five purposes, which affect the mixed-methods research design. Complementarity can use both concurrent and sequential time orientation to enhance and clarify the different facets of a phenomenon. Triangulation uses only a concurrent time orientation to looking for convergence, corroboration, and correspondence of results from the different methods. Development uses only a sequential time orientation to take the results from one method in order to develop the other method. Initiation can use both concurrent and sequential time orientation to find contradictions, new perspectives and reformulate questions from one method to the other. Expansion uses only a sequential time orientation to extend the breadth and range of inquiry by using different methods (Greene, Caracelli, & Graham, 1989). The current mixed-methods design uses complementarity as a purpose where the qualitative results complement the quantitative results.

Constructing a mixed-methods design also requires decision making regarding time orientation (concurrent or sequential data collection), relationship of the quantitative and qualitative data, and level of mixing quantitative with qualitative data (partially or fully mixed) (Onwuegbuzie & Collins, 2007; Onwuegbuzie & Leech, 2006). It is proposed that time orientation and the relationship of the quantitative and qualitative samples are the key elements where time orientation refers to 'when' the quantitative and qualitative phase occurs, and the relationship refers to 'what' the difference is between the quantitative and qualitative sample. Time orientation and samples' relationship depend on the research questions (Greene et al., 2001). The current study is

sequential with quantitative data collection preceding the qualitative, as mentioned above. Additionally, the relationship of the samples in the current study is multilevel (two sets of samples from different levels) compared to identical (same samples for both quantitative and qualitative) or parallel (different sample from the same population) or nested (sample in one study is the subset of the sample in the other study). The sample of the quantitative study was taken from the EWCS, which included employees from all countries of the European Union in 2010 compared to the qualitative study which included only English and Greek employees. Each study uses different data sources in a multilevel sample relationship. The sample for the quantitative study is explored at national level aiming to check differences between the countries of the EU in 2010 compared to the sample for the qualitative study, which is explored at an employee level looking through each participant's experience.

In particular, the findings of the quantitative study with respect to a) job insecurity and its impact on health-related outcomes on employees with a cardiovascular disease, and b) JDCS and its impact on job insecurity and health-related outcomes, informed the development of the interview schedule which was utilised in the qualitative study. The interview schedule was consisted of questions which were based on the findings of the quantitative study (a, b), and, most significantly, added questions which explored employees' perceptions of employment rights and practices, economic crisis and financial insecurity, and the impact of the heart attack on their work life and work-life balance. The qualitative questions aimed to investigate parts of European employees' experience, which were not covered in the questions of the EWCS. In that way, complementarity was achieved as depicted in figure 3.1.

Figure 3.1. Mixed-methods research design



Both studies have been assessed with respect to quality by cross-checking several criteria. For the quantitative study, both reliability and validity of scales and items were checked in statistical terms (Bryman, 2015). For the qualitative study, reliability and validity were checked through trustworthiness and rigour by using sample appropriateness and methodological coherence (Morse, Barrett, Mayan, Olson, & Spiers, 2002). From a mixed-methods point of view for both studies, three criteria were checked: relevance to research question, transparency of methods, and integration of results (Bryman, Becker, & Sempik, 2008).

3.3. Data sources

3.3.1. Quantitative: European Working Conditions Survey (2010)

The 5th EWCS was carried out by a network of national institutes, coordinated by Gallup Europe in Brussels and Budapest. Gallup Europe is a leading policy research organisation in Europe. The European Foundation for the Improvement of Living and Working Conditions provided the questionnaire and participated in the monitoring of the implementation of fieldwork protocols. The EWCS series began in 1990 and is conducted once every five years. The 5th

European Working Conditions Survey was conducted in 2010, in the middle of the last economic crisis, with preliminary findings presented in a Eurofound report published in 2012 (Eurofound, 2012).

The survey was based on a questionnaire, which was administered face-to-face to a random sample of 'persons in employment' (i.e., employees and the self-employed); representative of the working population in each EU country. The overall aim of this survey is to provide an overview of the state of working conditions in and across the EU in order to identify issues and changes affecting the workplace. The aim of this survey is to monitor the quality of work and employment in Europe.

The respective scope, including the number of questions asked and topics covered, keeps expanding in each wave of the survey. However, a core set of key questions has remained unchanged across the years to enable the study of trends. Themes covered in the 5th European Working condition include job insecurity, employability, financial security, health status, wellbeing, psychosocial risk factors, work-life balance, presenteeism, work-related stress, working hours and flexibility, education and training.

The survey used a repeated cross-sectional design, utilising a multi-stage stratified random sample. The survey covered the total active population of the respective nationalities of the EU member states, aged 15 years and over. Interviews were scheduled for evenings and weekends to optimise the probability of employed individuals being available for interview. It was likely that individuals with non-traditional working hours (shift workers, etc.) were underrepresented.

Through the years, the geographical coverage of the survey expanded. In the first wave of the EWCS (1990/1991), workers in the EC12 were surveyed. The fifth wave of this survey (2010) surveyed 43,816 employees from the EU27, Norway, Croatia, the former Yugoslav Republic of Macedonia, Turkey, Albania, Montenegro and Kosovo.

EWCS aimed at strict scientific principles of survey sampling as explicit standards for quality. For the 5th EWCS, an updated, good quality sampling frame (register) with addresses/persons was used wherever it was possible. A sample of eligible individuals was surveyed in each country/territory, by applying probability sampling procedures for their selection. There was only one interview per household and the eligible respondent was the person with the most recent birthday among the household members in employment.

Participants had to be resident in the European country that was being surveyed. A multi-stage stratified random sampling design was employed as well.

The sampling stages were also consisted of selecting the primary sampling units, stratifying based on the geographic region and clustering. Individuals and addresses were randomly selected in each primary sampling unit. The addresses were numbered and validated separately to improve the quality of the process. The enumeration of addresses was separated from the interviewing stage. The selection of eligible respondents was confirmed after a screening procedure. The target number of interviews for each country was 1,000. Some countries had over 1,500 interviews such as Belgium, France, Turkey, and Germany. The total sample size for all 34 countries was 43,816 (Eurofound, 2010) including people with and without CVD. Specific selection of employees in EU27 with CVD was conducted for the quantitative study of the current research, which is presented in chapter four.

The European Foundation for Living and Working Conditions (Eurofound, 2010) highlighted that, due to unequal selection probabilities and differential non-response rates observed across the various socio-demographic groups, it is necessary to weight the data. This is required to obtain results that better represent the statistical population. Therefore, selection probability weights were constructed to correct for this. Due to the limitations caused by unequal selection probabilities and differential non-response rates observed across the various socio-demographic groups, the current study weighted the data using a post-stratification with selection probability embedded weighting procedure.

Table 3.1. Sample size per E27 country for EWCS 2010

Country	No.	Country	No.	Country	No.
Belgium	4001	Ireland	1003	Austria	1003
Bulgaria	1014	Italy	1500	Poland	1500
Czech Republic	1000	Cyprus	1000	Portugal	1000
Denmark	1069	Latvia	1001	Romania	1017
Germany	2133	Lithuania	1004	Slovenia	1404
Estonia	1000	Luxembourg	1000	Slovakia	1002
Greece	1037	Hungary	1006	Finland	1028
Spain	1008	Malta	1000	Sweden	1004
France	3046	Netherlands	1017	UK	1575

3.3.2. Qualitative: Interviews with English and Greek employees

The qualitative study was a multi-centre study aiming to approach participants from various Cardiac Rehabilitation Centres, and charities in Nottingham, England and Thessaloniki, Greece. Semi-structured interviews were conducted aiming to investigate the impact of employment protection policies on employees' physical and mental health and wellbeing in two countries with different socioeconomic conditions that were differently affected by the last financial crisis. The group of participants consisted of employed individuals with a history of heart attack.

In all face-to-face interview-based surveys, and especially in multi-national surveys, consistency of interview style and of questionnaire content is essential (Brislin, 1970). In order to address the consistency of the semi-structured interview schedule, which was initially written in English, a translation in Greek was carried out by a bilingual researcher. The interview schedule was also cross-checked by a different bilingual researcher to ensure accuracy and consistency. The resultant interview schedule convenyed the same meaning in both English and Greek (Brislin, 1970; Chen & Boore, 2010).

Participants

There were two parallel recruiting procedures.

- Participant recruitment through both the English and Greek **National Health Systems.**
- Participant recruitment through **cardiac rehabilitation charities** in England and Greece, respectively.

Inclusion criteria

The qualitative study was divided into two parts. The first part included interviews with 15 English employees while the second part with 15 Greek employees. Previous studies have indicated that a minimum of 12 participants is a justified sample size in order to conduct a qualitative study (Baker & Edwards, 2012).

For the first part, participants had to be:

- English citizens,
- who were employed,

- and had returned to work after a heart attack.

There was no upper age limit. Both men and women were included. There was no limitation regarding the time when they had the heart attack in the past. Employment type was recorded but there was no specific inclusion criterion with respect to employment type (permanent or fixed-term contract).

For the second part, participants had to be:

- Greek citizens,
- who were employed,
- and had returned to work after a heart attack.

Again, there was no age restriction and both genders were included. There was no limitation regarding the time when they had the heart attack in the past and their employment type.

Exclusion criteria

Participants were excluded if they:

- Were unable to give informed consent.
- Were under 18 years old.
- Were unemployed or self-employed.

3.4. Analysis Strategy

Analysis strategies for mixed methods usually have two versions: the parallel and the crossover track. Parallel track is when data are separately analysed, and comparisons and connections are made at the last stage of conclusions and inferences. Crossover track is when the results of one method are transformed to be used in the other method (Greene et al., 2001). In addition, there are seven steps, which need to be checked and/or followed during mixed-methods analysis. These steps include: a) data integration (both sets of data are integrated into either a coherent whole or two separate sets of coherent wholes), b) data comparison and correlation, data transformation (qualitative data into quantitative or vice versa) and data consolidation (both types of data are combined to create new variables or data sets), data reduction and data display (Onwuegbuzie & Leech, 2006).

The current study employed the parallel track approach where quantitative analysis is presented in Chapter 4, qualitative analysis is presented in Chapter 5,

and integration and conclusions are presented in Chapter 6. The current study also focused on data integration, comparison and correlation to draw conclusions as seen in Chapter 6.

3.4.1. Quantitative data: Statistical Analysis

An epidemiological and cross-sectional quantitative approach was employed following the lead of the study conducted by László et al. (2010) on 16 European countries. A cross-sectional design was considered as the most suitable for the current study given the available dataset provided by Eurofound: European Working Conditions Survey (EWCS, 2010). In particular, the data was simultaneously collected instead of retrospectively or prospectively. Consequently, it was a one-point measurement and it would be inappropriate to follow a cohort or case-control study design (Bryman, 2015).

For the current quantitative study both SPSS 24 and Mplus7 were used to cross-check between results from regressions through different statistical procedures, which were not available in SPSS 24. Apart from testing mediational regressions on SPSS with PROCESS (Hayes, 2013) and bootstrapping (Field, 2013), the complete multi-mediational model was also tested with the use of covariance multi-mediational structural equation modelling (SEM) at full information maximum likelihood (FIML) and Markov Chain Monte Carlo (MCMC) at both employee and country level due to its accuracy and robustness (Tomarken & Waller, 2005).

SEM is efficient at accommodating complex models including multiple mediators and dependent variables at the same time. Most of the models for regression analysis consider the traditional mediational model including only one mediating variable at a time unless PROCESS is used (Hays, 2013). Therefore, SEM provided unbiased estimates of mediation effects by calculating all the equations using FIML at the same time compared to traditional regressions (Cheung & Lau, 2008).

The quantitative study used a covariance or factor-based multi-mediational SEM as mentioned above. SEM is a multivariate statistical technique which combines factor analysis and multiple regression (Bentler, 2006). Covariance SEM includes two types of variables and two components. Variables can be observed (indicators) and unobserved (latent factors). Components include a measurement model (the relation of observed variables with the unobserved variables) and a structural model (the hypothesised relationships between all variables). The observed variables are depicted using squares/rectangles, while unobserved

variables are illustrated with circles/ovals. Observed and unobserved variables can be either exogenous (independent variables) or endogenous (dependent or outcome variables). An exogenous variable is the source of an arrow, and the endogenous variables is the target (Byrne, 2013).

As the model was theoretically driven, covariance-based SEM was chosen instead of PLS-SEM due to its confirmatory focus compared to PLS-SEM, which is considered an exploratory approach with predictive focus and more suitable for theory development (Reinartz, Haenlein, & Henseler, 2009).

3.4.2. Qualitative data: Thematic Analysis

Thematic analysis has been defined as 'a method for identifying, analysing and reporting patterns (themes) within data' (Braun & Clarke, 2006, p.6), where data is the interview transcripts, and used as a flexible and accessible method for qualitative data analysis. This method is used to identify what is common in the data and of making sense of those commonalities where these commonalities are related to the research question. There are six steps, which help the conduction of a thematic analysis and ensure that findings' objectivity and transparency (Braun, Clarke, Hayfield, & Terry, 2019; p. 6). Additionally, the quality of analysis and results will be cross-checked with the consolidated criteria for reporting qualitative research (COREQ) (Tong, Sainsbury, & Craig, 2007), and the eight 'big-tent' criteria for excellent qualitative research (Tracy, 2010). The COREQ consists of three domains: Research team and reflexivity, study design, and analysis and findings. In addition, the eight 'big-tent' criteria consist of a worthy topic, rigour, sincerity, credibility, resonance, contribution, ethics and meaningful coherence.

The first step is about familiarisation, which implies getting immersed in the data from the moment this is collected, transcribed and read. The first list of ideas is written down in order to facilitate the next phase.

The second step is the initial code generation. This step involves the production of initial codes from the data where codes identify a semantic (explicit meaning) or latent (underlying ideas) feature of the data giving an idea on what could potentially be a theme or a subtheme.

The third step is the search of themes. This phase involves organising the different codes into potential themes. Themes can be theory-driven, data-driven or both (Ezzy, 2013; Fereday & Muir-Cochrane, 2006). Tables and maps can be used to organise the codes into themes. The use of NVivo is an efficient way of

digitally organising these tables and maps, which allows the researcher to create an all-inclusive manageable project file of the qualitative data (Braun et al., 2019).

The fourth step is the review of themes where themes are amended and refined after cross-checking their meaning and relation to the whole data set. Themes and sub-themes are better defined at this stage.

The fifth step is the final theme definition and labelling. At this stage, the researcher can give final labels to the themes and sub-themes after having all themes reviewed at the previous step.

The final step of the thematic analysis is to confidently report the final themes and sub-themes while providing representative exerts from the interviews.

The current qualitative study followed these six steps. Final themes and sub-themes were checked by three researchers to ensure that both the code generation and framework were valid.

3.5. Ethical Considerations

3.5.1. Quantitative study: EWCS 2010 Secondary data from Eurofound

Ethical issues for the quantitative part of this thesis were outlined and authorised under the University of Nottingham standards. The Faculty of Medicine and Health Sciences Research Ethics Committee reviewed the protocol of the quantitative study and registered their authorisation to their implementation under the Ethics Reference Number P08052014.

There were no major ethical considerations for the quantitative part of the research because a secondary analysis of an anonymised European dataset was followed. Due to the need of a large sample across European countries, Eurofound's dataset was selected as ideal to address the proposed research questions and hypotheses. Consent forms and ethical procedures/issues were taken into consideration and properly dealt with by the Eurofound team during conducting of interviews and data collection. No further contact with participants took place for the quantitative part of this research. The benefit of this secondary analysis was the lack of respondent burden and the maximisation of benefits of using European datasets into a secondary analysis. The datasets are publicly available for research purposes and they were retrieved from the online UK Data Service platform as mentioned earlier after permission was sought by the UK Data Service. The datasets were already anonymised, and they were retrieved and stored complying with the Data Protection Act (1998).

3.5.2. Qualitative study: Semi-structured interviews through the English and Greek NHS and cardiac charities

For this study, the researcher sought ethical approval from the University of Nottingham (Ref. OVS13032015) to conduct interviews through the Cardiac Charities in the UK and Greece, and from the East Midlands - Leicester South Research Ethics Committee to conduct interviews through the NHS in the UK (Ref. 15/EM/0484). The letters of approval are available in Appendix B. The researcher also sought ethical approval from the Hippokrateon and Papageorgiou Hospitals in Thessaloniki, Greece. However, the ethical approvals from the Hippokrateon and Papageorgiou Hospitals are in Greek; therefore, they are not included in the Appendix. Ethical considerations of the NHS are presented below. The researcher followed the high standards and ethical considerations of the NHS during the conduction of all the interviews to ensure consistency and professionalism.

The study with REC Reference Number 15/EM/0484 was initiated after the protocol, consent forms and participant information sheets had received approval/favourable opinion from the East Midlands - Leicester South Research Ethics Committee, and the respective National Health Service (NHS) Research & Development (R&D) department. The study was conducted in accordance with the ethical principles that have their origin in the Declaration of Helsinki, 1996; the principles of Good Clinical Practice, and the Department of Health Research Governance Framework for Health and Social Care, 2005; the British Psychological Society's Code of Ethics and Conduct, 2009; the Code of Human Research Ethics BPS, 2010.

The researcher endeavoured to protect the rights of the study's participants to privacy and informed consent, and adhered to the Data Protection Act, 1998. Access to the information was limited to the researchers and any relevant regulatory authorities (see above). Computer held data including the study database was held securely and password protected. All data was stored on a secure dedicated web server. Access was restricted by user identifiers and passwords (encrypted using a one-way encryption method). Information about the study in the participant medical records / hospital notes was treated confidentially in the same way as all other confidential medical information. Electronic data was backed up every 24 hours to both local and remote media in encrypted format.

Insurance and indemnity for clinical study participants and study staff was covered within the NHS Indemnity Arrangements for clinical negligence claims in the NHS in England, issued under cover of HSG (96)48. There were no special compensation arrangements, but study participants did not recourse through the NHS complaints procedures. The University of Nottingham as research sponsor indemnified the researcher, research participants and research protocols with both public liability insurance and clinical trials insurance for the research in England. These policies included provision for indemnity in the event of a successful litigious claim for proven non-negligent harm. Similar protocols were followed for the research at the hospitals in Greece.

In compliance with the Guide for Good Clinical Practice (GCP) for guidelines, regulations, and in accordance with the University of Nottingham Code of Research Conduct and Research Ethics, the principal researcher maintained all records and documents regarding the conduct of the study. These will be retained for at least 7 years or for longer if required. If the responsible researcher is no longer able to maintain the study records, a second person will be nominated to take over this responsibility. The study documents held by the principal researcher on behalf of the Sponsor have been finally archived at secure archive facilities at the University of Nottingham.

The process for obtaining participant informed consent was in accordance with the REC guidance, and Good Clinical Practice (GCP) and any other regulatory requirements that might be introduced. The researcher and the participant both signed and date the consent form before the person's participation in the study. The participant received a copy of the signed and dated forms and the original was retained in the study records. Participants were informed about the debriefing process of the study beforehand. Participants were informed that the interviews will be audio recorded and transcribed.

The decision regarding participation in the study was entirely voluntary. The researcher emphasised to them that consent regarding study participation could be withdrawn at any time without penalty or affecting the quality or quantity of their future medical care, or loss of benefits to which the participant is otherwise entitled. No study-specific interventions were done before informed consent had been obtained.

The consent form's wording was amended during the study in order to comply with the quality standards of East Midlands - Leicester South Research Ethics Committee; the researcher followed all applicable regulatory requirements

pertaining to approval of the amended consent form by the REC and use of the amended form (including for ongoing participants).

Study conduct was subject to systems audit for inclusion of essential documents; permissions to conduct the study; CVs of study staff and training received; local document control procedures; consent procedures and recruitment logs; adherence to procedures defined in the protocol (e.g. inclusion / exclusion criteria, timeliness of visits); accountability of study materials and equipment calibration logs.

Monitoring of study data included confirmation of informed consent; source data verification; data storage and data transfer procedures; local quality control checks and procedures, back-up and disaster recovery of any local databases and validation of data manipulation. Study data and evidence of monitoring and systems audits were made available for inspection by the REC as required.

It was likely that some participants might feel uncomfortable with discussing their health status and the past event of the heart attack. Participants who did, were referred to appropriate support such as local counselling service and/or their GP. No participants mentioned anything life threatening in any way. Lastly, participants were offered a £10 gift voucher as an inconvenience allowance to participate in the study.

3.6. Conclusion

The following chapters present the use of methodology in the quantitative and qualitative study, but also their integration in the last chapter. Further limitations and reflection with regards to the methods are discussed in Chapter 6.

4. Chapter Four: Testing the two-level multi-mediation model for job insecurity and health-related outcomes across the European Union

4.1. Background

The current study proposes a work-related biopsychosocial model for job insecurity which is an amalgam of the biopsychosocial model (George L Engel, 1977), and the job demands-control-support (JDCS) model (Johnson & Hall, 1988; Karasek, 1979). These two models were selected because they explain the impact of environmental factors, e.g. work-related factors, on people's psychological and physical wellbeing. Engel's biopsychosocial model includes aspects such as health, psychological and social state, which cover the outcomes, predictors and confounding factors of the proposed model. In addition, the JDCS model brings in the occupational setting with its various psychosocial factors that affect employees' health and wellbeing. In particular, the model focuses on four key outcomes affected by work-related environmental factors, which are briefly presented below.

The first outcome, which is linked to the biological aspect of the biopsychosocial model, is self-reported health status; individuals perceiving and reporting their current health status. Biological factors such as age and sex are also included. Research has shown that job insecurity and fear of unemployment increase psychosomatic complaints and physical strains, and also affect the neuroendocrine and immune system (De Witte, Pienaar, & De Cuyper, 2016). A meta-analysis, which replicated Sverke's study (2002) examined the impact of job insecurity on employees' health, focusing on the aspects of organisational tenure, age and sex. Interestingly, employees whose tenure lasted longer and were older reported higher levels of poor physical and psychological health contrary to younger employees whose tenure was shorter regardless of sex. Job insecurity has been found to clearly affect employees' health levels; the impact has been found to be higher for those who set work and career as a priority in their life (Cheng & Chan, 2008).

The second key outcome is primarily linked to the psychological aspect of the biopsychosocial model, which is psychological wellbeing. The definition of wellbeing provided by Dodge et al. (2012, p. 230), as explained in Chapter 2, states that 'stable wellbeing is when individuals have the psychological, social and physical resources they need to meet a particular psychological, social and/or physical challenge'. Research shows that job insecurity reduces psychological wellbeing and job satisfaction (De Witte, 1999). Employees who hold lower status

jobs such as manual jobs (blue-collar workers), have been found to experience higher levels of psychological distress due to job insecurity than people with higher job status and better educational background (Näswall & De Witte, 2003).

The third and fourth key outcomes are linked to the psychosocial aspects of the biopsychosocial model, which are health-risk behaviours and work-life balance. Work-related health-risk behaviour is a common health-risk behaviour triggered by the psychosocial environment at work. Popular examples include work intensification-extensification and presenteeism. Poor psychological health can affect health-related behaviours for people who have to maintain positive behaviour aiming to follow treatment or take important preventive actions for their health (Prince et al., 2007). Employees who experience more pressure and less protection at work tend to force themselves into heavy workloads to decrease the likelihood of dismissal, doing more in less time and working when feeling unwell (Hemp, 2004; Kim et al., 2013). Negative life experiences in the working environment and low economic resources increase the likelihood of developing health-risk behaviours. This, consequently, increases the prevalence of ill health and CVD in particular (Cornaz et al., 2009; J. V Johnson & Hall, 1988), and unfolds the link between biological, psychological and social outcomes of the proposed model.

The last, but not least, outcome is work-related stress, which presents the impact of work-related factors on psychological and consequently physical health. There is plenty of research showing that employees, who experience job insecurity and worry about future unemployment, feel stressed, which consequently may affect their physical health (Brunner & Marmot, 2009; Ganster & Schaubroeck, 1991; Selye, 2013; Tennant, 2001).

4.2. Aim of the Quantitative Study

The current study aimed to investigate the impact of job insecurity on the proposed outcomes in the working European population with a CVD during the economic crisis in 2010. The proposed model aimed to provide a better and multifaceted understanding of the functions between biopsychosocial factors as presented in the biopsychosocial model and the model of job demands-control-support for employees who have a CVD. Mediating and moderating effects are also going were explored.

4.2.1. Study hypotheses

The following hypotheses were tested for employees with a CVD:

Primary Hypotheses (H1-H2):

H1. Job insecurity* will be:

a) negatively associated with health-related outcomes (health status, wellbeing, work-life balance), and positively associated with presenteeism as a health-risk behaviour, and work-related stress;

b) negatively associated with financial security/confidence, employability and responsibility to dependents (children and elderly/disabled relatives);

c) associated with JDCS and employability.

H2. Financial security/confidence* and responsibility for dependents* (caring for children and elderly/disabled relatives) will be:

a) positively associated with health-related outcomes (health, status, wellbeing, work-life balance), and negatively associated with presenteeism and work-related stress;

b) associated with JDCS.

*Mediating/moderating effect will be checked.

Secondary Hypotheses (H4-H5):

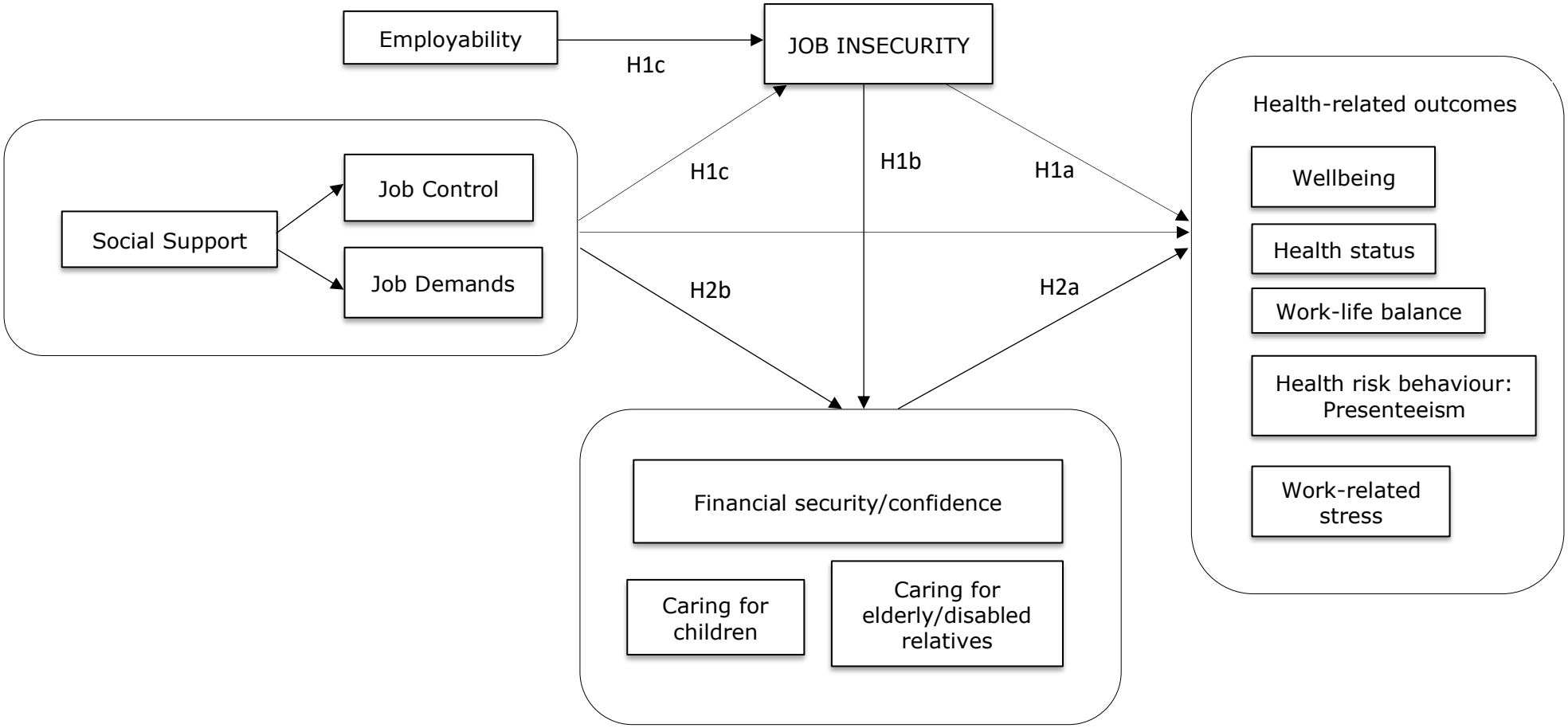
H3. There is going to be an interplay between the health-related outcomes.

H4. Employees, who feel supported at work will experience an increased sense of job control and lower levels of job demands.

H5. Employees' level of education, years of experience and type of contract will affect job insecurity and other work-related factors.

Note: The version of the model which includes all the hypotheses of mediation based on the literature is available in Appendix A.2.

Figure 4.1. Multi-mediational model controlled for country, sector, sex and age differences



4.3. Methodology of Study One

4.3.1. Design

An epidemiological and cross-sectional quantitative approach was employed following the lead of the study conducted by László et al. (2010) on 16 European countries. A cross-sectional design has been considered as the most suitable for the current study given the available datasets provided by Eurofound (2010).

4.3.2. Datasets and samples

After ethical approval for the use of secondary data was sought from the University of Nottingham (Ref. P08052014), the anonymised data was retrieved from the UK Data Service after access was authorised. The dataset of the European Working Conditions Survey (EWCS) 2010 was used in this study. The sample of EWCS represents a population with ages from 15-16 years old up to 91 years old. The total sample size of EWCS for all 34 countries was 43,816 (Eurofound, 2010). The target number of interviews for each country was 1,000. Some countries had over 1,500 interviews such as Belgium, France, Turkey, and Germany; therefore, weights for the countries in the European Union as provided by Eurofound were used to ensure a balanced sample (Eurofound, 2010).

The current study only includes employed adults, both men and women, with a CVD, who reported at least one sickness day (N= 1,584). Participants had to have at least one day of sickness during the past year so that we could investigate the impact of presenteeism.

4.3.3. Procedure

The procedure for collecting data for the EWCS was conducted by the Eurofound. After contacting somebody from a specific household, a documented procedure of participant selection was followed by firstly registering all adults in the household. Participants who met the criteria for the specific survey were selected for an interview. To increase the chance of successful contact, the Eurofound interviewer visited the participants' address at different times of the day and week within two weeks. Some participants were contacted by phone before a face-to-face interview was agreed to avoid further difficulties due to geographical spread (Eurofound, 2016).

4.3.4. Measurement

4.3.4.1. Item identification

The Likert-scale items which were selected have five to seven options (Table 4.1). According to Lozano et al. (2008) the optimum number of Likert-scale options is between four and seven. Fewer than four alternatives decrease the reliability and validity of the scale, while on the other hand, from seven options onwards the psychometric properties of scales increase in a scarce way.

Table 4.1. Item identification

	Aspect	Number	Variable	Item	Response
	Biological	1	Age	hh2b. Age	Numerical
		2	Sex	hh2a. Sex	1=male, 2=female
		3	CVD	q69i. 'Over the last 12 months, did you suffer from any of health problems - cardiovascular diseases?'	Yes/no
		4	Health	HS: q68. 'How is your health in general? Would you say it is…?'	1= very good, 2= good, 3= fair, 4= bad, 5= very bad
	Psychological	1	Wellbeing	W1: ef4a. 'How you have been feeling over the last two weeks - I have felt cheerful and in good spirits.'	1= all of the time, 2= most of the time, 3= more than half of the time, 4= less than half of the time, 5= some of the time, 6= at no time
				W2: ef4b. 'I have felt calm and relaxed / Which is closest to how you have been feeling over the last two weeks.'	
				W3: ef4c. 'I have felt active and vigorous / Which is closest to how you have been feeling over the last two weeks.'	
				W4: ef4d. 'I woke up feeling fresh and rested / Which is closest to how you have been feeling over the last two weeks.'	
				W5: ef4e. 'My daily life has been filled with things that interest me / Which is closest to how you have been feeling over the last two weeks.'	
		2	Health-risk behaviour: Presenteeism	HRB: q74b. 'Over the past 12 months did you work when you were sick - Number of days:'	Numerical; no= zero

Number	Variable	Item	Response
3	Work-related stress	WRS: q51n. 'Select the response which best describes your work situation - You experience stress in your work.'	1= always, 2= most of the time, 3= sometimes, 4= rarely, 5= never
4	Job insecurity	JI: q77a. 'How much do you agree or disagree with statements describing some aspects of your job - I might lose my job in the next 6 months?'	1= strongly disagree, 2= disagree, 3= neither agree nor disagree, 4= agree, 5= strongly agree
5	Financial security/confidence	FS: ef6. 'Thinking of your household's total monthly income, is your household able to make ends meet…?'	1= very easily, 2= easily, 3= fairly easily, 4= with some difficulty, 5= with difficulty, 6= with great difficulty
6	Employability	E: q77f. 'How much do you agree or disagree with statements describing some aspects of your job - If I were to lose or quit my current job, it would be easy for me to find a job of similar salary?'	1= strongly disagree, 2= disagree, 3= neither agree nor disagree, 4= agree, 5= strongly agree
7	Work-life balance	WLB: q41. 'In general, do your working hours fit in with your family or social commitments outside work very well, well, not very well or not at all well?'	1=very well, 2=well, 3=neutral/no opinion, 4=not very well, 5= not at all well
8	Job demands (physical and psychological)	JD1: q45a. 'Does your job involve working at very high speed?'	1=all of the time, 2= almost all of the time, 3= around ¾ of the time, 4= around half of the time, 5= around ¼ of the time, 6= almost never, 7= never
		JD2: q45b. 'Does your job involve working to tight deadlines?'	
		JD3: q47. 'How often do you have to interrupt a task you are doing in order to take on an unforeseen task?'	

			JD4: q24a. 'Does your main paid job involve - Tiring or painful positions?'	
			JD5: q24c. 'Does your main paid job involve - Carrying or moving heavy loads?'	
			JD6: q24e. 'Does your main paid job involve - Repetitive hand or arm movements?'	
			JD7: q24g. 'Does your main paid job involve - Handling angry clients, patients?'	
			JD8: q51p. 'Select the response which best describes your work situation - Your job requires that you hide your feelings.'	
	Number	**Variable**	**Item**	**Response**
	9	Job control	CON1: q51c. 'Select the response which best describes your work situation - You are consulted before targets for your work are set.'	1= always, 2= most of the time, 3= sometimes, 4= rarely, 5= never
			CON2: q51d.' Select the response which best describes your work situation – You are involved in improving the work organisation or work processes of your department or organisation.'	
			CON3: q51e. 'Select the response which best describes your work situation - You have a say in the choice of your working partners.'	
			CON4: q51f. 'Select the response which best describes your work situation – You can take a break when you wish.'	

				CON5: q51g. 'Select the response which best describes your work situation - You have enough time to get the job done.'	
				CON6: q51i. 'Select the response which best describes your work situation - You are able to apply your own ideas in your work.'	
				CON7: q51o. 'Select the response which best describes your work situation – You can influence decisions that are important for your work.'	
	Aspect	**Number**	**Variable**	**Item**	**Response**
	Social	1	Caring for children	CHI: ef2c. 'How often are you involved: Caring for and educating your children, grandchildren?'	1= everyday for one hour or more, 2= everyday or every second day for less than an hour, 3= once or twice a week, 4= once or twice a month, 5= once or twice a year, 6= never
		2	Caring for elderly/disabled relatives	ELD: ef2e. 'How often are you involved: Caring for elderly/disabled relatives?'	1= everyday for one hour or more, 2= everyday or every second day for less than an hour, 3= once or twice a week, 4= once or twice a month, 5= once or twice a year, 6= never
		3	Workplace social support	S1: q51a. 'Select the response which best describes your work situation - Your colleagues help and support you.'	1= always, 2= most of the time, 3= sometimes, 4= rarely, 5= never
				S2: q51b. 'Select the response which best describes your work situation - Your manager helps and supports you.'	
				S3: q77d. 'How much do you agree or disagree with statements describing some aspects of your job - I feel 'at home' in this organisation?'	1= strongly agree, 2= agree, 3= neither agree nor disagree, 4= disagree, 5= strongly disagree

			S4: q77e. 'How much do you agree or disagree with statements describing some aspects of your job - I have very good friends at work?'	
Aspect	**Number**	**Variable**	**Item**	**Response**
Demographics	1	Type of contract	CONTRA: q7. 'What kind of employment contract do you have?'	Recoded: 1= an indefinite contract, 2= a fixed-term/temporary contract, 3= no contract
	2	Education	EDU: ef1_isced. 'What is the highest level of education or training that you have successfully completed?' - coded according to the International Standard Classification for Education	0= Pre-primary education, 1= Primary education, 2= Lower secondary education, 3= Upper secondary education, 4= Post-secondary non-tertiary education, 5= First stage of tertiary education, 6= Second stage of tertiary education
	3	Sector	SEC: q10. 'Are you working in the …?'	1= private sector, 2= public sector, 3= joint private-public organisation, 4= not-for-profit sector
	4	Country	COUN: Country ID - Country EU27 (2010)	1= Belgium, 2= Bulgaria, 3= Czech Republic, 4= Denmark, 5= Germany, 6= Estonia, 7= Greece, 8= Spain, 9= France, 10= Ireland, 11= Italy, 12= Cyprus, 13= Latvia, 14= Lithuania, 15= Luxemburg, 16= Hungary, 17= Malta, 18= Netherlands, 19= Austria, 20= Poland, 21= Portugal, 22=

					Romania, 23= Slovenia, 24= Slovakia, 25= Finland, 26= Sweden, 27= UK
		5	Work experience	XP: q12. 'How many years have you been in your company or organisation?'	Numerical

4.3.4. Analysis

For the analysis of the datasets, SPSS 24 and Mplus 7.4 were used. Apart from the primary and separate investigations on the European dataset using SPSS 24, the proposed multilevel model was tested using Mplus 7.4 to address all these factors as parts of a bigger model to explain the functionality of their interactions.

In psychology, it is common practice to treat ordinal variables as continuous. Previous research has shown that Likert-scale items with 5-7 levels yield similar results for both Robust Continuous and Categorical SEM Estimation methods (Allen & Seaman, 2007; Rhemtulla, Brosseau-Liard, & Savalei, 2012). In a good Likert scale the possible answers are symmetrically formulated as the ones in the current study e.g. 'strongly disagree', 'disagree', 'agree neither nor disagree', 'agree', 'agree strongly'. A good Likert scale will present symmetry of categories where equidistant attributes will typically be clearly observed. When a Likert scale is symmetric and equidistant, it behaves like an interval-level measurement. This is why Likert scales are usually viewed, in practice, as interval scales (Carifio & Perla, 2007). In addition, most variables in the current study are ordinal and potentially not normally distributed; therefore, bootstrapping technique was employed to ensure robust results while using parametric techniques in SPSS; bootstrapping is one of the most effective tools in SPSS to deal with data, which is not normally distributed (Field, 2013). However, the use of bootstrapping does not allow the use of weights in SPSS 24; therefore, ad hoc cross-checking between initial results with and without weights was used to make sure the results were consistent.

Hierarchical multiple regressions were used to check for the predictive value of job insecurity on other factors, but also consider the effect of other variables. Multiple hierarchical regressions, structural equation modelling (SEM) and multilevel structural equation modelling (MSEM) were conducted in order to test the proposed model, but also to explore the multilevel aspect of the proposed model. MSEM was selected because it is widely used for cross-sectional designs as the current one, and it is ideal for large samples (current sample is 1,584 out of the total 43,816) (Bryman, 2015; Kelloway, 2014; Kline, 2015). Limitations on the analyses due to sampling and selection bias as seen in previous studies are addressed in the discussion (MacCallum & Austin, 2000; Markus, 2012). Residuals were checked with the Durbin-Watson test where values approaching 2 indicated no autocorrelation (Field, 2013).

PROCESS for SPSS was used to assess mediation. The level of confidence for all confidence intervals was 95.00 (Hayes, 2013). Mean centring (z-scores)

was not used for all variables; only continuous predictors were centred. Recent research shows that mean centring is not necessary, and failure to use this technique does not lead to incorrect inferences (Hayes, 2013).

4.3.5. Preparation of datasets

Some data management was required (recoding and handling of missing data) before the analysis was conducted. Tests of normality were conducted to explore the normality of distributions of the data aiming to identify limitations (Pallant, 2013). For the multiple hierarchical regressions on SPSS, composite variables were created. For all analyses, weights (w5_eu27-supra-national weight; combining w1, w2 & w3; to be applied when running aggregate level analyses) were used on the current data to ensure a balanced representation of entries for the countries in the European Union at that time (Eurofound, 2010).

The dataset had missing values coded with numbers such as 7-9, 77-99, 888, 999; this coding was used by Eurofound to explain the potential causes of missing values, e.g. refused to answer, missed a question etc. All missing values were replaced by 99 in the dataset in order to allow running accurate statistical analyses in Mplus.

Missing Value Analysis was necessary to understand whether the missing values were missing at random or not. The MCAR (Missing Completely at Random) was employed in order to check whether the missing values were randomly missing or not (Little & Rubin, 2014). For SPSS, listwise deletion was chosen over pairwise deletion because the standard errors computed by SPSS would use the average sample size across analyses and this would produce underestimated or overestimated standard errors (Little, 1992).

After checking for missing patterns, normality and distribution, an exploratory factor analysis (EFA) with Principal Axis Factoring and Oblimin with Kaiser normalisation rotation method was used to identify the dimensionality of items; oblique rotation allows correlated factors compared to orthogonal (Osborne, 2015). The dataset was randomly split into two smaller datasets in order to check first EFA and then confirmatory factor analysis (CFA). The dataset was randomly numbered in order to achieve random selection. In that way, we could ensure the scales' robustness. After EFA, internal consistency was assessed with Cronbach's alpha where values >.6, approaching .7, were acceptable for factors with few items (Hair, Black, Babin, Anderson, & Tatham, 2006; Tavakol & Dennick, 2011).

After completing the preliminary SPSS analyses, the model versions were tested using Mplus. Summary statistics from SPSS and Mplus were cross-checked to ensure that data was read correctly. Robust Maximum Likelihood (MLR) was used as an estimator and missing values were imputed with Bayes estimation with Mplus. In addition, due to the nature of data, the model was tested both with MLR and weighted least square mean variance (WLSMV). MLR is ideal for missing data and it is going to be the default option in this study. WLSMV is ideal for ordinal data, but not strong with missing data; consequently, model fit was cross-checked. These methods were applied to explore differences in the model fit (Asparouhov & Muthén, 2010).

4.4. Results

4.4.1. Normality, multicollinearity and linearity

The sample was checked for outliers (Table 4.2). In order to identify the outliers in the dataset, a new identification code was used from 1 to 1584 (sample size) using the monotonicity of ascending weights. Both univariate and multivariate outliers were removed. Univariate outliers were checked through z-scores. Z-scores bigger than the absolute value of 3.29 were removed. After that, multivariate outliers from regressions on the outcomes (HS, W, WLB, HRB, WRS) were checked using Mahalanobis distance, which is the distance of a data point from the calculated centroid of the other cases where the centroid is calculated as the intersection of the mean of the total assessed variables. The probability of distances were interpreted using a $p < .001$, and cases below that were excluded (Ben-Gal, 2005). The sample had 43 univariate and 39 multivariate outliers; the final sample, treated for outliers, was 1502 (about 5% of the original sample was outliers).

Regarding normality (Table 4.2), the continuous variables were tested to ensure that potential skewness will be addressed. For the continuous variables, all skewness and kurtosis results were within acceptable limits < +/- 2, apart from presenteeism (George & Mallery, 2010). Log10 was used to improve skewness and kurtosis for the variable of presenteeism. After the adjustments, both the Kolmogorov-Smirnov (K-S) and the Shapiro-Wilk test of normality were still significant ($p<.001$), which indicates not normally distributed data. Q-Q plots were produced for the continuous variables and showed that presenteeism had a bimodal distribution, age was normally distributed, and experience was positively skewed. Likert-type ordinal variables were not tested because they are not normally distributed by default (Sullivan & Artino Jr, 2013). Due to the lack of

normality, both bootstrapping and robust maximum likelihood were used. Several studies on the robustness of the multivariate normality assumption support that parameter estimates are valid when there is non-normality (McDonald & Ho, 2002).

The variance inflation factors (VIF) of each analysis were checked for multicollinearity. No VIF was found above 3, which indicates no multicollinearity issues in the analyses (Mansfield & Helms, 1982).

Linearity of the relationships between latent variables was also checked with both Pearson and Spearman correlations using bootstrapping to ensure consistency across parametric and non-parametric results due to the ordinal nature of Likert scales. Results showed that all latent variables were significantly correlated within their construct apart from factor job demands (JD). JD1, JD2 and JD4 were correlated with all other items. However, JD3, and JD5-JD8 were uncorrelated with at least one other JD item. Therefore, for EFA, only correlated items with loadings >.4 were kept.

Table 4.2. Outliers and normality analysis

Outliers & Normality								
JI= job insecurity, HS=health, W1-W5=wellbeing, W total= W1-W5, WLB= work-life balance, HRB= presenteeism, WRS= work-related stress, FS= financial security/confidence, E= employability, CHI=caring for children, ELD=caring for elderly, JD1-8=job demands, CON1-7=control, S1-4= workplace social support, Age, XP= years of experience.								
Items	**Normality**							
	Outlier ID*		With outliers		Without univariate outliers		Without univariate & multivariate outliers	
	Univariate	Multivariate***	Skewness	Kurtosis	Skewness	Kurtosis	Skewness	Kurtosis
JI	None	n/a	.391	-1.065	.387	-1.062	.404	-1.024
HS	55, 877	Group A= 58, 70, 236, 332, 356, 409, 541, 668, 692, 694, 801	.396	2.636**	.033	.329	.030	.324
		Group B= 53, 101, 123, 129, 198, 430, 529, 645, 654, 658, 693,729, 807, 988, 1039, 1110, 1347, 1475						
		254						
W1	None	n/a	.357	-.849	.357	-.852	.371	-.823
W2	None		.197	-1.018	.203	-1.014	.203	-1.009
W3	None		.133	-.931	.152	-.920	.158	-.909
W4	None		.055	-1.117	.064	-1.114	.076	-1.107
W5	None		.257	-1.040	.265	-1.033	.266	-1.031

W1-W5	n/a	Group A Group B 884	n/a				.216	-.713
WLB	None	Group A 198, 254, 430, 529, 645, 658, 693, 788, 807, 988, 1039, 1110, 1238, 1347, 1475	.999	-.008	.981	-.065	1.002	.013
HRB	149, 195, 255, 331, 466, 476, 516, 531, 540, 590, 844, 857, 982, 1195, 1206, 1343, 1522, 1565, 1586, 1612	Group A Group C= 123, 1359, 1439, 1560 129, 189, 254, 1039, 1517	6.877**	71.905**	2.441**	7.091**	2.245**	5.836**
Log10 of HRB	n/a						.549	-1.201
WRS	None	Group A Group C 333	.098	-.742	.098	-.734	.088	-.711
FS	None	n/a	-.037	-.667	-.029	-.651	-.026	-.633
E	None		.707	-.608	.700	-.628	.691	-.638
CHI	None		.048	-1.664	.042	-1.657	.040	-1.656
ELD	None		-1.305	.240	-1.290	.215	-1.310	.287
JD1	None		-.315	-1.289	-.318	-1.286	-.338	-1.280
JD2	None		-.265	-1.342	-.263	-1.337	-.272	-1.327
JD3	None		-.527	-.556	-.523	-.542	-.526	-.539
JD4	None		-.381	-1.257	-.374	-1.242	-.398	-1.227

JD5	None		-1.258	.446	-1.266	.492	-1.300	.612
JD6	None		.137	-.1.565	.130	-.1.565	.118	-1.561
JD7	None		-1.405	1.012	-1.398	.991	-1.424	1.140
JD8	None		-.070	-1.351	-.075	-1.352	-.093	-1.336
CON1	90, 1022, 1333		.428	-731	.335	-1.223	.337	-1.209
CON2	90, 1101		.148	-1.172	.090	-1.422	.083	-1.421
CON3	90		-.726	-.881	-.749	-.964	-.748	-.958
CON4	None		.457	-1.011	.464	-1.007	.463	-1.009
CON5	None		.026	-1.030	.032	-1.021	.038	-1.014
CON6	None		.024	-1.437	.015	-1.027	.033	-1.422
CON7	None		.992	.376	.995	-1.437	.985	.376
S1	90, 142, 285, 611, 858, 1381		1.501	4.447**	.900	.326	.880	.323
S2	24, 90, 142, 179, 245, 247, 279, 467, 669, 971, 1006, 1013, 1101, 1412		1.241	2.870**	.567	-.655	.573	-.625
S3	None		-.625	-.402	.604	-.449	.610	-.409
S4	1069, 1577		-.631	.908	.811	.214	.802	.231
Age	None		-.552	.298	-.536	.253	-.544	.281
XP	None		.717	-.496	.737	-.448	.738	-.447

*Serious outliers >|±3.29|

**skewness and kurtosis >|±2|

*** Multivariate outliers from regressions on the outcomes using Mahalanobis distance and probability >.001

Power analyses were conducted through regressing all predictors and mediators on outcomes excluding covariates (Table 4.3). Statistical power below 80% indicates increased likelihood of type 2 error (false negative); therefore, results where power is below 80% will not be considered reliable.

Table 4.3. Power analysis

Power Analysis*				
JI= job insecurity, HS=health, W1-W5=wellbeing, WLB= work-life balance, HRB= presenteeism, WRS= work-related stress, FS= financial security/confidence, E= employability, CHI=caring for children, ELD=caring for elderly, JD=job demands, CON=control, SS= workplace social support				
Outcome	Predictor	Statistical power %	Probability of type 2 error %	Effect size
HS	JI	100**	0	.042
	FS	100**	0	.077
	E	100**	0	.029
	CHI	26.4	73.6	.003
	ELD	63.4	36.6	.007
	JD	98.5**	1.5	.027
	CON	100**	0	.048
	SS	100**	0	.044
	WLB	100**	0	.027
	HRB (log10)	99.9**	0.1	.040
	WRS	98.8**	1.2	.016
W	JI	100**	0	.059
	FS	100**	0	.100
	E	91.5**	8.5	.011
	CHI	27.2	72.8	.003
	ELD	25	75	.003
	JD	99.8**	0.2	.035
	CON	100**	0	.082
	SS	100**	0	.121
	WLB	100**	0	.050
	HRB	99.9**	0.1	.041
	WRS	100**	0	.044
	HS	100**	0	.138
WLB	JI	100**	0	.026
	FS	100**	0	.051
	E	62	38	.006
	CHI	81.7**	18.3	.010
	ELD	61.8	38.2	.007
	JD	100**	0	.075
	CON	100**	0	.043
	SS	100**	0	.067
	HRB	100**	0	.043
	WRS	99.9**	0.1	.031
HRB	JI	32.1	67.9	.003
	FS	57.1	42.9	.006

	E	45	55	.004
	CHI	66.9	33.1	.007
	ELD	44.4	55.6	.005
	JD	99.9**	0.1	.038
	CON	80.7**	19.3	.017
	SS	87**	13	.017
	WRS	100**	0	.056
WRS	JI	19.4	80.6	.002
	FS	80.6**	19.4	.009
	E	21.6	78.4	.002
	CHI	95.4**	4.6	.014
	ELD	28	72	.003
	JD	100**	0	.111
	CON	63.5	36.5	.012
	SS	100**	0	.039
JI	JD	99.7**	0.3	.036
	CON	100**	0	.062
	SS	100**	0	.054

*Probability of type 1 error set to 5%, alpha= .05
**Statistical power >80%

4.4.2. Missingness

Little's MCAR test showed that the values were missing at random, which means that the missingness was not problematic. In order to ensure that the results of the analyses were accurate and not affected by biases, all analyses were done using both listwise deletion for SPSS analyses, and full information maximum likelihood (FIML) for Mplus. Changing the method of treating missing data from listwise to FIML and Markov Chain Monte Carlo (MCMC), was a way to conduct a sensitivity analysis and cross-check the differences in results from two different approaches (Thabane et al., 2013). In addition, MCMC is a robust approach and one approach used for the most difficult analyses (Bennett, 2001; Hamra, MacLehose, & Richardson, 2013; Osborne, 2013; Sun, 2017). The number of imputations depends of the level of missing data. In this study, data was not missing more than 10%; therefore, 20 imputations would ensure accuracy (Graham, Olchowski, & Gilreath, 2007).

4.4.3. Scale identifiability and reliability

EFA showed that all selected items for each scale were identified in the right factors. Some items in the job demands factor had to be dropped due to low loadings and correlation with the other items. Kaiser-Meyer-Olkin (KMO) and Bartlett's Test for sampling adequacy had acceptable >.6 to very good values >.8. All scales were found reliable KMO>.6 (Table 4.4) (KMO<.5 not acceptable). Average variance extracted (AVE) and composite reliability (CR) should be >.5

and >.6, respectively, in order to obtain convergent validity and reliability. However, AVE < 0.5 can be accepted only if CR > 0.6, because the convergent validity of the construct is still adequate (Fornell & Larcker, 1981).

Table 4.4. Scale identifiability and reliability

		Scale	KMO	AVE	CR	CA*	Item	Factor
1	WHO-5	Wellbeing (W)	.848	.569	.863	.865	W1	.800
No item removed							W2	.827
							W3	.816
							W4	.688
							W5	.607
2	JDCS	Job demands (JD)	.630	.378	.696	.701	JD1	.753
*JD3, JD5, JD6, JD8 removed due to loadings <.4 and low correlation							JD2	.629
							JD3	.279*
							JD4	.538
							JD5	.374*
							JD6	.462
							JD7	.144*
							JD8	.170*
3	JDCS	Control (CON)	.819	.445	.798	.817	CON1	.646
*CON6 and CON7 removed due to loadings <.4							CON2	.759
							CON3	.564
							CON4	.631
							CON5	.709
							CON6	.317*
							CON7	.189*
4	JDCS	Workplace social support (SS)	.606	.456	.718	.688	S1	.639
No item removed							S2	.686
							S3	.525
							S4	.503

* Cronbach's alpha

4.4.4. Measurement Invariance Test

A measurement invariance test was carried out to check that the scales were equivalent for both male and female employees (Table 4.5). The fit of the model of which the loadings and thresholds are held equal between groups, metric invariance, is compared to a model where the loadings and thresholds (apart from the identification items) are free to vary, configural equivalence. Model equivalence is achieved when the chi-square difference is not significant and the difference in CFI (ΔCFI) is no more than .002 and (Meade, Johnson, & Braddy, 2008; Muthén & Muthén, 2010).

Table 4.5. Measurement invariance test

	Configural Invariance					**Metric Invariance**								
	χ2		RMSEA		CFI	χ2		RMSEA		CFI				
	dfs	value	value	90% CI		*dfs*	value	value	90% CI		Δχ2	Δdfs	p-value	ΔCFI
W	14	11.055*	.000	.00 - .040	1.000	16	13.682*	.000	.00 - .041	1.000	2.627	2	**.268**	**.000**
JD	8	11.120*	.033	.00-.074	.994	10	12.090*	.024	.00 - .064	.996	.97	2	**.615**	**.002**
CON	17	24.929*	.036	.00 - .064	.990	18	27.421*	.038	.000-.065	.988	2.492	1	**.114**	**.002**
SS	6	1.907*	.000	.000 - .021	1.000	8	6.032*	.00	.00 - .050	1.000	4.125	2	**.127**	**.000**
JDCS	135	328.631*	.062	.054 - .071	.918	138	332.832*	.03	.053 - .070	.918	4.201	3	**.240**	**.000**

Groups: men (313) and women (425) randomly selected

W (Wellbeing), JD (Job demands), CON (Job control), SS (Workplace social support), JDCS (job demands-control-support)

4.4.5. Descriptive analysis

As mentioned previously, all participants were employed adults in the European Union in 2010, who had a CVD and reported at least one sickness day in 2009-2010. These selection criteria were necessary in order to narrow down and study the impact of job insecurity and presenteeism on employees, who had a CVD and worked in the European Union under similar legislation, but different financial and unemployment situations.

After applying the selection criteria on the original sample and removing the outliers, the final sample represented both sexes with 42.5% men (639), and 57.5% women (863) indicating that more employed women with CVD were potentially available to participate than men. The mean age was 49.6 years old (Min=18, Max=82, SD=10.3). 4.5% of the participants had completed primary education. 56.6% of the participants had completed secondary education while 38.9% had completed post-secondary and tertiary education.

With respect to finances, 5.6% of the participants reported that they could very easily make ends meets, 16.3% of the participants could easily make ends meets, 23.8% of the participants could fairly easily make ends meet while 54.3% reported financial difficulties (some difficulty to great difficulty). In addition, 52.6% of the participants spent time and cared for their children/grandchildren at least once or twice a week compared to 21.9% caring for their elderly/disabled relatives.

With respect to sectors, 53.5%, 39.7%, 4.9%, and 1.9% of the participants worked in the private sector, public sector, joint organisation, and not-for-profit, respectively. Additionally, 83.2% of the participants had an infinite contract (permanent position) while 13.2% had a fixed-term/temporary contract. The rest 3.6% had no contract and was not included in further analyses; one of the aims was to check differences between employees with temporary and permanent employment contracts.

Regarding experience of stress, 14.9% of the participants reported that they always experience stress at work, 19.7% of the participants reported that they experience stress at work most of the time, and 37.5% of the participants reported that they sometimes experience stress at work; 27.9% reported rarely to never experiencing stress at work. In addition, 27.8% of the participants thought that they might lose their job in the next six months. 55.6% of the participants did not think that they might lose their job in the next six months while 16.6% was not sure. 66.5% of the participants reported that they would not be able to find a job

of similar salary if they lost their job while 12.8% was not sure and 20.7% thought that they would be able to find a similar job.

Regarding health and wellbeing, 32.4%, 55.1%, and 12.5% reported good, fair, and bad health, respectively. 65.9%, 58.7%, 56.4%, 52.2%, 61.2% of the participants had been feeling cheerful, relaxed, active, rested, and interested in activities more than half of the time to all the time, respectively.

Regarding work-life balance, 78.9% reported balancing workings hours and family/social commitments well and very well. The remaining 21.1% reported no work-life balance or had no opinion.

Regarding presenteeism, 52.2% reported that they did not go to work when they were sick. The remaining 47.8% reported presenteeism which was high but expected; many employees with CVD who go back to work still face the impact of their chronic condition. The average days at work while feeling unwell was 4.5 (Min=1, Max= 50). Up to 10 days of presenteeism had the highest occurrence with 35.9% out of all the people who went to work sick.

Job demands items showed that 45.7% and 47.2% had to work very fast and to tight deadlines around half of the time to all the time, respectively. 42.4% and 57.2% experienced tiredness/pain and repetitive movements at work more than half of the time to all the time, respectively.

Job control items showed that 21% was rarely/never consulted before targets for their work were set. 38.5% was rarely/never involved in improving the work organisation and processes. 62.3% had rarely/never a say in the choice of their working partners. 25.5% and 36% was rarely/never enabled to apply their own ideas at work, and influence decisions important for their work, respectively.

Lastly, 90.7% and 80.3% reported that their colleagues, and manager helped and supported them (sometimes to always), respectively. 61.5% and 69.7% reported that they felt 'at home' in their organisation and had very good friends at work, respectively.

4.4.6. Bivariate correlations

Partial parametric Pearson's correlations were conducted to check correlations among variables. First order parametric correlations with bootstrapping with 95% confidence intervals are presented in Table 4.6.

For the correlation analysis, some variables were controlled for to make sure that the rest of the correlations are significant while the control variables' effect is removed. The control variables were country, sector, sex and age. The

correlation matrix presents the relationships between the predictors, mediators, and covariates.

Results showed that health status was significantly correlated with all of the model's variables ($p<.01$) apart from caring for children and elderly/disabled relatives. Health status would improve while wellbeing, work-life balance, financial security/confidence, employability, job control and workplace social support would increase. At the same time, health status would get worse while job insecurity, presenteeism, work-related stress and job demands would increase. The wellbeing construct showed a similar pattern to health status, but it was not correlated with level of education. Work-life balance showed a similar pattern to health status, but it was not correlated with employability, level of education and experience.

Presenteeism and work-related stress were not significantly positively correlated with job insecurity contrary to what was expected. However, they both were significantly positively correlated with job demands and negatively correlated with workplace social support meaning that presenteeism and work-related stress increase when a) job demands increase and b) workplace social support decreases.

Job insecurity was significantly correlated with financial security/confidence (positively), employability (negatively), job demands (positively), job control (negatively), workplace social support (negatively), education level and years of experience (negatively). Financial security/confidence and perceived employability seemed to increase when job insecurity decreased. Additionally, job insecurity seemed to increase when job demands increased. Job insecurity decreased when job control, workplace social support, level of education and experience increased.

Financial security/confidence was significantly correlated with all the items apart from presenteeism, work-related stress and caring for elderly/disabled relatives. Financial security/confidence seemed to increase when time and caring for children was decreased.

Employability was significantly correlated only with health status (positively), wellbeing (positively), job insecurity (negatively), financial security/confidence (negatively), job control (positively), workplace social support (positively) and education levels (positively). Employability seemed to increase when job control, support and education increased. Employability seemed to decrease when job and financial insecurity increased.

Spending time with children was significantly negatively correlated only with work-related stress, job insecurity, financial security/confidence, and positively

with caring for elderly/disabled relatives and workplace social support. Time to care for children seemed to increase when workplace social support increased. On the other hand, spending time with elderly/disabled relatives was significantly correlated only with time spend with children and years of work experience. It seemed that employees with more work experience and/or children would spend more time caring for elderly/disabled relatives.

Table 4.6. First order Pearson's correlation matrix with bootstrapping

Correlations

HS=health, W=wellbeing, WLB= work-life balance, HRB= Log10 of presenteeism, WRS= work-related stress, JI= job insecurity, FS= financial security/confidence, E= employability, CHI=caring for children, ELD=caring for elderly, JD=job demands, CON=control, SS= workplace social support, EDU= education levels, XP= years of work experience

Note: A p value of .000 below is actually 0< p <.0005

Control Variables					HS	W	WLB	HRB	WRS	JI	FS	E	CHI	ELD	JD	CON	SS	EDU	XP
Country	HS	Correlation			1.000	.366**	.164**	.106**	-.096**	.217**	.290**	-.148**	.020	.048	-.155**	.202**	.212**	-.131**	-.120**
Sector		Significance (2-tailed)			.	.000	.000	.001	.003	.000	.000	.000	.530	.137	.000	.000	.000	.000	.000
Sex		df			0	955	955	955	955	955	955	955	955	955	955	955	955	955	955
Age		Boot-strap[a]	Bias		.000	.000	-.003	-.001	.002	-.001	-.001	-.001	-.001	.001	-.001	.001	.000	-.001	-.001
			Std. Error		.000	.031	.034	.033	.033	.029	.032	.031	.032	.031	.032	.033	.033	.033	.031
			BCa 95% Confidence Interval	Lower	.	.299	.102	.046	-.160	.162	.228	-.207	-.043	-.013	-.213	.140	.139	-.190	-.182
				Upper	.	.427	.218	.167	-.025	.271	.349	-.089	.081	.114	-.097	.268	.277	-.069	-.063
	W	Correlation			.366**	1.000	.241**	.158**	-.162**	.243**	.318**	-.128**	.022	.060	-.131**	.271**	.352**	-.005	-.108**
		Significance (2-tailed)			.000	.	.000	.000	.000	.000	.000	.000	.489	.063	.000	.000	.000	.875	.001
		df			955	0	955	955	955	955	955	955	955	955	955	955	955	955	955
		Boot-strap[a]	Bias		.000	.000	-.003	.000	.002	-.001	.000	.000	.000	.000	.002	.000	-.001	.001	-.003
			Std. Error		.031	.000	.032	.033	.034	.029	.030	.032	.033	.031	.033	.031	.032	.033	.033
			BCa 95% Confidence Interval	Lower	.299	.	.180	.089	-.239	.188	.255	-.189	-.041	-.002	-.198	.207	.287	-.071	-.171
				Upper	.427	.	.294	.223	-.090	.302	.376	-.065	.088	.120	-.060	.327	.412	.061	-.053
	WLB	Correlation			.164**	.241**	1.000	.171**	-.190**	.161**	.242**	-.006	-.061	.002	-.207**	.158**	.210**	-.041	-.014
		Significance (2-tailed)			.000	.000	.	.000	.000	.000	.000	.848	.059	.953	.000	.000	.000	.200	.673

		df			955	955	0	955	955	955	955	955	955	955	955	955	955	955
		Boot-strap[a]	Bias		-.003	-.003	.000	-.002	.001	-.001	-.003	-.001	-.001	-.001	-.001	-.001	.000	.000
			Std. Error		.034	.032	.000	.033	.031	.032	.030	.033	.034	.031	.030	.032	.033	.031	.032
			BCa 95% Confidence Interval	Lower	.102	.180	.	.109	-.253	.095	.185	-.072	-.121	-.060	-.267	.094	.150	-.105	-.082
				Upper	.218	.294	.	.227	-.125	.221	.292	.057	.002	.063	-.148	.218	.266	.020	.049
	HRB	Correlation			.106**	.158**	.171**	1.000	-.154**	.026	.025	-.037	-.033	-.052	-.134**	.026	.089**	.050	.087**
		Significance (2-tailed)			.001	.000	.000	.	.000	.420	.438	.257	.307	.109	.000	.414	.006	.120	.007
		df			955	955	955	0	955	955	955	955	955	955	955	955	955	955	955
		Boot-strap[a]	Bias		-.001	.000	-.002	.000	.001	-.001	-.002	.001	.000	.001	.002	-.001	-.001	.001	.000
			Std. Error		.033	.033	.033	.000	.033	.033	.032	.033	.033	.033	.031	.034	.033	.033	.031
			BCa 95% Confidence Interval	Lower	.046	.089	.109	.	-.225	-.041	-.036	-.106	-.100	-.122	-.196	-.041	.025	-.021	.024
				Upper	.167	.223	.227	.	-.083	.090	.084	.030	.032	.016	-.065	.092	.151	.119	.146
	WRS	Correlation			-.096**	-.162**	-.190**	-.154**	1.000	.005	-.013	.001	.066*	.038	.309**	.055	-.144**	-.071*	-.120**
		Significance (2-tailed)			.003	.000	.000	.000	.	.879	.683	.982	.042	.244	.000	.087	.000	.029	.000
		df			955	955	955	955	0	955	955	955	955	955	955	955	955	955	955
		Boot-strap[a]	Bias		.002	.002	.001	.001	.000	.001	.002	-.002	.000	.001	-.001	.000	.000	.000	.000
			Std. Error		.033	.034	.031	.033	.000	.034	.034	.034	.032	.034	.032	.033	.034	.030	.034
			BCa 95% Confidence Interval	Lower	-.160	-.239	-.253	-.225	.	-.060	-.083	-.066	.003	-.030	.240	-.017	-.207	-.126	-.192
				Upper	-.025	-.090	-.125	-.083	.	.075	.060	.061	.131	.107	.367	.123	-.078	-.010	-.054
	JI	Correlation			.217**	.243**	.161**	.026	.005	1.000	.304**	-.108**	.073*	.032	-.123**	.198**	.218**	-.072*	-.202**
		Significance (2-tailed)			.000	.000	.000	.420	.879	.	.000	.001	.024	.330	.000	.000	.000	.027	.000
		df			955	955	955	955	955	0	955	955	955	955	955	955	955	955	955

		Boot-strap[a]	Bias		-.001	-.001	-.001	-.001	.001	.000	-.001	-.003	.000	.000	-.002	.002	.002	-.001	.000
			Std. Error		.029	.029	.032	.033	.034	.000	.030	.033	.031	.033	.032	.033	.033	.033	.031
			BCa 95% Confidence Interval	Lower	.162	.188	.095	-.041	-.060	.	.247	-.166	.012	-.033	-.184	.127	.155	-.135	-.263
				Upper	.271	.302	.221	.090	.075	.	.360	-.051	.138	.092	-.067	.271	.287	-.011	-.144
	FS	Correlation			.290**	.318**	.242**	.025	-.013	.304**	1.000	-.149**	-.123**	-.029	-.172**	.247**	.192**	-.210**	-.132**
		Significance (2-tailed)			.000	.000	.000	.438	.683	.000	.	.000	.000	.364	.000	.000	.000	.000	.000
		df			955	955	955	955	955	955	0	955	955	955	955	955	955	955	955
		Boot-strap[a]	Bias		-.001	.000	-.003	-.002	.002	-.001	.000	-.002	.000	.001	.001	.002	-.001	-.001	-.002
			Std. Error		.032	.030	.030	.032	.034	.030	.000	.032	.032	.030	.029	.031	.032	.032	.032
			BCa 95% Confidence Interval	Lower	.228	.255	.185	-.036	-.083	.247	.	-.205	-.183	-.089	-.230	.186	.133	-.271	-.195
				Upper	.349	.376	.292	.084	.060	.360	.	-.096	-.058	.036	-.112	.308	.250	-.150	-.076
	E	Correlation			-.148**	-.128**	-.006	-.037	.001	-.108**	-.149**	1.000	-.014	-.004	-.002	-.128**	-.079*	.085**	-.047
		Significance (2-tailed)			.000	.000	.848	.257	.982	.001	.000	.	.663	.904	.963	.000	.015	.009	.148
		df			955	955	955	955	955	955	955	0	955	955	955	955	955	955	955
		Boot-strap[a]	Bias		-.001	.000	-.001	.001	-.002	-.003	-.002	.000	.000	-.001	.001	-.001	.001	.000	.002
			Std. Error		.031	.032	.033	.033	.034	.033	.032	.000	.032	.032	.034	.031	.032	.032	.032
			BCa 95% Confidence Interval	Lower	-.207	-.189	-.072	-.106	-.066	-.166	-.205	.	-.082	-.072	-.068	-.184	-.141	.028	-.112
				Upper	-.089	-.065	.057	.030	.061	-.051	-.096	.	.055	.056	.070	-.071	-.012	.147	.020
	CHI	Correlation			.020	.022	-.061	-.033	.066*	.073*	-.123**	-.014	1.000	.085**	.020	.071*	.060	-.012	.033
		Significance (2-tailed)			.530	.489	.059	.307	.042	.024	.000	.663	.	.008	.532	.029	.066	.718	.311
		df			955	955	955	955	955	955	955	955	0	955	955	955	955	955	955
		Boot-strap[a]	Bias		-.001	.000	-.001	.000	.000	.000	.000	.000	.000	.001	.001	.000	.000	.000	.000

			Std. Error		.032	.033	.034	.033	.032	.031	.032	.032	.000	.033	.033	.032	.031	.033	.030
			BCa 95% Confidence Interval	Lower	-.043	-.041	-.121	-.100	.003	.012	-.183	-.082	.	.025	-.052	.009	.000	-.072	-.025
				Upper	.081	.088	.002	.032	.131	.138	-.058	.055	.	.151	.088	.133	.120	.050	.089
	ELD	Correlation			.048	.060	.002	-.052	.038	.032	-.029	-.004	.085**	1.000	.024	.058	.040	-.014	-.084**
		Significance (2-tailed)			.137	.063	.953	.109	.244	.330	.364	.904	.008	.	.457	.073	.213	.658	.009
		df			955	955	955	955	955	955	955	955	955	0	955	955	955	955	955
		Boot-strap[a]	Bias		.001	.000	-.001	.001	.001	.000	.001	-.001	.001	.000	-.001	-.002	.000	-.001	-.001
			Std. Error		.031	.031	.031	.033	.034	.033	.030	.032	.033	.000	.036	.032	.033	.033	.033
			BCa 95% Confidence Interval	Lower	-.013	-.002	-.060	-.122	-.030	-.033	-.089	-.072	.025	.	-.043	-.007	-.028	-.077	-.148
				Upper	.114	.120	.063	.016	.107	.092	.036	.056	.151	.	.092	.117	.103	.047	-.023
	JD	Correlation			-.155**	-.131**	-.207**	-.134**	.309**	-.123**	-.172**	-.002	.020	.024	1.000	-.159**	-.122**	.246**	-.008
		Significance (2-tailed)			.000	.000	.000	.000	.000	.000	.000	.963	.532	.457	.	.000	.000	.000	.804
		df			955	955	955	955	955	955	955	955	955	955	0	955	955	955	955
		Boot-strap[a]	Bias		-.001	.002	-.001	.002	-.001	-.002	.001	.001	.001	-.001	.000	.000	.001	.000	.000
			Std. Error		.032	.033	.030	.031	.032	.032	.029	.034	.033	.036	.000	.033	.032	.028	.033
			BCa 95% Confidence Interval	Lower	-.213	-.198	-.267	-.196	.240	-.184	-.230	-.068	-.052	-.043	.	-.223	-.179	.190	-.069
				Upper	-.097	-.060	-.148	-.065	.367	-.067	-.112	.070	.088	.092	.	-.087	-.059	.306	.057
	CON	Correlation			.202**	.271**	.158**	.026	.055	.198**	.247**	-.128**	.071*	.058	-.159**	1.000	.475**	-.260**	-.114**
		Significance (2-tailed)			.000	.000	.000	.414	.087	.000	.000	.000	.029	.073	.000	.	.000	.000	.000
		df			955	955	955	955	955	955	955	955	955	955	955	0	955	955	955
		Boot-strap[a]	Bias		.001	.000	-.001	-.001	.000	.002	.002	-.001	.000	-.002	.000	.000	-.001	-.001	-.001
			Std. Error		.033	.031	.032	.034	.033	.033	.031	.031	.032	.032	.033	.000	.027	.030	.030

			BCa 95% Confidence Interval	Lower	.140	.207	.094	-.041	-.017	.127	.186	-.184	.009	-.007	-.223	.	.420	-.320	-.168
				Upper	.268	.327	.218	.092	.123	.271	.308	-.071	.133	.117	-.087	.	.528	-.195	-.057
	SS	Correlation			.212**	.352**	.210**	.089**	-.144**	.218**	.192**	-.079*	.060	.040	-.122**	.475**	1.000	-.105**	-.107**
		Significance (2-tailed)			.000	.000	.000	.006	.000	.000	.000	.015	.066	.213	.000	.000	.	.001	.001
		df			955	955	955	955	955	955	955	955	955	955	955	955	0	955	955
		Boot-strap[a]	Bias		.000	-.001	-.001	-.001	.000	.002	-.001	.001	.000	.000	.001	-.001	.000	.001	-.001
			Std. Error		.033	.032	.033	.033	.034	.033	.032	.032	.031	.033	.032	.027	.000	.031	.032
			BCa 95% Confidence Interval	Lower	.139	.287	.150	.025	-.207	.155	.133	-.141	.000	-.028	-.179	.420	.	-.167	-.169
				Upper	.277	.412	.266	.151	-.078	.287	.250	-.012	.120	.103	-.059	.528	.	-.038	-.048
	EDU	Correlation			-.131**	-.005	-.041	.050	-.071*	-.072*	-.210**	.085**	-.012	-.014	.246**	-.260**	-.105**	1.000	.077*
		Significance (2-tailed)			.000	.875	.200	.120	.029	.027	.000	.009	.718	.658	.000	.000	.001	.	.017
		df			955	955	955	955	955	955	955	955	955	955	955	955	955	0	955
		Boot-strap[a]	Bias		-.001	.001	.000	.001	.000	-.001	-.001	.000	.000	-.001	.000	-.001	.001	.000	.000
			Std. Error		.033	.033	.031	.033	.030	.033	.032	.032	.033	.033	.028	.030	.031	.000	.034
			BCa 95% Confidence Interval	Lower	-.190	-.071	-.105	-.021	-.126	-.135	-.271	.028	-.072	-.077	.190	-.320	-.167	.	.009
				Upper	-.069	.061	.020	.119	-.010	-.011	-.150	.147	.050	.047	.306	-.195	-.038	.	.145
	XP	Correlation			-.120**	-.108**	-.014	.087**	-.120**	-.202**	-.132**	-.047	.033	-.084**	-.008	-.114**	-.107**	.077**	1.000
		Significance (2-tailed)			.000	.001	.673	.007	.000	.000	.000	.148	.311	.009	.804	.000	.001	.017	.
		df			955	955	955	955	955	955	955	955	955	955	955	955	955	955	0
		Boot-strap[a]	Bias		-.001	-.003	.000	.000	.000	.000	-.002	.002	.000	-.001	.000	-.001	-.001	.000	.000
			Std. Error		.031	.033	.032	.031	.034	.031	.032	.032	.030	.033	.033	.030	.032	.034	.000
				Lower	-.182	-.171	-.082	.024	-.192	-.263	-.195	-.112	-.025	-.148	-.069	-.168	-.169	.009	.

			BCa 95% Confidence Interval	Upper	-.063	-.053	.049	.146	-.054	-.144	-.076	.020	.089	-.023	.057	-.057	-.048	.145	.

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

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

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

4.4.7. Hierarchical Multiple Regressions

Hierarchical multiple regressions with bootstrapping and assessment of individual level residuals were conducted to assess variables' associations before mediations were checked and a structural model was built. The first step controls for country, sector, sex and age differences. On the second step the predictors (JI, FS, CHI, ELD, JDCS) guided by the correlations matrix above were entered to check its predictive value on the dependent variables. The method 'enter' was used to enter variables at different steps. The hierarchical multiple regressions for job insecurity and the health-related outcomes are presented below. The rest of the hierarchial multiple regressions (secondary checks) are in the Appendix 2.1.

The hierarchical multiple regression for health status (HS, DV) revealed that at step one, only age significantly contributed to the regression model, F (4, 1104) =3.675, p<.001, and accounted for 1.3% of the variation in HS. At step two, job insecurity, JDCS, financial security/confidence, employability and presenteeism significantly contributed to the regression model and accounted for another 14.5% of the variation in HS, F (13, 1104) =15.759, p<.001. The Durbin-Watson test yielded an acceptable value of 1.921.

Table 4.7. Summary of hierarchical regression analysis for variables predicting health status

Variable	**Unstandardised coefficient**		**Standardised coefficient**	**R**	**R^2**	**ΔR^2**
	B	**SE B**	**β**			
Step 1				.115	.013	.013
Country	.002	.003	.020			
Sector	-.028	.033	-.026			
Sex	.040	.045	.027			
Age	.082	.022	.111***			
Step 2				.398	.158	.145
Country	.004	.003	.042			
Sector	.020	.031	.019			
Sex	-.030	.042	-.021			
Age	.105	.022	.142***			
Job insecurity	.054	.017	.098**			
Job demands	-.046	.023	-.062*			
Job control	.053	.025	.071*			
Social support at work	.053	.024	.073*			
Financial security/confidence	.107	.017	.193***			
Employability	-.050	.017	-.084**			
Work-life balance	.030	.019	.040			

Presenteeism	.046	.021	.064*			
Work-related stress	-.036	.019	-.059			

N = 1104; *p < .05, **p < .01, ***p< .001

The hierarchical multiple regression for wellbeing (W, DV) revealed that at step one, only sex contributed to the regression model, F (4, 1095) =2.819, p<.05, and accounted for .1% of the variation in W. At step two, job insecurity, job control, workplace social support, financial security/confidence, presenteeism, work-life balance, work-related stress and health status significantly contributed to the regression model and accounted for another 26.6% of the variation in W, F (14, 1095) =29.436, p<.001. The Durbin-Watson test yielded an acceptable value of 1.938.

Table 4.8. Summary of hierarchical regression analysis for variables predicting wellbeing

Variable	**Unstandardised coefficient**		**Standardised coefficient**	**R**	**R²**	**ΔR²**
	B	**SE B**	**β**			
Step 1				.101	.010	.010
Country	-.029	.021	-.042			
Sector	.095	.248	.012			
Sex	1.018	.338	.092**			
Age	.036	.169	.006			
Step 2				.525	.276	.266
Country	-.016	.018	-.023			
Sector	.457	.217	.056*			
Sex	.510	.294	.046			
Age	.078	.154	.014			
Job insecurity	.278	.118	.066*			
Job demands	.175	.160	.031			
Job control	.378	.174	.067*			
Social support at work	1.013	.169	.184***			
Financial security/confidence	.679	.123	.162***			
Employability	-.114	.122	-.025			
Work-life balance	.321	.137	.066*			
Presenteeism	.434	.148	.079**			
Work-related stress	-.467	.132	-.100***			
Health status	1.7	.213	.225***			

N = 1095; *p < .05, **p < .01, ***p< .001

The hierarchical multiple regression for work-life balance (WLB, DV) revealed that at step one, only sector and age contributed to the regression model, F (4, 1141) =7.261, p<.001, and accounted for 2.5% of the variation in WLB. At step two, job insecurity, job demands, workplace social support, financial security/confidence, presenteeism and work-related stress significantly contributed to the regression model and accounted for another 13.7% of the variation in WLB, F (11, 1141) =19.833, p<.001. The Durbin-Watson test yielded an acceptable value of 1.877.

Table 4.9. Summary of hierarchical regression analysis for variables predicting work-life balance

Variable	**Unstandardised coefficient**		**Standardised coefficient**	**R**	**R²**	**ΔR²**
	B	**SE B**	**β**			
Step 1				.158	.025	.025
Country	.004	.004	.031			
Sector	-.098	.049	-.059*			
Sex	.059	.068	.026			
Age	-.154	.332	-.136***			
Step 2				.402	.162	.137
Country	.006	.004	.042			
Sector	-.039	.047	-.023			
Sex	-.051	.064	-.022			
Age	-.085	.032	-.075**			
Job insecurity	.061	.025	.071*			
Job demands	-.109	.034	-.095**			
Job control	.036	.037	.032			
Social support at work	.133	.036	.117***			
Financial security/confidence	.147	.026	.170***			
Presenteeism	.107	.032	.095**			
Work-related stress	-.118	.028	-.0124***			

N = 1141; *p < .05, **p < .01, ***p< .001

The hierarchical multiple regression for presenteeism (HRB, DV) revealed that at step one, country, sex and age contributed to the regression model, F (4, 1318) =9.611, p<.001, and accounted for 2.8% of the variation in HRB. At step two, health status, job demands and work-related stress significantly contributed

to the regression model and accounted for another 4% of the variation in HRB, F (8, 1318) =11.993, p<.001. The Durbin-Watson test yielded an acceptable value of 2.061.

Table 4.10. Summary of hierarchical regression analysis for variables predicting presenteeism

Variable	**Unstandardised coefficient**		**Standardised coefficient**	**R**	**R²**	**ΔR²**
	B	**SE B**	**β**			
Step 1				.169	.028	.028
Country	.005	.002	.073**			
Sector	.019	.021	.026			
Sex	.085	.028	.083**			
Age	-.061	.014	-.121***			
Step 2				.261	.068	.040
Country	.004	.002	.068*			
Sector	.027	.021	.036			
Sex	.070	.028	.069*			
Age	.070	.028	.069*			
Health status	.055	.020	.098**			
Work-related stress	-.046	.023	.077**			
Job demands	-.006	.002	-.079**			
Social support at work	.008	.004	.049			

N = 1318; *p < .05, **p < .01, ***p< .001

The hierarchical multiple regression for work-related stress (WRS, DV) revealed that at step one, only age contributed to the regression model, F (4, 1280) =6.053, p<.001, and accounted for 1.9% of the variation in WRS. At step two, job demands, workplace social support and caring for children significantly contributed to the regression model and accounted for another 10.8% of the variation in WRS, F (7, 1280) =26.248, p<.001. The Durbin-Watson test yielded an acceptable value of 1.931.

Table 4.11. Summary of hierarchical regression analysis for variables predicting work-related stress

Variable	**Unstandardised coefficient**		**Standardised coefficient**	**R**	**R²**	**ΔR²**
	B	**SE B**	**β**			

Step 1				.136	.019	.019
Country	.001	.004	.009			
Sector	-.067	.050	-.038			
Sex	-.131	.068	-.054			
Age	.144	.034	.117***			
Step 2				.355	.126	.108
Country	.003	.004	.023			
Sector	-.148	.048	-.083**			
Sex	-.085	.064	-.035			
Age	.057	.034	.047			
Job demands	.358	.033	.298***			
Social support at work	-.135	.032	-.113***			
Caring for children	.030	.015	.052			

N = 1280; *p < .05, **p < .01, ***p< .001

The hierarchical multiple regression for job insecurity (JI, DV) revealed that at step one, country, sector, and sex contributed to the regression model, F (4, 1208) =4.842, p<.001, and accounted for 1.6% of the variation in JI. At step two, employability, job demands, job control and workplace social support significantly contributed to the regression model and accounted for another 7.7% of the variation in JI, F (8, 1204) =15.449, p<.001. The Durbin-Watson test yielded an acceptable value of 1.909. The effect of the covariates, type of contract and years of experience, on job insecurity were checked on Mplus through the structural equation modelling.

Table 4.12. Summary of hierarchical regression analysis for variables predicting job insecurity

Variable	**Unstandardised coefficient**		**Standardised coefficient**	**R**	**R²**	**ΔR²**
	B	**SE B**	**β**			
Step 1				.126	.016	.016
Country	.003	.003	.028			
Sector	-.025	.032	-.023			
Sex	.052	.042	.036			
Age	.087	.021	.119***			
Step 2				.305	.093	.077
Country	.002	.003	.022			
Sector	.009	.031	.009			
Sex	.018	.041	.012			
Age	.083	.021	.114***			

Job demands	-.085	.021	-.116***			
Job control	.074	.023	.100**			
Social support at work	.092	.023	.127***			
Employability	-.072	.017	-.122***			

N = 1208; *p < .05, **p < .01, ***p< .001

Lastly, the statistical preparation to mediation and moderation analysis are available in Appendix 2.2.

4.4.8. Group differences

In addition, group differences for sex, sector, and type of contract were checked regarding the impact of job insecurity on health status, wellbeing, work-life balance, presenteeism and work-related stress.

After controlling for country, sector and age, results for males with a CVD showed that job insecurity was negatively associated with health (β=.263, p<.01), and wellbeing (β=.168, p<.05), and showed a positive trend for work-related stress (β=.105, p=.09), but there was not a significant association with work-life balance and presenteeism. Results for females with a CVD showed that job insecurity was negatively associated with health (β=.137, p<.05), wellbeing (β=.150, p<.05), and work-life balance (β=.141, p<.05), but there was no significant association with work-related stress and presenteeism.

After controlling for country, age and sex, results for the private sector showed that job insecurity was negatively associated with health (β=.206, p<.01), and wellbeing (β=.136, p<.05), but it was not significantly associated with work-life balance, work-related stress and presenteeism. Results for the public sector showed that job insecurity was negatively associated with health (β=.150, p<.05), and wellbeing (β=.225, p<.01), and showed a negative trend for work-life balance (β=.097, p=.10), but there was no significant association with work-related stress and presenteeism.

After controlling for country, sector, age and sex, results for permanent employment showed that job insecurity was negatively associated with health (β=.206, p<.01), and wellbeing (β=.183, p<.01), and showed a negative trend for work-life balance (β=.068, p=.12), but there was no significant association for work-related stress and presenteeism. Results for temporary employment showed that job insecurity was negatively associated with health (β=.221, p<.05), work-life balance (β=.335, p<.01), and marginally negatively associated with work-

related stress (β=.194, p=.07), but it was not significantly associated with wellbeing and presenteeism.

4.4.11. Structural Equation Modelling: The statistical model

4.4.11.1. Specification and identification

The statistical model was guided by the results from multiple hierarchical regressions, and mediation analyses. The SEM process was based on the following actions: initial model specification, identification of a suggested version through Mplus, estimation of the suggested model with robust maximum likelihood, assessment of model fit, and finally re-specification (Kelloway, 2014). All actions and steps are shown in Table 4.16.

Weights for EU27 were used for all analyses; for MCMC multiple imputations, weights were included in the imputation variables to account for its power on missing values due to the fact that the primary Mplus weights option was not available for MCMC MI (Asparouhov & Muthén, 2010). In Mplus, all model missing data were treated with both FIML, and Monte Carlo Markov Chain Multiple Imputations, to ensure that results were similar and not much affected by potential biases due to non-ignorable data.

4.4.11.2. Model fit and re-specification

For the robust maximum likelihood with and without imputed data (MCMC), the model fit consisted of the measures of absolute and comparative fit. The goodness of absolute model fit was measured with the Root Mean Square Error of Approximation (RMSEA, good fit <.10) and the standardised root mean square residual (SRMR, good fit <.09). The goodness of comparative model fit was measured with the Tucker-Lewis Index (TLI, acceptable fit >.90 and good fit>.95) and Bentler's Comparative Fit Index (CFI, acceptable fit>.90 and good fit >.95) (Awang, 2015; Kelloway, 2014). X^2 is reported below with a systematic significance, p<.001. Due to the nature of chi-square's calculation, it will always be significant because of the dataset size. Consequently, the main focus regarding model fit was on RMSEA, SRMR, CFI and TFI (Kelloway, 2014; Kline, 2015). Results from the measures of model parsimony (AIC and BIC) are also available below. Overall, the primary combination rule for rejection in the current analysis for MLR was for RMSEA>.06 and SRMR>.08 (.10) because it results in the smallest error rates (Beauducel & Wittmann, 2005; Hu & Bentler, 1999). For the WLSMV, therefore, RMSEA<.10, and CFI>.90 indicate an acceptable fit, but not WRMR

because it does not always give sensible results (Awang, 2012; Kline, 2015; Newsom, 2012). Table 4.13. presents a summary of the results from the finalised steps from CFA to MSEM.

Table 4.13. Model fit for all steps

			Model fit*								
						Absolute fit		Comparative fit		Parsimonious fit	
	Step	**Analysis****	**x²*****	**df**	**RMSEA**	**SRMR 1st level**	**SRMR 2nd level**	**CFI**	**TLI**	**AIC**	**BIC**
CFA	1	MLR	214.847	60	.059	.054	n/a	.933	.913	31687.331	31889.905
	2	MLR with MCMC	242.922	73	.056	.053	n/a	.930	.913	34427.953	34639.735
	3	WLSMV	312.990	60	.076	n/a	n/a	.955	.941	n/a	n/a
SEM 1-level	4	First MLR with predictors and mediators	740.508	402	.024	.050	n/a	.907	.888	154525.233	155354.303
	5	Final MLR with predictors and mediators	759.083	417	.023	.052	n/a	.906	.891	154553.221	155302.573
	6	Final MLR with MCMC with predictors and mediators	1886.029	449	.046	.053	n/a	.872	.852	162402.913	163162.894
	7	Final: WLSMV with predictors and mediators	702.033	478	.021	n/a	n/a	.959	.951	n/a	n/a
MSEM 2-level	8	MLR	2568.786	860	.036	.053	.247	.858	.842	153163.549	154194.572

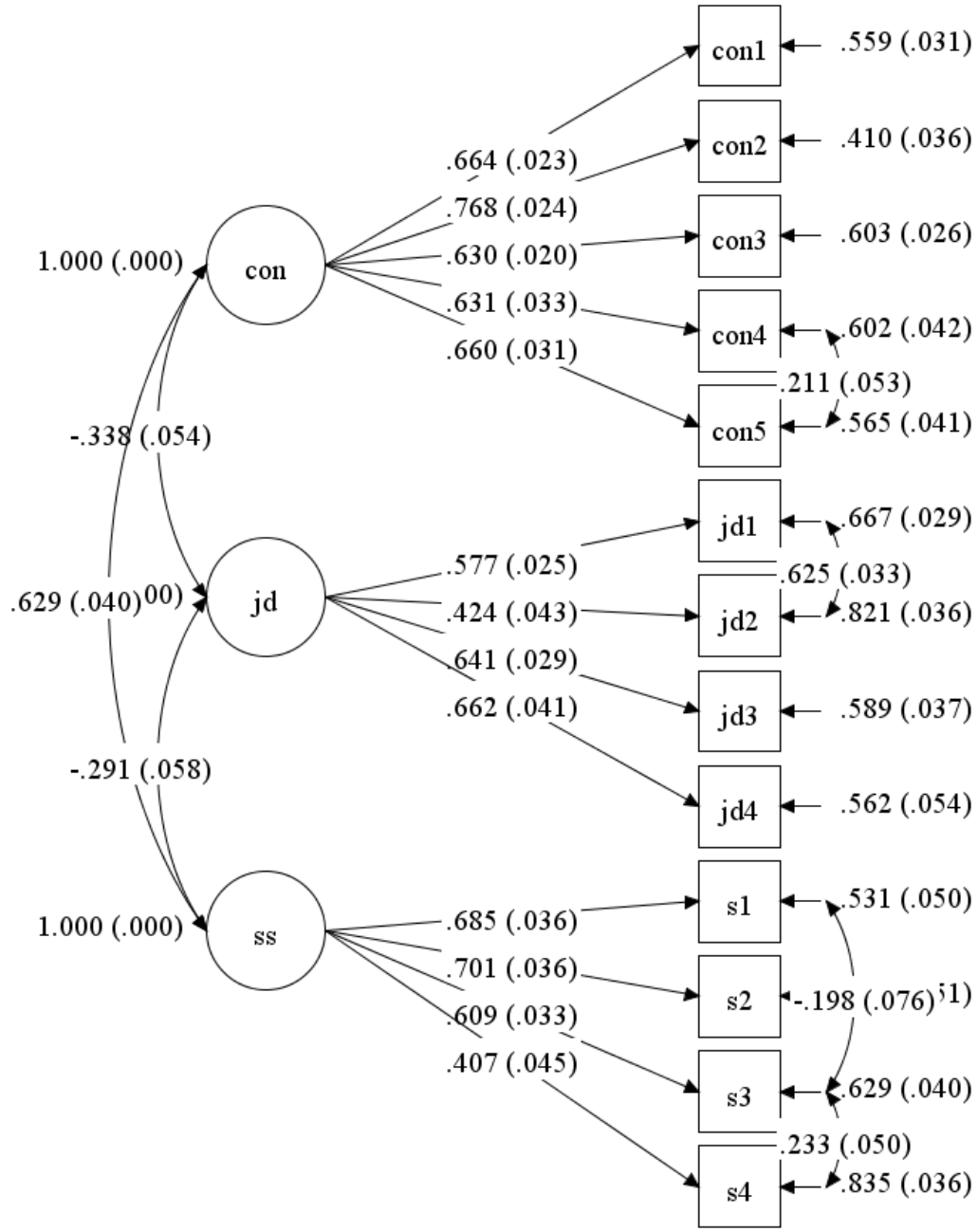
	(whole model tested at both levels)									
9	MLR (only key outcomes at 2nd level: HS, W, WLB, HRB, WRS)	1357.920	474	.035	.053	.216	.892	.871	153916 .951	154777 .908
10	Final MLR Only ICC>10% at 2nd level	1245.997	426	.036	.053	.087	.893	.875	154257 .633	154991 .041
11	Final MLR with MCMC Only ICC>10% at 2nd level	1835.459	461	.045	.055	.188	.873	.853	160767 .011	161516 .363
12	Final WLSMV Only ICC>10% at 2nd level	1410.616	425	.039	.050	.074	.968	.962	n/a	n/a

*Rejection rules: a) MLR: RMSEA>.06, SRMR>.08 (.10), b) WLSMV: RMSEA>.10, CFI<.90
** MLR= robust maximum likelihood, MCMC= Markov chain Monte Carlo, WLSMV= weighted least squares mean and variance, ICC= intraclass correlation (country level).
*** p<.001, 95% C.I.
Note: Mplus did not produce SRMR results for 1-level WLSMV.

4.4.11.2.1. Confirmatory factor analysis

Following the EFA, which was discussed earlier, CFA included only the factors with loadings >.4 and correlated (Figure 4.2.) The factors' correlation was not above 1, which means that no problem is caused by their correlation (Tabachnick & Fidell, 2007).

Figure 4.2. Step 1 Final measurement model: Job control (con), job demands (jd), workplace social support (ss)



4.4.11.2.2. One-level Model: CFA to SEM

After acquiring a satisfactory CFA, a structural equation model was built on previous hierarchical regressions and mediation analyses as presented earlier. Control variables were country, sector, sex and age. Indirect effects for mediations were coded and tested on Mplus. The statistical model which shows the significant interactions when all variables are included at the same time is available in Appendix A4.1.

Regarding the control variables, health (β=.162, p<.01) and work-life balance (β=.127, p<01), were affected only by age. Presenteeism was affected by sex (β=.145, p<.01), and age (β=-.097, p<.05). Wellbeing and work-related stress were not affected by any of the control variables.

The predictive parts of the model showed that health was negatively associated with job insecurity (β=.120, p<.01), financial security/confidence (β=.173, p<.01), employability (β=-.099, p<.05), job control (β=.127, p<.01), and positively associated with work-related stress (β=-.120, p<.01). Wellbeing was positively associated with financial security/confidence (β=.107, p<.05), workplace social support (β=.242, p<.01), health (β=.286, p<.01), and negatively associated with work-related stress (β=-,105, p<.05). Work-life balance was negatively associated with presenteeism (β=.098, p<.05)), and work-related stress (β=-.123, p<.01) and positively associated with workplace social support (β=.203, p<.01). Presenteeism was predicted by work-related stress (β=-.174, p<.01)). Work-related stress was positively associated with job demands (β=.321, p<.01), and marginally associated with by workplace social support (β=-.087, p=.07), and affected by the covariates, education (β=-.140, p<.01) and type of contract (β=-.111, p<.01).

Job insecurity was marginally negatively associated with job control (β=.113, p=.06), and workplace social support (β=.123, p=.05), and affected by covariates, years of experience (β=-.181, p<.01) and type of contract (β=.131, p<.01). Financial security/confidence was negatively associated with job insecurity (β=-.203, p<.01), job demands (β=-.205, p<.01), and positively associated with job control (β=.194, p<.01), and marginally affected by the covariate, education (β=-.082, p=.06). Employability (β=-.294, p<.01) and caring for children (β=.162, p<.01). were predicted only by age (control variable). Taking care of elderly and disabled relatives was only associated with sex (control variable) (β=-.177, p<.01), and the covariate, years of work experience (β=-.122, p<.01).

The mediational parts of the model were built based on the findings from PROCESS SPSS, which were reported earlier. The one-level structural model showed that there were four significant mediations when all variables were considered in the one-level structural equation model (Table 4.14.). Financial security/confidence was found to partially mediate the predictive power of job insecurity on health, and the predictive power of job control on health. In addition, health was found to partially mediate the predictive power of financial security/confidence on wellbeing, and the predictive power of work-related stress on wellbeing. Employability, caring for children and elderly/disabled family members did not have any mediational effect on health, wellbeing, work-life balance, presenteeism and work-related stress.

Lastly, when the whole model was tested, workplace social support did not moderate the relationship between job control and health.

Table 4.14. Mediation in the one-level model

HS=health, W= Wellbeing, WRS= work-related stress, JI= job insecurity, FS= financial security/confidence, CON=control			
		Indirect path through the mediator	
	Direct path	FS	HS
Direct path			
a) JI->HS	.069**	.020**	n/a
b) CON->HS	.094*	.025*	n/a
c) FS->W	.088*	n/a	.41**
d) WRS->W	-.092*	n/a	-.030*
Indirect path			
a) JI->Mediator		.200**	n/a
Mediator->HS		.100**	
b) CON->Mediator		.250**	n/a
Mediator->HS		.100**	
c) FS->Mediator			.100**
Mediator->W		n/a	.407**
d) WRS->Mediator		n/a	-.075*
Mediator->W			.407**

*p < .05, **p < .01.

4.4.11.2.3. Two-level Model: MSEM

The model was also tested at country level. Interactions which were not found to be significant in the one-level model were re-tested to check for differences between the one- and two-level version of the model. For the second level, the intraclass correlations (ICCs) were calculated to assess the extent to which country differences affect the model's variables as it would not be necessary to attempt an MSEM without meaningful ICC (Jones, 2012; Kelloway, 2014). For assessing reliability of group-level means, ICC (1)=.05 (5% of the variance) represents a small to medium effect while 10% of the variation at a higher level is usually applied (Jones, 2012; LeBreton & Senter, 2008). A rule of thumb for variance existing at group level is that ICC should be bigger than .10. However, research indicates that a design effect bigger than 2 can justify exploring a multilevel approach even if ICC is low (Satorra & Muthén, 1995). Therefore, even though the country differences did not explain much of the variance for most variables apart from job insecurity, financial security/confidence and type of contract, a multilevel model was tested due to design effects >2 and a big average cluster size (Heck & Thomas, 2015).

Table 4.15. Intraclass Correlations and Design Effects

		Variance	Design Effect**
Outcomes	Health	4.4	3.37
	Wellbeing	7.2	4.88
	Work-life balance	5.2	3.80
	Presenteeism	5.1	3.75
	Work-related stress	6.2	4.34
Predictors & Mediators	Job insecurity	12.1*	7.53
	Financial security/confidence	24.8*	14.39
	Employability	7.1	4.83
	Caring for children	7.2	4.88
	Caring for elderly/disabled relatives	5.6	4.02
	Job demands	8.4	5.53
	Job control	4.5	3.43
	Workplace social support	8.8	5.75
Covariates	Type of contract	19.4*	11.47
	Education	9.7	6.23
	Experience	3.7	2.99
Control variables	Sector	.07	1.37
	Sex	3.9	2.10
	Age	4.5	3.43

*Variance existing at country level with ICC>10%
** Design effect= 1+(average cluster size-1 x ICC), Average cluster size=55

When the full model was run at country level (Figure 4.3), the model fit was not satisfactory as seen at step 8. However, that was expected due to low variances existing at country level and because multiple hierarchical regressions on SPSS consistently showed that the control variable of country did not have an effect on the interactions. At step 9 of Table 4.13, only the direct effect on key outcomes (HS, W, WLB, HRB, WRS), was checked at country level (Figure 4.4), but the model fit was not satisfactory. Job insecurity, financial security/confidence and type of contract variances were explained by country differences with ICC of 12.1%, 24.8% and 19.4%, respectively. Therefore, at step 10, the 2nd level only included interaction between the variables with ICC>10% (Figure 4.5). Step 10 is the final two-level model, which is presented below in Figures 4.6 and 4.7.

The full model and two nested versions of the model were tested at country level to accommodate for country differences affecting the variance of the variables. Only the simplest version of the model (Figure 4.5) seemed to fit the data at country level in a satisfactory way compared to steps 8 and 9. RMSEA was good <.06 for all 2-level versions, but SRMR was >.10 for steps 8 and 9, which violated acceptable values based on the 2-index rejection rules by Hu & Bentler (1999) for RMSEA and SRMR. The full version of the proposed model works well at 1-level because all variables have high variance due to individual differences. However, only job insecurity, financial security/confidence and type of contract were significantly different across the EU27 countries in 2010. Job insecurity predicted financial security/confidence at country level (β=.473) at p<01.

Consequently, the final 2-level model works well as seen in Figure 4.7. Estimates were not available for the 2-level figures because Mplus does not produce diagrams for more than 1-level yet. Therefore, the detailed results from Mplus are available in the Appendix.

The predictive parts of the final model showed that health was negatively associated with job insecurity (β=.079, p<.05) and work-related stress (β=-.121, p<05), and positively associated with financial security/confidence (β=.159, p<.01), employability (β=-.119, p<.01), job control (β=.132, p<.01), work-life balance (β=.102, p<.01). Wellbeing was positively associated with financial security/confidence (β=.114, p<.01), workplace social support (β=.237, p<.01), health (β=.290, p<.01), work-life balance (β=.079, p<.01), and negatively associated with work-related stress (β=-.099, p<.05), presenteeism (β=.053, p<.05), and marginally job insecurity (β=.063, p=.07). Work-life balance was negatively associated with presenteeism (β=.103, p<.01) and work-related stress (β=-.088, p<.05) and positively associated with workplace social support (β=.224, p<.01). Presenteeism was positively associated with work-related stress (β=-.153, p<.01) and negatively associated with health status (β=.072, p<.05). Work-related stress was positively associated with job demands (β=.340, p<.01), and negatively associated with workplace social support (β=-.092, p<.05) and affected by the covariates, education (β=-.221, p<.01), and type of contract (β=.132, p<.01).

Job insecurity was negatively associated with by job control (β=.087, p<.05), workplace social support (β=.191, p<.01), employability (β=-.071, p<.01), type of contract (β=.118, p<.01), and experience (β=-.146, p<.01). Financial security/confidence was negatively associated with job insecurity (β=.119, p<.01), job demands (β=-.221, p<.01), positively associated with job

control (β=.209, p<.01), and affected by a covariate, education (β=-.122, p<.01). Employability and caring for children were only negatively associated with age in this study (β=-.235) and (β=.193) at p<.01, respectively. Taking care of elderly and disabled relatives was only associated with sex (β=-.151, p<.01), and years of work experience (β=-.083, p<.01).

Figure 4.3. Step 8 for country level: whole model tested at both levels: HS=health, W=wellbeing, WLB= work-life balance, HRB= Log10 of presenteeism, WRS= work-related stress, JI= job insecurity, FS= financial security/confidence, E= employability, CHI=caring for children, ELD=caring for elderly, JD=job demands, CON=control, SS= workplace social support, EDU= education levels, XP= years of work experience, CONTRA= type of contract

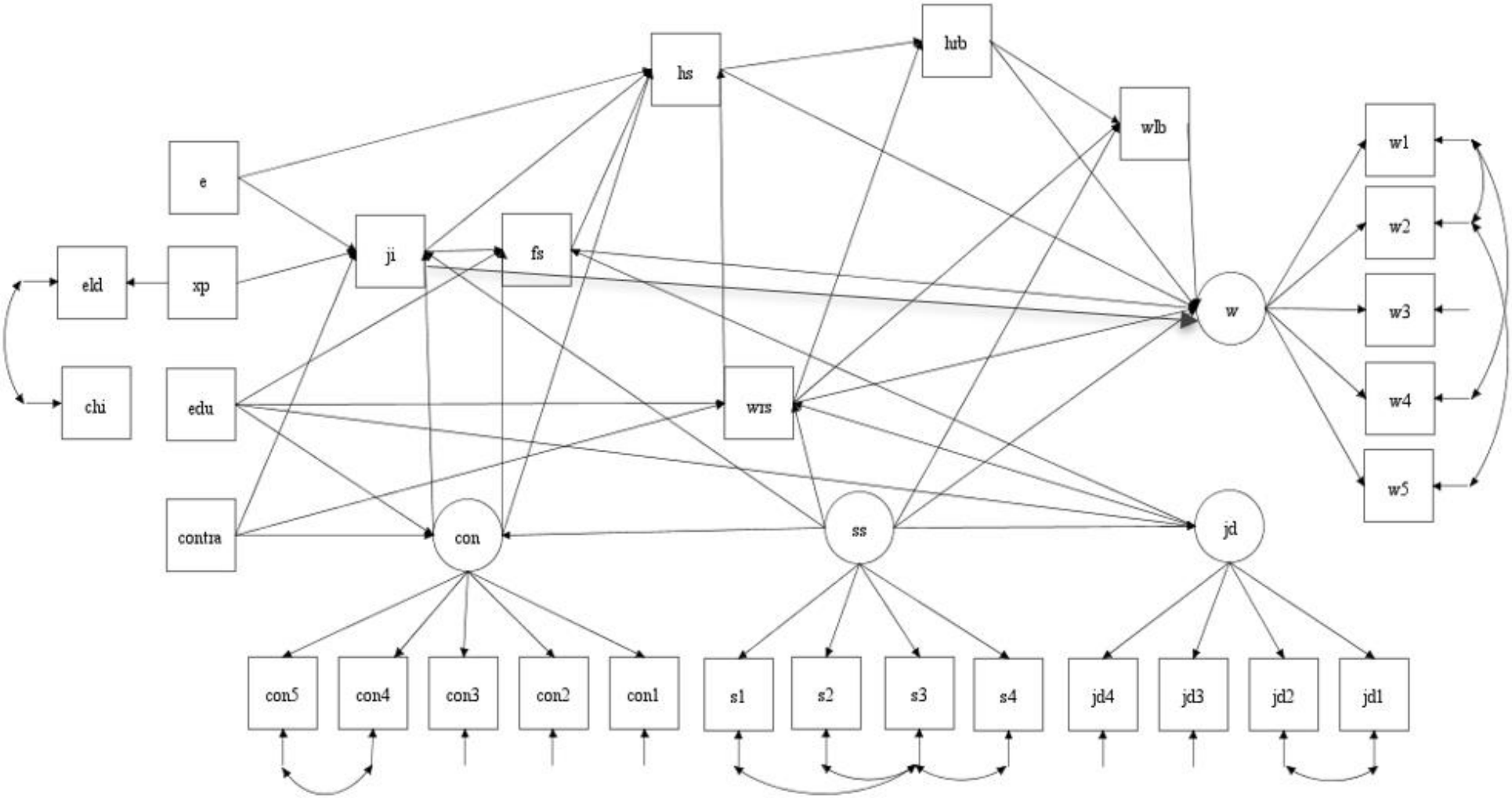


Figure 4.4. Step 9 for country level: key outcomes: HS=health, W=wellbeing, WLB= work-life balance, HRB= Log10 of hrb/presenteeism, WRS= work-related stress, JI= job insecurity, FS= financial security/confidence, CONTRA= type of contract

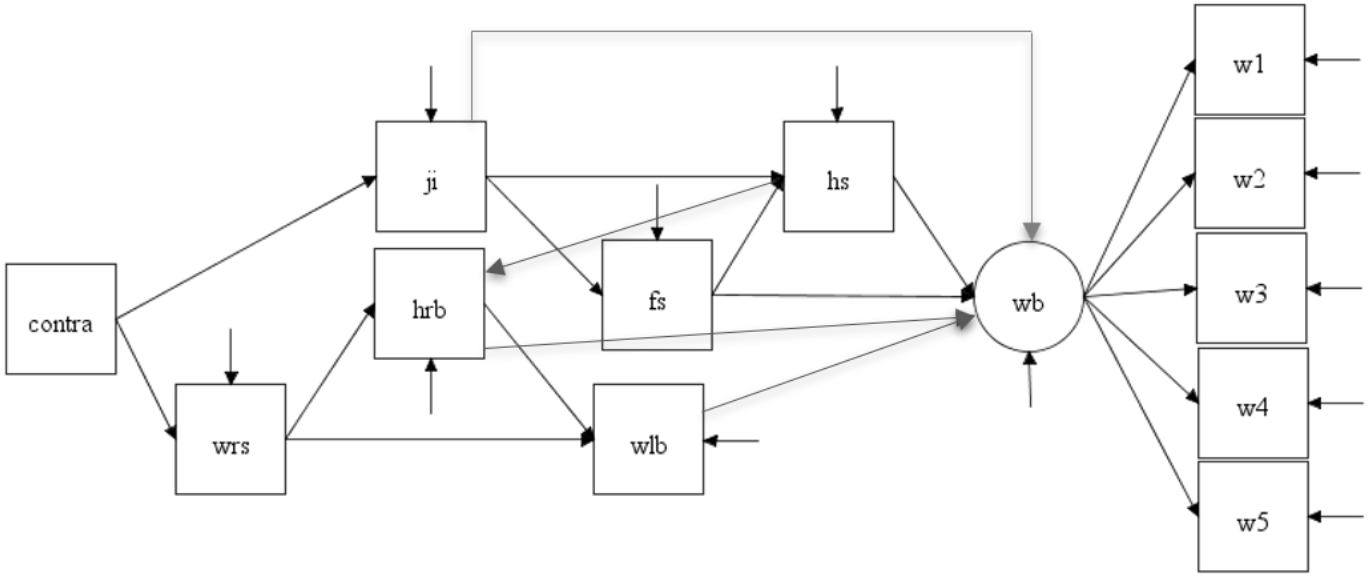


Figure 4.5. Step 10 for country level: Variables with ICC>10% at 2nd level

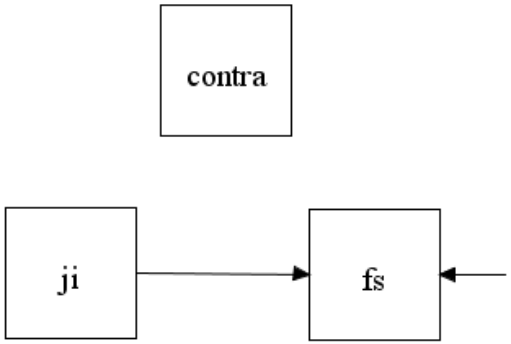
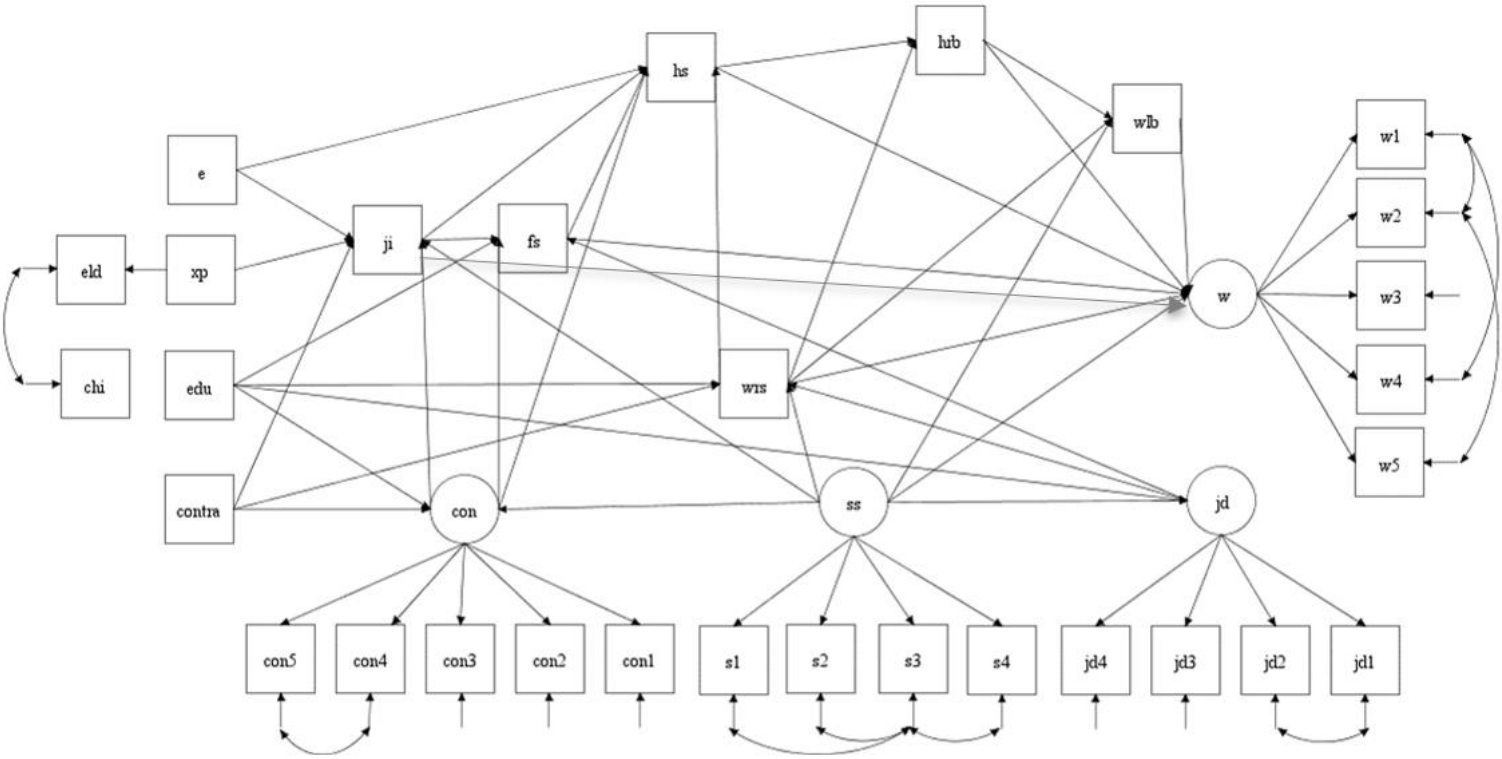
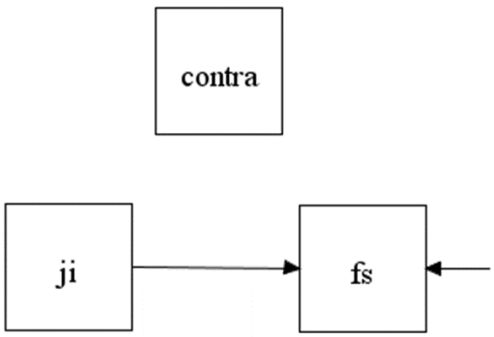


Figure 4.6. Final statistical model: Best model fit for 2-level model: HS=health, W=wellbeing, WLB= work-life balance, HRB= Log10 of hrb/presenteeism, WRS= work-related stress, JI= job insecurity, FS= financial security/confidence, E= employability, CHI=caring for children, ELD=caring for elderly, JD=job demands, CON=control, SS= workplace social support, EDU= education levels, XP= years of work experience, CONTRA= type of contract

Individual level



Country level



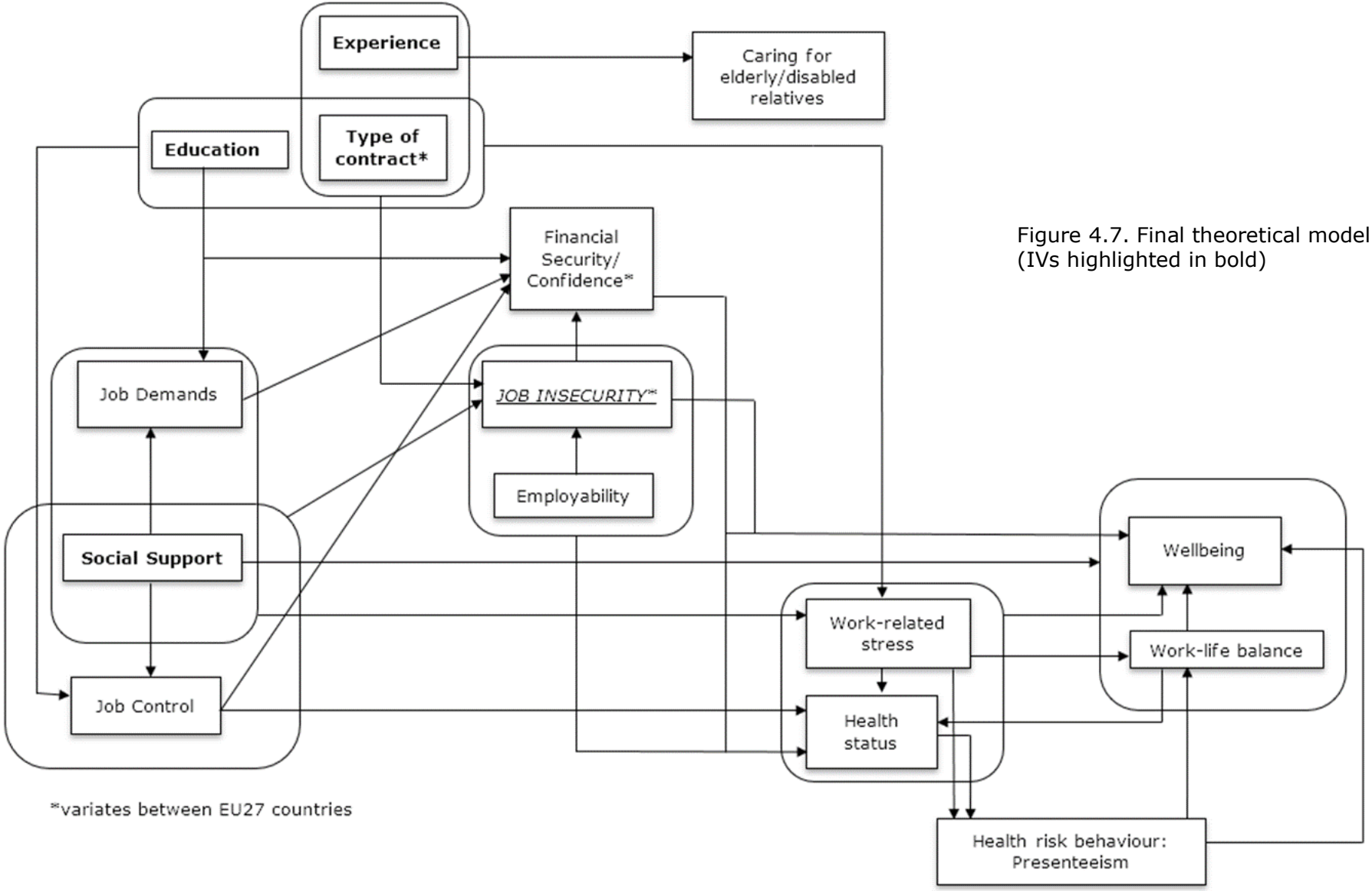


Figure 4.7. Final theoretical model (IVs highlighted in bold)

Lastly, with respect to checking mediation for the 2-level model (Table 4.16.), financial security/confidence was found to partially mediate the predictive power of job insecurity on health, and the predictive power of job control on health. In addition, health was found to partially mediate the predictive power of financial security/confidence on wellbeing, and the predictive power of work-related stress on wellbeing. Job insecurity was found to mediate the interaction between job control and financial security/confidence, and potentially mediate the predictive power of employability on health with a mediational effect of a certain trend towards significance ($p=.08$), nonsignificant at $p<.05$. Work-related stress was also found to potentially mediate the predictive power of workplace social support on work-life balance with a borderline significant trend ($p=.09$), nonsignificant at $p<.05$. Job demands mediated the relationship between education and financial security/confidence. Employability, caring for children and elderly/disabled family members did not have any mediational effect on health, wellbeing, work-life balance, presenteeism and work-related stress.

Table 4.16. Mediation in the two-level model

		Indirect path through the mediator				
	Direct path	FS	HS	JI	WRS	JD
Direct path						
a) JI->HS	.047**	.011**	n/a	n/a	n/a	n/a
b) CON->HS	.107**	.027**	n/a	n/a	n/a	n/a
c) FS->W	.099**	n/a	.040**	n/a	n/a	n/a
d) WRS->W	-.082*	n/a	-.019*	n/a	n/a	n/a
e) E->HS	-.070**	n/a	n/a	-.003 (p=.08)	n/a	n/a
f) SS->WLB	.335**	n/a	n/a	n/a	.013 (p=.09)	n/a
g) EDU->FS	-.111**	n/a	n/a	n/a	n/a	-.072**
h) CON ->FS	.268**	n/a	n/a	.013 (p=.05)	n/a	n/a
Indirect path						
a) JI->Mediator		.113**	n/a	n/a	n/a	n/a
Mediator->HS		.101**				
b) CON->Mediator		.268**	n/a	n/a	n/a	n/a
Mediator->HS		.101**				
c) FS->Mediator		n/a	.101**	n/a	n/a	n/a
Mediator->W			.395**			
d) WRS->Mediator		n/a	-.047*	n/a	n/a	n/a
Mediator->W			.395**			
e) E->Mediator		n/a	n/a	-.070*	n/a	n/a
Mediator->HS				.047**		
f) SS->Mediator		n/a	n/a	n/a	-.151*	n/a
Mediator->WLB					-.085*	
g) EDU->Mediator		n/a	n/a	n/a	n/a	.357**
Mediator->FS						-.203**
h) CON->Mediator		n/a	n/a	.118*	n/a	n/a
Mediator->FS				.113**		

*p < .05, **p < .01.

4.5. Discussion

The proposed model (Figure 4.1) was built following a review of the literature and consisted of various steps. The first half of the chapter presented the data preparation and the findings from the multiple hierarchical regressions and mediation analyses on SPSS. The steps aimed to make sure that the final attempt to run the model on Mplus would follow meaningful and significant interactions between the variables. The second half of the chapter presented how all these interactions and variables work together into one model at individual and country level. Five hypotheses were presented at the beginning of the chapter, which were partially confirmed and lead to the final model (Figure 4.7.) are discussed below.

The first hypothesis was partially confirmed in line with previous research. The hierarchical multiple regressions showed that job insecurity was positively associated with health, wellbeing (Burchell, 2011; Ferrie, 2001), work-life balance (Dex & Bond, 2005), financial security/confidence (Giannetti et al., 2014), and time spent caring for children (Burchell, Wichert, & Nolan, 2002) as seen in previous studies. In addition, job insecurity mediated the relationship between a) JDCS and health, b) control-support and wellbeing, c) job demands-support and work-life balance (Ashford, Lee, & Bobko, 1989; De Lange, Taris, Kompier, Houtman, & Bongers, 2003). However, when the full MSEM model and all interactions were run in Mplus at the same time, the results showed that job insecurity was only negatively associated with health and financial security/confidence, and marginally associated with wellbeing, which partially confirms previous findings. MSEM in Mplus showed that perceptions of job insecurity was not directly associated with work-related stress, work-life balance and presenteeism. Job insecurity was also found to mediate the relationship between job control and financial security and potentially mediate the predictive power of employability on health with a mediational effect of a certain trend towards significance ($p=.08$), nonsignificant at $p<.05$.

The second hypothesis was partially confirmed in line with previous findings. The mediation analyses in SPSS showed that financial security/confidence mediated the relationship between job insecurity and a) health (Giannetti et al., 2014; Kahn & Pearlin, 2006), b) wellbeing (Krause, Jay, & Liang, 1991), c) work-life balance (Emslie & Hunt, 2009), and the relationship between JDCS (Ross & Mirowsky, 1992) and a) health (Schreuder, Roelen, Koopmans, & Groothoff, 2008), b) wellbeing (only for control and support) (Landsbergis, 1988), c) work-life balance (only for demands and support) (Voydanoff, 2005). Caring for children and caring for elderly/disabled relatives was not associated with the outcomes or

acted as mediators; moderation analysis also showed no moderation effect. The model on Mplus showed that only financial security/confidence acted as a mediator for the relationship between a) job insecurity and health, and b) job control and health.

The third hypothesis, which explored the interactions between the outcomes, was partially confirmed in line with previous research. Analysis with SPSS and Mplus showed that wellbeing was positively associated with health (Gureje, Von Korff, Simon, & Gater, 1998), work-life balance (Lunau et al., 2014), presenteeism and work-related stress (Biron, Brun, Ivers, & Cooper, 2006; Skagen & Collins, 2016). In addition, analysis with SPSS showed that health and work-life balance were negatively associated with presenteeism and work-related stress (Skagen & Collins, 2016); analysis with Mplus showed that work-life balance was indeed negatively associated with presenteeism and work-related stress, but health was directly negatively associated with work-related stress and work-life balance. Analyses with both SPSS and Mplus showed that presenteeism was positively associated with work-related stress and and negatively associated with health.

The fourth hypothesis, which explored the interactions between the JDCS items, was partially confirmed in line with previous research. Analyses with both SPSS and Mplus showed that workplace social support was positively associated with job control and negatively associated with job demands. However, only analysis in SPSS showed that job control mediated the interaction between support and demands (Jang, 2009; Thompson & Prottas, 2006; Van Yperen & Hagedoorn, 2003).

The fifth hypothesis, which explored the impact of covariates on certain variables of the model, was partially confirmed and in line with previous research. The analysis with SPSS showed that education was positively associated with employability, financial security/confidence and job control while work experience was negatively associated with job insecurity, and positively associated with financial security/confidence and job control (Gregorio & Lee, 2002; Groot & De Brink, 2000; Ross & Reskin, 1992). However, the analysis with Mplus, after deleting nonsignificant interactions and checking modification indices, showed that education influenced job control, job demands and work-related stress; and years of experience in an organisation were negatively associated with job insecurity and positively associated with time spent caring for elderly/disabled relatives. Job demands acted as a mediator for the relationship between education and financial security/confidence. Additionally, the analysis with SPSS showed that a temporary type of contract was positively associated with job insecurity and negatively

associated with work-life balance (Bohle et al., 2004; Lewchuk et al., 2003), but Mplus results showed that temporary type of contract was positively associated with job insecurity, work-related stress and negatively associated with job control.

4.5.1. Strengths of the current study

The main strength of this study is that a large, representative European dataset was used. This enabled testing of hypotheses at European level, but also ensure data quality due to Eurofound's research standards. In addition, the large datasets increased the accuracy of the significance of findings due to power and increased reliability (Hussein, 2011).

With respect to data collection, the dataset was available through the UK Data Service for analysis. This meant that the pros and cons of conducting a secondary analysis applied in this study. There was no delay with respect to participant recruitment, handing out surveys, collecting and collating documentation. Another strength was that there were no major ethical concerns (Glass, 1976), as discussed in Chapter 3. However, ethical concerns regarding data handling were taken into account.

Markov Chain multiple imputations take into account the uncertainty in the missing values (Sinharay, Stern, & Russell, 2001). It was employed on Mplus as an alternative way to listwise deletion and FIML to explore the stability of results (E. A. Stuart, Azur, Frangakis, & Leaf, 2009). The technique of multiple imputation has been supported by researchers because it gives the freedom to calculate missing values based on a probabilistic approach. In this way, the impact of running an analysis with missing values is avoided, which may lead to more conclusive results (Sterne et al., 2009).

Multilevel structural equation modelling was also used in this study to test the variables' variances at country level. The state-of-the-art is focused on multilevel approaches due to their rich factor inclusion and complexity (Heck & Thomas, 2015).

4.5.2. Limitations of the current study

One of the first and most important limitations is that Engel's model has received criticism for using the concept of biopsychosocial model. He has been criticised for using this model as a euphemism for psychosomatic illness (McLaren, 2009). The model has been criticised for the lack of safeguards against either the under-representation or over-representation of any of the three categories due to data limitations, biological, psychological and social; individual differences in

wording may confuse what falls under each category. Therefore, some researchers argue that these categories may be pointless (Benning, 2015; Lehman, David, & Gruber, 2017). However, the model is based on an epistemologically important approach because it combines biological, psychological and social elements (Ghaemi, 2010). The nature of occupational health psychology is expressed through the combination of biopsychosocial factors aiming to improve employees' wellbeing, health, and life. From this perspective, Engel's model supports our research rationale, and therefore we chose to use that from a theoretical point of view. Regarding the JDCS model, the key limitations were the limited inclusion of factors by default (the model includes only job demands, job control, and workplace social support), and the level of consistency regarding conceptualisation of demands and control, which may affect understanding and interpretation of interactions (Van der Doef & Maes, 1999).

As mentioned above, a secondary analysis was conducted and there were specific research goals, which were not similar to the EWCS surveyors' research goals. Inappropriateness of the data can be a key limitation of secondary datasets which consequently leads to analysis limitations. Data collected by the researcher are collected with a concrete idea. For example, some questions of the survey such as the one on presenteeism and work-life balance could be phrased differently so that they could better address our research question (Denscombe, 2014). Another key limitation is that the study was cross-sectional despite using a European representative sample. Cross-sectional studies are not as rigorous as longitudinal studies because they test hypotheses at a specific point of time instead of using waves and forming a better understanding over time (Bryman, 2015). Another limitation was that data quality could not be controlled, which can sometimes affect the results. Ethical concerns may be limited in this study due to the use of secondary data; however, the researcher was not aware or able to control for any biases during data collection (e.g. selection biases, researchers' biases etc.) (Saunders, 2011).

Another limitation was that some of the variables were not normally distributed; therefore, various techniques such as bootstrapping and robust maximum likelihood had to be used to make sure that the results are trustworthy (Field, 2013). In addition, some variables, which would help better understand the interplay of factors in the proposed model could not be included such as income and overall employees' stress about the future. Income could not be included as part of socioeconomic status because the variable of the selected survey was missing more than 10% of its values. Employees' overall stress and

worries about the future was not available in the survey. The question on work-related stress (Select the response which best describes your work situation - You experience stress in your work: Always to Never) is not clear on whether it is about job demands and daily stressors at work or worries about keeping their job and their future employment. This will have to be considered when interpreting the final integrated results.

The current study included Markov Chain multiple imputations to compare results with FIML and listwise deletion. However, the researcher is aware of the debate regarding the plausibility of results using multiple imputations. If there is any discrepancy between the imputation model and the analysis model, this may lead to unreliable estimates (Sinharay et al., 2001). Using imputations as a replacement technique is challenging because the imputed values are only a proxy for the true values. Therefore, this approach was treated with caution due to the uncertainty beyond the sampling variation and cross-checked with listwise deletion and FIML (Mittag, 2013).

4.6. Conclusion

This chapter aimed to demonstrate the functionality of the proposed model, by exploring relations and interactions using a European dataset. The predictive value of job insecurity on health was confirmed with some elements being supportive of previous literature and some elements concluding otherwise. The next chapter will present the second empirical study of this thesis, based on semi-structured interviews with employees that had a heart attack and returned to work in two European countries, the UK and Greece. This second study further explores the quantitative findings and additionally focuses on the role of employment protection on return to work and reintegration of employees with a CVD.

5. Chapter Five: Factors Affecting the Reintegration to Work of Employees with a CVD in England and Greece

5.1. Background

As discussed throughout this thesis, job insecurity entails the anticipation and fear of job loss which can drastically affect employees' life (Ferrie et al., 2004; László et al., 2010; WHO, 2010, 2011). Fear of unemployment leads to lower levels of psychological and physical wellbeing (McKee-Ryan et al., 2005). A cohort study (812 employees with no CVD history) with 25 years of follow-up revealed that stress at work and job strain, which are caused by job insecurity, increase the levels of CVD morbidity and mortality (Kivimäki et al., 2002). Hypertension, which can be triggered by pressure and stress, increases the risk of recurrent heart problems e.g. myocardial infarction/heart attack, heart failure etc. (Footman & Tumanov, 2013). A meta-analysis of 27 studies, which was part of a systematic review on the health impact of employment, confirmed the same. Temporary employment was found to increase psychological morbidity (Virtanen et al., 2005). In addition, employment uncertainty increases work intensification, which is likely to cause health complications such as the recurrence of heart disease (Brand & House, 2007; Burcell et al., 2005).

Employees who had a heart attack and returned to work have rights and needs, which are covered by both employment and health and safety legislation as presented in Chapter 2. All employers in the UK and Greece must comply with employment and health and safety at work legislation. Employment Protection (EP) is related to the protective boundaries for employees including the control of hiring and firing procedures. Hiring procedures relate to short-term, temporary or fixed-term contracts. Firing procedures relate to redundancy, severance, collective dismissals and prenotification (OECD, 1999). EPL (EPL) is a set of regulations protecting employment status. EPL endues actions in the workplace that inhibit individual dismissals of regular employees, controls the levels of collective dismissals and regulates forms of temporary employment (OECD, 1999; 2013). Employment protection policies and good practices supplement EPL; the use of both is necessary (Barone, 2001; OECD, 1999).

With respect to health and safety at work in the UK and Greece, employers must provide a safe working environment, a safe system of work, safe equipment, protection from hazards and provision of necessary training; the

right to fair and just conditions. Through the implementation of the health and safety legislation, employment protection achieves fair adjustments in the workplace and appropriate support through psychosocial risk management for employees, who had a heart attack and returned to work (EU-OSHA, 2019a; Leka, 2003; Leka et al., 2008).

It is relevant to note that there are potential differences with respect to economy and EPL implementation between Western and Eastern Europe; therefore, between the UK and Greece. Even if there is interest in implementation, existing needs in the two countries are different; therefore, application of EPL will have to take into consideration different factors. For example, both concepts of EPL and flexicurity were conceived in a Western European country, which may explain why factors related to Eastern European countries have not been considered. Eastern European countries persistently struggled with military issues, which lead them not to pay much attention on labour market reform such as flexicurity. It is more difficult for countries in any type of transition to consider reforming their labour market. There are initiatives across eastern European countries, however, more focus and support are needed for a successful implementation (Cazes & Nesporova, 2001; European Commision, 2006; Viebrock & Clasen, 2009).

This chapter aims to further explore in depth the experience of employees who returned to work after a heart attack using two samples, Greece and the UK, England. These countries were selected as they have different socioeconomic conditions and because they were affected differently in the last financial crisis (OECD, 2009; Simou & Koutsogeorgou, 2014; Zavras et al., 2012). The qualitative study presented in this chapter focuses on the experience of job security and additionally the role of employment protection in the workplace.

5.1.1. Rationale

If interventions and actions that constitute EP took the impact on physical and mental health into further consideration, employee health protection would be enhanced (Ferrie et al., 1998; Virtanen et al., 2005) since economic and job insecurity have an impact on health which is mediated by existing EPL and EP policies (Catalano, 1991). It is important to intervene on current structures with legislation and policies in order to control non-communicable diseases (NCDs) and particularly CVD (WHO, 2010). The implementation of EP interventions in order to either eliminate unemployment or tackle its impact will have an effect

on employees' psychological and physical wellbeing (Chida & Steptoe, 2008). EP could work by enhancing the sense of protection to the employee. During uncertain times, interventions of strict EPL decrease turnover and increase binding to organisations. An effective set of EPL interventions could ease work intensification caused by uncertainty (Micco, 2006).

Governments should be informed about the impact of organisational practices and policies on employees' recovery and ongoing health after a serious health issue. In this way they will be able to protect employees from the impact of uncertainty and job insecurity (Virtanen et al., 2005). Countries with effective EPL protect employees with history of CVD and keep levels of psychological distress and job insecurity low. These actions control the prevalence of recurrent heart disease in this population. Identifying similarities and differences regarding employment protection in England and Greece will enrich our knowledge and understanding of EPL implementation in those two economically different countries.

5.1.2. Purpose of the current study

The purpose of this study was to explore the benefits of employment protection on employees' health and wellbeing after a heart attack. Fear of job loss and job loss are risk factors for heart attack recurrence (Strike & Steptoe, 2004; Virtanen et al., 2013; Virtanen et al., 2011). The aim was to understand how and the extent to which job security and employment protection help employees to have a balanced and healthy working life. The focus is on employees who had a heart attack in the past and returned to work. This study will help inform current employment protection policies and practice and tackle the impact of job insecurity.

Countries with differences, either culturally or economically, present inequalities in health (Mackenback et al. 2008). This study aims to identify commonalities and differences between the English and the Greek working population with respect to EPL, as presented in Chapter 2. These two countries were selected due to the adoption of recent fiscal austerity measures which resulted in high job insecurity and unemployment rates in Greece, in comparison to the UK (Karanikolos et al., 2013).

The research questions three to six are going to be addressed in the current study:

3. What are the perceived key factors associated with reintegration to work of employees with a CVD, who had a heart attack?

4. Do experiences of employment protection and workplace social support significantly improve employees' sense of job security, quality of life and health after a heart attack?
5. Are experiences of employment protection and workplace social support similar or different between English and Greek employees, who had a heart attack?
6. Are there any gaps in the implementation of Employment Protection for employees with a CVD? What are the future needs in policy and practice?

5.2. Method

5.2.1. Study design

This study which was the second part of this mixed-methods research, aimed to enrich the findings from the quantitative study on the health impact of job insecurity in Europe. It was a multi-centre study aiming to approach participants from various Cardiac Rehabilitation Centres in Nottingham, England and Thessaloniki, Greece. Semi-structured interviews were conducted, aiming to investigate the impact of employment protection policies on employees' physical and mental health and wellbeing in two different countries. Participants consisted of individuals who had returned to work following a heart attack.

5.2.2. Participants

There were two parallel recruiting procedures. Participants were recruited through both the English and Greek National Health Systems (NHS). Recruitment also included cardiac rehabilitation charities in England, UK and Greece. All participants who showed an interest in participating, participated in the study and were interviewed. There was no participant dropout.

Most participants were identified through the NHS in Greece (15 interviews) and England (12 interviews). Three interviews were conducted after identifying participants through the English Heart Foundation. Previous research indicates that a minimum of 12 participants is a justified sample size to conduct a qualitative study using a particular analysis type such as thematic analysis (Baker & Edwards, 2012). Participants were recruited from two NHS sites in the UK (Queen's Medical Centre and City Hospital in Nottingham) and two NHS sites in Greece (Hippokrateon and Papageorgiou Hospital).

Regarding the eligibility criteria, there were specific inclusion and exclusion criteria to assist with the recruitment process. The present qualitative

study was divided into two parts. For the first part, participants had to be English citizens, who were employed, and have returned to work after a heart attack. There was no upper age or gender restriction. There was no limitation regarding how long ago they had their heart attack. Employment type was recorded but there was no specific inclusion criterion with respect to employment type. For the second part, participants had to be Greek citizens, who are employed, and have returned to work after a heart attack. Again, there was no age restriction and both genders were included. There was no limitation regarding the time when they had the heart attack in the past and employment type was recorded. Participants were excluded if they were unable to give informed consent, were under 18, were unemployed or self-employed, and did not have a heart attack in the past.

5.2.3. Materials

The interview schedule (Table 5.1.) was developed based on a) the quantitative findings (Chapter Four) on the causes and impact of job insecurity and other work-related factors on health-related outcomes, b) the current literature on the benefits of employment protection on health-related outcomes. The interview guide consisted of two parts. The first part included the demographic questions. The second part consisted of semi-structured questions aiming to understand people's experience of job security and employment protection, their experiences after returning to work with respect to support provision, their suggestions and views on good organisational practices. There was also a question aiming to understand how people perceive their work-prospects after a heart attack. The material for the interviews with the Greek participants was translated into English using the back-translation-technique (Brislin, 1970).

Table 5.1. Interview Schedule

Semi-Structured Interview Guide
Version 2.0: 18/01/2016

Title of Study: The benefit of job security on health and wellbeing after a heart attack.
Study ID: EPPHEA

This study investigates the extent to which job security and employment protection promote health and wellbeing for employees who returned to work after a heart attack. The goal is to understand how and the extent to which job security

and employment protection help employees to have a balanced working life and protect them from being at risk of heart attack recurrence. Job insecurity and lack of employment protection are explored to understand their impact on health. Lack of employability and financial difficulties are also considered.
Demographic questions:
1. What is your age?
2. What is your level of education?
3. When did you have the heart attack?
4. How long did it take you to go back to work?
5. Have you changed or lost your job at some point after your heart attack?
6. What has been the nature of your employment contract before and after the heart attack, and at the moment? (Permanent/temporary, part-time/full-time, zero-hour contracts etc.).
7. Do you work in the private or public sector? Which industry?
8. What is the level of responsibility you have at work? Years of experience?
Main topic questions:
1. What are the main factors at work that help you feel supported and give you a sense of *job certainty and security after the heart attack? **Provide definition: Job security is the probability that an individual will keep his or her job.*
2. What have your experience and/or views been regarding *employment security and protection after your return to work after the heart attack? **Provide definition: Employment security is about the protection of workers against fluctuations in earned income as a result of job loss. One of the forms of protection that is afforded to workers against, or upon, dismissal, is provided by EPL (EPL) and policies (EPP).*
3. How has employment security and protection affected your views and perceptions of job insecurity?
4. In what ways have the perceptions and experience of job (in)*security affected your psychological wellbeing, attitudes, decision-making process and health-risk behaviours at work after the heart attack?
5. Economic crisis aggravates unemployment and job insecurity. In what ways has financial insecurity affected your *work-life balance and work-related decisions after the heart attack? **Provide definition: Work-life balance is a concept including proper prioritising between 'work' (career and ambition) and 'lifestyle' (health, pleasure, leisure, family and spiritual development/meditation).*
6. In what ways, you think, do your health-needs after the heart attack affect your *employability?

**Provide definition: Employability can be defined as 'doing value creating work, getting paid for it, and learning at the same time; enhancing the ability to get work in the future'.*
7. What kind of suggestions would you like to make in terms of workplace policies* and practices that could support working life after a heart attack, and decrease the likelihood of heart attack recurrence? **Provide definition: Workplace policies are statements of principles and practices dealing with the ongoing management and administration of the organisation.*
8. What else would you like to add in the context of this interview?

5.2.4. Procedure

For the first recruiting procedure, the researcher contacted the Cardiac Rehabilitation Centres of the City Hospital and Queens Medical Centre in Nottingham, England. The researcher also contacted the Cardiac Rehabilitation Centre of Hippocrateon and Papageorgiou Hospital in Thessaloniki, Greece.

For the second recruiting procedure, the researcher contacted cardiac rehabilitation charities in England (The English Heart Foundation and The Cardiac Support Group, www.heartsupport.co.uk) and Greece (Hellenic Heart Foundation, www.elikar.gr) to approach participants through support groups online. All participants were informed about the background of the research team and its purpose. The interviews through the cardiac charities in England were completed while the researcher was waiting to seek approval from the NHS. The cardiac charity in Greece did not respond.

For the interviews at the hospitals in England, the researcher visited the Cardiac Rehabilitation Centre of the City Hospital and the Queens Medical Centre in Nottingham. The researcher had applied for a Research Passport to access the NHS premises to approach the participants. She asked clinicians and nurses to be the first contact and tell potential participants about the study by giving out information (see Appendix B3 and B4, document: LEAFLET & ADVERT EPPHEA amended v2.0 date 18.01.2016) to eligible patients. Clinicians and nurses were asked to identify patients in their records, who meet the selection criteria and to give out information about the study (study leaflet) when they speak to the patients. Patients' existing clinical care team (clinicians and nurses) should have had access to patient records without explicit consent to identify potential participants, check whether they meet the inclusion criteria or make the initial approach to patients. After shortlisting, the clinicians approached patients, who met the study criteria, during their clinical appointments and

asked them whether they were willing to be contacted by the researcher about the study. No participant cancelled or withdrew from the study in England.

For those patients who agreed to be approached, the researcher contacted them by telephone after the clinicians' initial approach and invited them to participate. The researcher explained the purpose of the telephone call and the aim of the study. She also explained what taking part in the study involved and gave patients the opportunity to ask questions. At the end of the telephone call, the researcher asked the patients if they were interested in participating and whether they wanted the material (information sheet and consent form) to be emailed or sent to them by post. Participants were informed that the researcher will be available to answer any questions before the interview regarding the material. The patients were able to contact the researcher by telephone or email and had the opportunity to speak to her before consenting to take part prior to the interview. Mutually convenient appointments with respect to time and location were arranged with those who are interested in participating. An information sheet was given to the participants prior to the interview. Prior to the interview, the researcher checked whether the participant needed any clarification or not and let him/her know that the interview would be audio recorded. A consent form was given to them to sign on the day of the interview.

For the interviews at the hospitals in Greece, the researcher visited the Hippokrateon and Papageorgiou Hospital in Thessaloniki. The researcher had applied for a similar Research Passport to access the hospital premises to approach the participants. The recruitment process was slightly different in Greece compared to the UK. After the head of cardiology department allowed the researcher to access the offices, the administrator of the cardiology department provided lists with all the patients who had a heart attack in the past three years. The researcher used the hospital premises to contact the potential participants on the phone. The participants were randomly selected from patients' lists provided by the hospitals. The researcher cross-checked whether the patients who were interested in participating met the eligibility criteria before inviting them for an interview or not. Participants, who were interested in being interviewed and met the eligibility criteria were invited to an interview and initially given the study's information, either verbally on the phone or by email. Interviews were booked at a mutually convenient time. No participant cancelled or withdrew from the study in Greece. The participants received a printout of information sheet and consent form on the day of the interview. Prior to the interview, the researcher checked whether the participant

needed any clarification or not and let him/her know that the interview would be audio recorded. All interviews started after the participants had signed the consent form and did not have any unanswered questions about the study.

The researcher also contacted some cardiac charities aiming to recruit participants. She emailed the charities' online coordinators and provided details about the project (information sheet and adverts). The coordinators were asked whether they would be willing to email the information to the charity's group members and allow the posting of adverts to the charity's website. The charity's coordinators contacted the charities' members and sent the relevant information. Afterwards, people who were interested in taking part contacted the researcher directly and the researcher gave them details for the following steps. She asked the participants whether they wanted the material (information sheet and consent form) to be emailed or sent by post to them. She also informed participants that she was available to answer any questions before the interview regarding the material. Mutually convenient appointments with respect to time and location for the interview were booked with those who were interested in participating. An information sheet was given to the participants prior to the interview. Prior to the interview, the researcher checked whether the participant needed any clarification or not and let him/her know that the interview would be audio recorded. A consent form was given to them to sign on the day of the interview. After the interview, the researcher debriefed the participants, thanked them for their time and contribution.

All material for the interviews conducted in Greece were translated into Greek. The procedures concerning the interviews with the Greek participants were conducted and recorded in Greek and translated and transcribed into English using the back-translation-technique (Brislin, 1970). Interviews in the UK were conducted in English, and interviews in Greece were conducted in Greek.

The interviews through hospitals took place in pre-booked rooms at the hospital premises to ensure privacy. The interviews through the cardiac charities were conducted over the telephone because interviewees were not located in Nottinghamshire. The mean interview time was 45 minutes (min=28', max=96'). All interviews were audio recorded. After the interview, the researcher debriefed the participants, thanked them for their time and contribution. All interviews took place between 2015 and 2016.

5.2.7. Analysis

Thematic analysis was employed in order to identify meaningful themes among participants. NVivo 12 was used to store and organise codes and themes. The aim of the current study was to identify patterns of meaning or themes across two groups; therefore, it was necessary to include a large number of participantst to ensure data saturation. Thematic analysis was chosen as the most suitable approach for the current study due to the study's objective to identify themes, the size of the sample and due to the credibility of thematic analysis as a useful and flexible analysis method, which has a straightforward manner based on a 15-point checklist. Other types of qualitative analysis such as grounded theory, interpretative phenomenological analysis, and discourse analysis were not selected on this occasion because of their nature to narrow down and deeply analyse fewer cases through participants' subjective experience rather than identifying themes across groups. The guidelines, provided by Braun and Clarke (2006), were meticulously followed to minimise internal errors and biases. An inductive or bottom-up approach was employed in order to explore and understand the data (Braun & Clarke, 2006). The transcription process was based on conventions for convenience and accuracy. The uses of effective and meaningful templates combining inductive and deductive approaches were employed to assure a robust exploitation of the data (King, 1998). Thematic maps were produced based on the collected data. Analysis was conducted in depth with a latent-constructivistic approach to ensure authenticity and transparency (Braun & Clark, 2006; Bryman, 2012; Madill et al., 2000).

The quality of the results was cross-checked with the consolidated criteria for reporting qualitative research (COREQ) (Tong et al., 2007), and the eight 'Big-Tent' criteria for excellent qualitative research (Tracy, 2010). The COREQ consists of three domains: research team and reflexivity, study design, and analysis and findings. These domains have various elements, which were cross-checked with the current study. In addition, the eight 'big-tent' criteria consist of a worthy topic, rigour, sincerity, credibility, resonance, contribution, ethics and meaningful coherence. The current study was based on a worthy topic aiming to be robust, credible, sincere and resonant. The contribution of this study is presented below and in the final chapter.

The researcher firstly transcribed all the interviews and translated into English when it was necessary. All identifiable information was removed at the first stage of transcription. She then inserted all notes taken during the interviews

in NVivo and uploaded the transcripts in her NVivo project. She read all the transcripts and identified common use of vocabulary, and reference to certain topics. After coding the quotes, she organised the codes into certain groups to assist with the creation of a meaningful code map. Using the code map, themes and sub-themes emerged, which are presented in the results section below.

The research team consisted of three female team members with relevant research experience; the PhD student (main researcher) and two academic supervisors. The research team discussed the thematic analysis and themes before reporting the results.

5.3. Results

The results indicated themes and sub-themes for the English and Greek employees, who had suffered a heart attack and returned to work.

5.3.1. Demographic characteristics

Demographic characteristics (Tables 5.2. and 5.3.) showed that the mean age for the English participants was 55 years old (min=44, max=67), and for the Greek participants was 49 years old (min=41, max=58). Most participants were employed on a permanent basis for both English and Greek employees and were educated at secondary and tertiary level. The number of English employees, who had a phased return after the heart attack was higher than the number of Greek employees. The representation of female participants was not equal to the male participants; with only four women for the English sample and two for the Greek sample. That happened because during the participant recruitment, there were significantly more men who had a heart attack than women. Both the public and private sectors were represented in both samples in a similar manner. All Greek participants were employed and had returned to full-time employment. English participants were a mix of part-time and full-time employment.

Table 5.2. Participant characteristics for the English sample

No.	Country	Sex	Code	Age	Education	Heart attack (HA) in:	Returned to work after:	Phased return	Working hours before the HA:	Working hours after the HA:	Contract	Sector	Experience (years in current role)	Current job
1	UK	F	UK1F	60	Secondary	2012	10 weeks	Yes	Full-time	Part-time	Permanent	Private	10	Cook
2	UK	F	UK2F	50	Secondary	2016	12 weeks	Yes	Full-time	Part-time	Permanent	Public	30	Administrator
3	UK	F	UK3F	57	Secondary	2016	12 weeks	Yes	Part-time	Part-time	Permanent	Private	7	Preschool Playgroup assistant
4	UK	F	UK4F	56	Tertiary	2010	6 weeks	Yes	Part-time	Part-time	Permanent	Private	35	Accountant
5	UK	M	UK5M	55	Post-secondary	2009	6 weeks	Yes	Full-time	Full-time	Permanent	Private	10	Development manager
6	UK	M	UK6M	52	Primary	2016	4 weeks	Yes	Full-time	Full-time	Permanent	Private	30	Constructor
7	UK	M	UK7M	64	Tertiary	2016	12 weeks	Yes	Part-time	Part-time	Permanent	Public	11	Administrator
8	UK	M	UK8M	43	Tertiary	2016	1.5 weeks	Yes	Full-time	Full-time	Permanent	Public	18	Lab manager
9	UK	M	UK9M	59	Tertiary	2015	8 weeks	Yes	Full-time	Full-time	Permanent	Private	15	Analyst
10	UK	M	UK10M	55	Secondary	2016	10 weeks	Yes	Full-time	Part-time	Permanent	Public	20	Line Manager
11	UK	M	UK11M	67	Tertiary	2016	6 weeks	Yes	Full-time	Part-time	Permanent	Private	38	Sales manager
12	UK	M	UK12M	56	Secondary	2016	6 weeks	Yes	Full-time	Part-time	Permanent	Private	8	Electrical engineer
13	UK	M	UK13M	54	Secondary	2008	12 weeks	Yes	Full-time	Full-time	Permanent	Private	5	Carpenter
14	UK	M	UK14M	44	Post-secondary	2015	4 weeks	Yes	Part-time	Part-time	Zero-hour contract	Private	10	Chef
15	UK	M	UK15M	57	Tertiary	2016	12 weeks	Yes	Full-time	Part-time	Permanent	Public	15	Teacher

Table 5.3. Participant characteristics for the Greek sample

No.	Country	Sex	Code	Age	Education	Heart attack (HA) in:	Returned to work after:	Phased return	Working hours before the HA:	Working hours after the HA:	Contract	Sector	Experience (years in current role)	Current job
1	GR	F	GR1F	53	Post-secondary	2014	4 weeks	No	Full-time	Full-time	Temporary	Private	30	Aesthetician
2	GR	F	GR2F	44	Tertiary	2015	4 weeks	No	Full-time	Full-time	Permanent	Private	1	Production worker
3	GR	M	GR3M	47	Tertiary	2015	12 weeks	No	Full-time	Full-time	Permanent	Private	3.5	Security officer
4	GR	M	GR4M	49	Tertiary	2015	8 weeks	No	Full-time	Full-time	Permanent	Public	6	Council worker
5	GR	M	GR5M	41	Post-secondary	2015	6 weeks	Yes	Full-time	Full-time	Permanent	Private	16	Taxi driver
6	GR	M	GR6M	46	Primary	2016	8 weeks	No	Full-time	Full-time	Permanent	Private	20	Heavy machinery operator
7	GR	M	GR7M	48	Secondary	2016	4 weeks	Yes	Part-time	Part-time	Temporary	Public	10	Driver
8	GR	M	GR8M	58	Secondary	2016	24 weeks	No	Full-time	Full-time	Permanent	Public	5.5	IT support
9	GR	M	GR9M	52	Post-secondary	2016	4 weeks	Yes	Full-time	Full-time	Zero-hour contract	Private	27	Logistics driver
10	GR	M	GR10M	55	Tertiary	2015	16 weeks	No	Full-time	Full-time	Permanent	Private	28	Machine programmer
11	GR	M	GR11M	52	Tertiary	2016	7 weeks	Yes	Full-time	Full-time	Permanent	Private	32	Receptionist
12	GR	M	GR12M	48	Tertiary	2015	16 weeks	No	Full-time	Full-time	Permanent	Private	23	Sales manager
13	GR	M	GR13M	52	Tertiary	2016	4 weeks	No	Full-time	Full-time	Permanent	Public	27	Nurse
14	GR	M	GR14M	50	Tertiary	2016	12 weeks	No	Full-time	Full-time	Permanent	Private	26	Accountant
15	GR	M	GR15M	53	Post-secondary	2015	24 weeks	No	Full-time	Full-time	Permanent	Public	6	Bus driver

5.3.2. Themes

The thematic analysis resulted in 5 key themes, 10 sub-themes and 20 indicators as shown below in Table 5.4. All quotes for the indicators are coded and available in the NVivo project file included as part of this thesis submission.

Table 5.4. Analysis of interviews with English and Greek employees: Themes, sub-themes and indicators

Themes		Sub-themes	Indicators
1	**Employment rights and security after a heart attack**	Employment rights	Awareness of rights
			Guidance by the employer/manager
		Perception of job security and employability	Existing practices, organisational culture and change
			Experience and expertise
			Business relationships and networks
			Job role flexibility
2	**Economic situation**	Marketplace	Its impact on financial and job security
		Personal financial strain	Perception of financial security
			Financial support
3	**Health after a heart attack**	Life changes and keeping the balance	Cognitive and Behavioural change
			Prioritising health
			Work-life balance
		Impact of health on working life	Physical strain
			Psychological strain
4	**Self at work after a heart attack**	Perception of self and stigmatisation at work	Perception of self
			Stigmatisation
5	**Resources and support after a heart attack**	Colleagues	Psychological and practical support from colleagues
		Organisation	

			Financial and psychological support from the employer/CEO
			Psychological and practical support from the manager
		Employment protection: Law, policies and practices	Significance and regulation

The emerging themes are related to the impact of the employment situation, stress due to financial difficulties, changes in behaviour and mentality after the heart attack, thoughts and plans about the future, and experiences of support. The themes and their sub-themes are presented below. Themes were found to be similar for both English and Greek employees; the key difference had to do with the number of jobs available due to the economic crisis (worse in Greece), which was expected.

5.3.2.1. First theme: Employment rights and security after a heart attack

The first theme included two sub-themes related to employment rights and job insecurity/employability. This theme presents English and Greek employees' knowledge and awareness of their employment rights, guidance provided by their employer and manager on EPL, perceptions of job insecurity and employability. The participants discussed how aware they were about their employment rights and whether their employer/manager informed them about their rights after they had the heart attack or not. They also discussed what helped them feel secure at their current job, but also what helped them feel confident about finding another job in the future.

5.3.2.1.1. Employment rights

With respect of the issue of employment rights, both personal awareness and guidance from the manager/employer was raised as seen below.

Awareness of rights:

Awareness of employment rights after a heart attack was not always present. There were many employees, both English and Greek, who were not clear about what employment protection and rights entail. They either found out some details through the cardiologist and/or through their employer as they gradually

returned to work, but they did not have much formal knowledge. There were only a few both in England and Greece, who were aware of their rights, but they mentioned that they had to find out about the process mostly on their own e.g. financial cover by the social insurance institute (IKA) in Greece or statutory rights for sick leave in England.

> *'If there is, I wasn't aware of any policies. I wasn't really aware of the sick-pay system as I have never been off-sick before. So, I found my way as I went along. They did email me the copy of the sick system policy'. (UK15M)*

Participants, who had managed others in the past and/or had a general HR knowledge seemed to also be aware of rights and procedure due to their background and operations knowledge. Most of the participants found out about their rights and process after the heart attack, before or after they returned to work. In addition, some participants mentioned that the physical impact of a heart attack was not always visible to others, which sometimes lead colleagues/managers to inaccurately think that the participant was not experiencing difficulties. Unfortunately, that made colleagues/managers think at times that certain practices e.g. consistently informing participants about their rights and adjustments, were not crucial; this affected participants' experience back to work.

Guidance by the employer/manager:

Guidance by the employer/manager was not consistently a formal procedure, which took place for each participant; this was true for both English and Greek employees. Informing employees about their rights and procedures was often informal or non-existent. Some participants had a brief discussion with their employer or manager about their return to work, and some received a letter regarding their rights on sick leave.

> *'There was a small discussion on me actually going back to work on a phased back to work. But once I was there full-time back properly after the 12 weeks, we hadn't discussed that yet. Of how they're going to deal with it.' (UK2F)*

However, many participants did not receive formal guidance regarding their rights on sick leave, return to work and necessary adjustments. Most English participants received some sort of guidance, even brief, compared to Greek participants, who mostly felt that they were navigating the system on sick leave on their own.

> *'Nobody informed me about my rights after my heart attack. They (employer) just put me back to work.' (GR7M)*

Overall, the interviews with the English participants revealed that there is some formal guidance, even just on paper, but more person-centred guidance is needed. On the other hand, the interviews with the Greek participants revealed that formal guidance is needed because there is not always much in place. Both samples expressed a need for more guidance,

5.3.2.1.2. Perception of job security and employability

Job insecurity and employability were affected by various factors such as existent practices, organisational culture and change, experience, expertise, business relationship and job role flexibility. Indicators regarding these factors are listed below.

Existent practices, organisational culture and change:

Quotes indicated that both English and Greek employees mentioned that current practices in their organisation affected their experience of going back to work after a heart attack with regards to feelings of security at work. Employees described various reasons affecting their sense of security and understanding of work situation such as company policies and usual practices, size and culture of the company, and type of sector. Both English and Greek participants mentioned that there is a difference in policies and practices between large and small companies indicating that large companies usually follow more formal procedures. In small companies there is more room for informality, which can be both a positive and a negative thing with resepect to practices. Some participants discussed that large companies may have more roles or positions, which can allow them to move within the company based on their needs after the heart attack, compared to small companies with limited roles.

> *'It depends on the company. These big companies do have policies in place. I have worked for these big companies. They might say to me, if I was working for them, I used to be a catering manager… they might say to me just go in the office to take some pressure of me. Come back to work in certain weeks.' (UK14M)*

In addition, both English and Greek employees who were employed in the public sector mentioned that they were not worried about their job security because they knew that a position which meets their needs would be found within the sector one way or another. Participants understood that the public sector is better in following legislation and good practices in employment protection; therefore, they felt confident that their health problem would not cost their job and there is a policy in place to keep them employed.

A key difference in organisational practices which enhance employees' sense of support and security after a health problem, is that the majority of Greek participants did not report a formal phased return (four out of 15 participants had a phased return) compared to the English participants (15 out of 15). These findings as seen in table 5.2. and 5.3. indicate a gap in work adjustments after a heart attack and a need for improving practices on phased return in Greece.

Experience and expertise:

Quotes indicated that both English and Greek employees felt that doing a job for many years, for the same organisation or not, acquired experience and expertise increased their sense of certainty for the future of their job. Participants felt that their unique level of expertise and knowledge of their company increased their chances of staying employed with this company.

> *'I didn't have any problem with respect to job security. I have my job because it is difficult for my employer to find a replacement due to speciality and expertise.' (GR10M)*

Participants with exceptional expertise also mentioned that they feel secure about their job despite other people being made redundant in their company. Participants who felt that it is difficult for their employer to find somebody to replace them e.g. due to their niche job, reported job security. Participants who did not have many years of experience or expertise did not

experience job security in the same way as the ones with experience/expertise. That was observed in both English and Greek sample.

Business relationships and networks:

Both English and Greek employees felt more connected and secure in their workplace due to the quality of their business relationships and networks. Sense of increased connection with their employer, manager and colleagues enhanced their sense of security. Sense of business connection was also affected by the years of experience and expertise in the organisation, which links to the previous subtheme.

Some participants also felt that having positive business relationships with their employer and/or manager can help them stay employed as they may be chosen to e.g. extent their contract with the company over somebody else who does not have a positive relationship with the employer/manager. In addition, some participants mentioned that the trust, gained over the years, and the positive relationship with their employer or manager made the transition back to work after the heart attack easier and more worry-free.

> *'I will not say that I am irreplaceable, but I am an important member of the company. I did not think that he would go ahead and lay me off. We have a very good professional relationship and always checks if I am ok.' (GR9M)*

Participants mentioned that employers who trusted them made the transition back to work much easier and accommodating; employers who worried about employees exploiting time due to their illness were not as cooperative and supportive. The participants in the latter situation were not as secure about their job in the long term. Lastly, some participants mentioned that knowing the 'right' business people and having a strong professional network might help them stay employed or even find another job in the future.

Job role flexibility:

Both English and Greek employees described that sometimes changing their job role was the way to remain employed after the heart attack. Job role flexibility was seen a way to enhance the sense of employability, but also seen as a concern depending on the individual. Some participants discussed their thoughts on changing their job role due to physical constraints after the heart attack. The

participants who thought that it was possible to change their job role within their current company experienced more security than the ones who did not. However, there were participants who believed that being open to a new job role could help them either stay in the same company or even find a new job somewhere else. There were even some participants who felt very positive about a job role change, although, those were only a few cases. Furthermore, there were some participants who understood that job role flexibility can enhance their job security and employability, but they were concerned about either their ability to do a different job or their company's ability to give them a different post, especially in smaller companies.

> *'It is a difficult one, because one of the questions my doctor asked, "Do I have to move to another position?" (not being able to do the exact same job due to the health issue) and I thought "where to move me to?". I am worried about changing my job role.' (UK12M)*

Lastly, both English and Greek participants working in the private sector felt that their employers did not have a responsibility to keep them employed after the heart attack unless they could do their job as they used to do it. Participants mentioned that it was down to a 'good employer' to support them, and let them recover and go back to the same or a similar job.

5.3.2.2. Second theme: Economic situation

The second theme, economic situation, had two aspects, the macro (national) and micro (individual) level. Both English and Greek employees suggested that the lack of financial security was caused by national (marketplace), and personal factors (views and family support). The participants indicated that marketplace changes in their country affected organisations, and consequently their sense of financial and job security. They also mentioned that their personal views on finances, e.g. careful spending and having savings, combined with financial support from family members, helped them financially cope when they had the heart attack. The keys sub-themes were marketplace (macro-level) and personal financial strain (micro-level) as seen below:

5.3.2.1. Marketplace

Marketplace was explored in order to identify its impact on experiences of financial and job insecurity as seen below.

Its impact on financial and job insecurity:

Both English and Greek employees talked about how their organisation and work were affected by changes in the market and the national economy. However, as expected, the Greek sample mentioned more frequently the impact of the marketplace compared to the English sample due to the Greek economic crisis. In particular, English participants mentioned general markplace changes, fluctuations and national policy change without specifically referring to austerity cuts or economic crisis. They discussed their concern on keeping a specific job in a fluctuating marketplace.

> *'We were unsettled because of changes in the marketplace it was decided to cut the resource by 75% and expand the team of contractors and reemploy.' (UK5M)*

On the other hand, the Greek participants highlighted the impact of austerity measures, the bailout, the capital control, and overall economic crisis in Greece on unemployment, job insecurity and job prospects. The Greek participants mentioned difficulties in getting paid due to the economic crisis. They explained that their companies not only did they struggle to pay their bills, but also their employees, which consequently lead to working months without or with delayed income.

> *'It is all about the Greece's bailout. We used to get paid before that. We should get paid now too, but they don't even have money to pay us our basic wages, even if it is public sector. It may sound crazy, but it true. So, we work overtime to support our service team. We worked as a team, but after Troika, there are not many left.' (GR4M)*

Many Greek participants mentioned that the financial difficulties at national level caused financial difficulties at organisational level, and consequenstly stress and financial difficulties on them. Some participants also discussed the impact of the economic crisis on current unemployment levels and future employment. These participants were concerned that the increasing unemployment and cuts in their company could possibly affect them too.

5.3.2.2. Personal financial strain

Both English and Greek participants talked about financially struggling in the face of receiving sick pay (not their full amount of pay) while they still had to cover living costs and expenses and support their family. They both also mentioned ways of trying to cope with lack of income:

Perception of financial security:

Both English and Greek participants had views on their financial situation, what was helpful to them or not after the heart attack. Additionally, having a loan or not getting paid during a sick leave were highlighted as strain factors. Many participants discussed their concerns regarding their chronic health issue, how that may affect their work life in the future and consequently their income. Participants' health issue made them more concerned about future financial security and more financially cautious overall. Some participants mentioned that the fact they were always financially careful e.g. not spending much, paying off their debts, not getting many loans etc., has helped them to cope with the financial impact of their health issue.

> *'I also had some savings for a rainy day; not just for me, my health, but also for my taxi's maintenance. I was financially "prepared" for any type of unfortunate event, but I did not expect a heart attack. I always keep money on the side. That helped.' (GR5M)*

In particular, participants, who were financially prepared, mentioned that it was easier for them to deal with an unexpected health issue. Some of the participants reported that financial matters can easily cause stress to them, but keeping them under control is what helps them cope. A couple of participants also expressed that their experience of being both poor and wealthy at some point in their lives has helped them feel more in control of financial difficulties and confident that they will somehow make it.

Financial support:

Both English and Greek participants mentioned that receiving support from other people, e.g. family members, has been of great help to them and reduced financial insecurity. Participants with a partner/husband/wife and independent

(grown-up) children, who could financially support them, did not experience elevated stress due to financial difficulties.

> *'I don't think it has affected it really, you know, I live with my partner, and she has a steady job as well and we have children, but they left home now, so financially we are fairly comfortable really. And probably if I didn't work I could just, we could just manage it with my partner's income. So, I haven't felt any great financial pressure or that I must return to work, although, they money is useful, certainly; the youngsters are starting now and they do not have a secure job so, if I could help them quite a bit, you know. I certainly work for the money, but I do not feel pressurised financially.' (UK9M)*

Many participants mentioned that their income was affected by their health issue because statutory sick pay was considerably lower than what they usually earn. These participants mentioned that having people around them, who could financially support them, made things easier for them; they did not have to worry about earning the same amount of money straight after their heart attack. In addition, a couple of participants could not do the same hours after their heart attack which lead to fewer hours and lower income.

Furthermore, participants who received financial support, felt more comfortable about going back to work as a way to financially strengthen their family members as well and not out of fear of not making ends meet. Overall, it was apparent that participants with a partner, who could financially support them, experienced more financial security and stability than those who did not. Most participants received financial support from family members. There were no cases of participants taking state benefits and financial support from the government.

5.3.2.3. Third theme: Health after a heart attack

The third theme consists of two sub-themes. The sub-themes include life changes and balance, and impact of health on working life. Participants discussed the impact their health, after the heart attack, had on their personal and work life. Both English and Greek participants discussed their efforts to lead a healthier and more balanced life in order to control the physical and psychological impact of their heart attack.

5.3.2.3.1. Life changes and keeping the balance

Quotes indicated that both English and Greek employees felt that their health should be a priority after the heart attack. People mentioned that they try to change perspective and deal with issues and stress in a different way with some of them struggling. All participants said something about their life after the heart attack, and the ways they tried to find a balance between self-care and other work-related and personal obligations again:

Cognitive and behavioural change:

Both English and Greek participants spoke about making changes in their life after the heart attack. Those changes included both cognitive and behavioural changes aiming to increase calmness and quality of life as seen below. For example, many participants started thinking about their life after the heart attack; they started realising their mortality and that nobody can live forever. This way of thinking triggered ideas about their quality of life, what they do and what they would like to do with their lives after the heart attack.

> *'Well, there is mortality, I could not "be". It brings that into focus and what do I want to be doing for the years I have left. And also outside work, my parents, both still alive, but both very old now, so there is quite a lot of difficulty with their care, so that brings the mortality thing up again and their quality of life is not very good now, so if that is what's in store for me I want to get something out of it (life) now. And in my age, there are people, colleagues and friends, who have died. So, I am almost on borrowed time.' (UK7M)*

Participants discussed that the heart attack changed how they see things in life. For example, they mentioned that they try to stay calm and not to get upset by daily stressful events as they used to do before the heart attack. Some Greek participants, said, for example, that they try not to worry about paying their bills and remind themselves that bills will be paid when their employer pays their wages. The life-changing experience of having a heart attack put daily worries into perspective for both English and Greek participants, who mentioned that they now focus on the fact that they are still alive and do not want to risk experiencing extra stress and potentially another heart attack. Participants seemed to show a lot appreciation for being alive after a heart attack, and wanted to remain calm so that they can enjoy living.

Prioritising health:

This indicator is focused on quotes specifically mentioning the prioritisation of health above all as a new life outlook. It is part of a cognitive change but has been treated as a separate indicator due to its significance. It is not just about finding a way to remain calm and avoid stress (see previous indicator), but about consciously treating health as life's priority after the heart attack.

In particular, both English and Greek participants mentioned that they actively try to become healthier through eating better, exercising, seeing their doctor, stop smoking, and taking their medication. Some participants also discussed that their old mindset was to keep pushing themselves without taking into account their physical and psychological limits, which changed after the heart attack.

> *'But now, my health comes before anything else because without my health, I can't have anything else and people understand that. We had somebody, a guy I work with, collapsing in his kitchen the previous week, after work and he found out he has a tumour, and now his life is completely changed. That is exactly how my life was changed.' (UK13M)*

Additionally, many participants realised that some of their old habits were actually harming their health and contributed to having had a heart attack e.g. social drinking, eating a lot of animal products, not moving a lot. The majority of the participants said that they actively set their health as priority after the heart attack, which translates to various health-promoting behaviours and mindsets both at home and at work. Participants also mentioned that it is not always easy to take care of their health due to pressure at work and/or tiredness, relapsing old habits e.g. smoking, or other personal factors, but they keep reminding themselves that they do not want to have another heart attack.

Work-life balance:

The following indicator stemmed from participants' quotes regarding the balance between their work and their personal life. Lack of boundaries between work and personal life affected their work-life balance before the heart attack and it was something they were aiming to improve. Both English and Greek participants mentioned that they did not experience much work-life balance before

the heart attack; work was usually the priority, and it was placed above their personal life and health.

> *'There was stress at work, difficult shifts, I had no personal life or healthy sleep patterns. I did this 12-hour shift job for 2 years and I got very tired by it.' (GR3M)*

Many particpants thought that the lack of work-life balance made things worse for their health because it affected their eating patterns, sleeping patterns socialising, family and personal time. They discussed the importance of not mixing work with personal time, and avoid bringing work at home because their mind could not stop thinking about work isssues at home. Some participants also mentioned that it was important to express their need for work-life balance to their employer/manager in order to establish some boundaries. However, there were some participants who did not feel comfortable communicating these needs to their employer/manager because they did not want to be either treated differently or seen as weak or not competent.

5.3.2.3.2. Impact of health on working life

Both English and Greek employees spoke about both physical and psychological difficulties after their heart attack and upon their return to work.

Physical strain**:**

Both English and Greek participants mentioned that the heart attack had a physical impact on them. Most of them mentioned that they were not able to be as active as they used to be and/or they had to be careful. Participants whose job mostly included exerting physical effort experienced difficulties in lifting heavy loads at work, doing repetitive movements, having to be on their feet all day long, and working in confined spaces. These participants experienced the most difficulties regarding physical strain after a heart attack because the nature of their job was in line with certain physical demands. All participants experienced some sort of physical limitation due to the heart issue, but some were more affected than others.

> *'I feel chest pain every day, especially if I have to lift something heavy. I wasn't like that before the heart attack. I try to be patient. I see my doctor every 3 months.' (GR9M)*

There were only a few participants, who said that the operation and lifestyle changes after the heart attack made them feel physically better due to better blood circulation. Most participants experienced minor to major physical limitations and strain after the heart attack. The physical impact of a heart attack was relevant to the severity of each case. Participants also discussed the importance of letting their colleagues and manager know about their physical strain so that they can get the support they need and deal with it in the most effective way; with this approach they could control and/or stop an escalating physical strain.

Psychological strain:

Both English and Greek participants mentioned struggling with work-related stress more than usual (compared to their experience before the heart attack) and having low mood due to either medication side-effects or inability to do their favourite physical activities (e.g. doing a sport) were the reasons that mostly affected their psychological state after their heart attack. Some key examples are presented below. Struggling with stress at work was mentioned more often than the other reasons.

Some participants expressed their concerns for going back to work and whether they would be able to handle the work-related stress again. They felt that they would not be able to cope with too much stress and pressure at work as it was one risk factor for the heart attack in the first place.

> *'The only worry I've got about going back to work is once I'm back full-time that the stress will come back in again, and I'll have to leave because I won't be able to cope with the stress.' (UK2F)*

Both male and female participants discussed feeling weak and vulnerable after the heart attack, both psychologically and physically, but there was a difference on the intensity and the causes of vulnerability. For example, some male participants mentioned that it was challenging for them to feel vulnerable and weak after a heart attack while they had socially learnt to always be the strong ones in their lives. Female participants did not report anything similar, which indicates that there are still gender stereotypes affecting males and females' perspective on recovery from ill health.

Another aspect of the psychological strain had to do with the time of recovery and how that affected the participants. Some participants felt that staying away from work and their colleauges affected their mood. They felt that socialising and connecting with others at work was an important part of ther lives and improved their mood; missing these moments due to the heart attack and the recovery made them feel more isolated.

5.3.2.4. Fourth theme: Self at work after a heart attack

As advised by their doctors, all participants spoke about how they would like to be and feel again; mentioned changes and/or intention to change their behaviours and lifestyle with respect to eating, activity levels, following medication and seeing their doctor.

5.3.2.4.1. Perception of self and stigmatisation at work

Both English and Greek employees reported that going back to work was necessary for them to feel normal, active and positive about themselves again. Most participants discussed the issue of stigmatisation after the heart attack and that they did not want to be treated as ill or incapable of doing their job due to the heart attack.

Perception of self:

Most participants expressed their need to see themselves as active, normal and productive individuals by returning to work and perform as they used to perform before the heart attack. Additionally, the socialisation and/or social aspect of work made them feel better with themselves. Participants mentioned that having a job to go back made them feel better by creating a purpose and a structure. Many participants said that they wanted to go back to work and do things they enjoyed in order to feel 'normal' again and competent. Being able to work and be active again helped them in both a physical and psychological way. Being physically active helped them to gradually rebuild their stamina after the heart attack. It also helped them to stop thinking themselves as weak and vulnerable due to the heart problem, and boosted their confidence. Both, English and Greek, and male and female participants perceived their employment as proof of them being a productive, needed and valuable part of the society.

> *'I wanted to return to work. The first thing I asked my doctor was when I can go to work. I like my job, socialising with other people, being a*

productive person. Staying at home as a housewife is off the table (laugh). I think that not being able to work would affect me psychologically' (GR2F)

Lastly, participants strongly expressed that they did not want to be treated differently because they had the heart attack. They wanted people to understand their health issue and its impact, but not to treat them as less capable or incompetent. This was true for all participants. Participants needed a certain level of support and necessary adjustments at work, but they did not want to be treated as weak or incompetent.

Stigmatisation:

With respect to stigmatisation (a mark of disgrace) and discrimination (difference in treatment on unfair grounds), both English and Greek employees spoke about the importance of not feeling stigmatised and not being treated in a different way. Some participants also mentioned that apart from the stigmatisation due to the heart attack, they were also worried about being discriminated due to their overall health and age. For example, some participants discussed that being in their fifties with a heart attack might make their employer and/or prospective employers think of them as weak or ineffective employees. In addition, a few participants, such as the example below, expressed extreme concern with respect to stigmatisation, and felt that their employers could potentially discriminate for any health or personal circumstances.

'If I filled in a form (for a new job), and I ticked that I had asthma or whatever, and took it in, how do I know that they would not discriminate? I just do not hear from them. They wouldn't say you did not get the job because you are flipping ill. They just do not get back to you. There is serious discrimination, I know because I have seen it in my workplace, when people come for interviews there and they do not like the look of them. For example, one workplace I worked for, she would not employ anyone who could get pregnant, she would ask if the person was planning to get pregnant within the next etc.' (UK1F)

Most participants expressed moderate concern about being stigmatised for having a heart problem and being discriminated in the current job or during job hunting. Most of them thought that stigma and/or discrimination could potentially

affect them more if they had to start looking for a new job after the heart attack. As mentioned earlier, participants did not want to be seen as weak/incompetent, and feel stigmatised at work after a heart attack. Therefore, a few participants said that having a health issue and/or a heart attack should be irrelevant; employers should only check if the employee has the skills to appropriately do the job. Lastly, both English and Greek participants said that they would prefer not to discuss their health issue with a potential employer to avoid people thinking that they could not do the job or could have another heart attack and be off sick.

5.3.2.5. Fifth theme: Resources and support after the heart attack

Workplace related resources and support after the heart attack were identified through participants' colleagues, employer, manager, and organisational policies, practices and law enforcement and implementation. Participants mentioned that colleagues' support was psychological (showing understanding and compassion), and practical by helping them with the physical demands of their job (e.g. heavy lifting). Employees perceived support from their organisation as support received from their employer and their manager. Lastly, participants mentioned that EP practices and policy in their organisation playing a significant role in having a balanced and healthy transition back to work.

5.3.2.5.1. Colleagues

Both English and Greek employees valued the support and connection with their colleagues as friends after returning to work after a heart attack. Friendship and meaningful relationships with colleagues were the most important and usually affected by the number of years in the organisation. Lack of colleagues' support was notable from those participants, who did not experience it.

> *'They wanted to see if I was ok. Also, they acted in a way that, even if I struggled with a task, they would help me, and make the team work well as if I did not have a health issue.' (GR4M)*

Through the interviews, it was apparent that colleagues' support could be both psychological and practical. For example, some participants experienced psychological support from their colleagues, who showed interested in them and their recovery and offered to help them when needed. Other participants mentioned that their colleagues offered to e.g. lift heavy loads for them when they experienced physical discomfort. Some people also said that their colleagues kept

encouraging them to take it easy and avouid stressing themselves at work. Many participants felt that having supportive colleagues made such a huge difference to their daily life at work after the heart attack. Supportive colleagues promoted an empathetic environment and helped the participants continue doing their job as best they could without feeling isolated due to their health issue.

5.3.2.5.2. Organisation

Both English and Greek participants spoke about the importance of receiving some sort of support from their line manager and/or their employer or CEO.

Financial and psychological support from the employer/CEO:

Support from the employer or CEO entailed both financial and, sometimes, psychological support depending on the individual. Participants, whose employer/CEO showed understanding of their health issue and gave them time and space to recover, experienced secondary psychological support from their employer/CEO. Support directly from the employer/CEO was usually seen when participants were working in a small sized organisation or knew the employer from friends and business networks.

> *'My employer phoned me up when I was at the hospital and told me that it doesn't matter how long it will take to get better "we will look after you and pay your wages", basically put everything in perspective straight away, I didn't have to worry about anything like that. If that hadn't happened, I think I would be worried.' (UK6M)*

In addition, companies with an organisational culture which supported gradual recovery, rehabilitation and phased return created a positive environment for the participants who had to return back to work after a heart attack. Participants who were in touch with their employer/CEO due to their position or the size of the company (small- and medium-sized companies) had a positive interaction regarding the health problem, needs and recovery as long as there was an already established relationship of trust between the employer and the employee. Participants who mentioned not having a good relationship with their employer experienced lack of support and understanding after the heart attack and during their recovery.

A difference between English and Greek participants was the financial support/help by the employer. The English participants received the statutory sick

pay as per employment legislation in England, but they did not mention receiving any financial help by their employer. English participants mentioned using savings and/or receiving financial support by family compared to some Greek participants who could not rely on savings or family's savings during their recovery. Some Greek participants mentioned that they received a basic financial support by IKA, but it was up to each employer to continue paying part of their wages while on sick leave; this was similar to the sick pay schemes for companies in England.

> *'My company did not pay any wages while I was on sick leave. They do not pay. Only the social insurance institute (IKA) gave me some financial support… However, when I met my boss face-to-face after the event, he offered me money for surgery and health expenses, more like lending… he approached me in a very friendly manner and told me that he will be here for me if I need money…' (GR3M)*

Greek participants whose employers offered to financially support them e.g. by paying part of their wages earlier or lenting them money to cover running costs while on recovery, felt more appreciated, valued and supported.

Psychological and practical support from the manager:

Support from the line managers usually entailed certain supportive behaviours from a psychological and practical point of view. Psychological support from their manager usually included checking if the employees were feeling ok, not putting pressure on them at work, and showing interest in their recovery and wellbeing. Practical support usually included protecting the employees from heavy lifting and/or physically stressful situations at work (e.g. instructions not to complete a task).

> *'My manager supported me very much. She insisted on me taking the whole sick leave, especially during the summer because heat made me struggle a bit. Nothing changed at work before and after the heart attack. I felt fully supported before and after the heart attack. Everything was fine. Nobody at work caused me any issue or worry about my job.' (GR8M)*

Many participants reported that lack of support from their manager did not help with their experience back to work after the heart attack. Interviews showed that managers' behaviour was not regulated or inspected which lead to a wide range of positive and negative experiences of going back to work after a heart attack. For instance, participants with an empathetic manager had a positive experience because their manager would try to understand and make adjustments based on their needs after the heart attack. On the other hand, participants with managers, who did not genuinely care about their employees' wellbeing, had a negative experience because support provision was not adequate and person-centred. Moreover, a few participants mentioned that they felt very well supported by their managers because their managers had a heart attack or other heart problem in the past too, and they were aware of the difficulties during recovery. Overall, managers who were aware of the difficulties and genuinely cared about their employees' recovery played a significant role in participants' coping with work-life after a heart attack.

5.3.2.5.3. Employment protection: Law, policies and practices

Both English and Greek employees mentioned issues regarding employment protection, policies and practices. These issues included lack of consistent support from the employer and/or manager, which affected their experience back to work after the heart attack; lack of regulation regarding support provision. Many employers seemed to follow basic legislation to avoid legal action but missed following further steps and practices to ensure a smooth transition back to work after the heart attack.

Significance and regulation:

Most participants discussed the significance of support provision by the employer and manager, including understanding of the health issue, genuine interest in the employee, and effective communication. Some participants also mentioned that they would not have received the same level of support if they were temporary or new staff, which points to lack of regulation regarding support provision. In addition, there were some differences between the public and private sector with respect to sick pay with private sector not consistently covering sick leave pay in both countries. As presented earlier, there was no clear regulation regarding phased return as many Greek participants did not follow a phased return compared to the English participants.

Both English and Greek employees discussed the significant role of their employers' and managers' regarding their reintegration at work after the heart attack. They mentioned that employers and managers should show interest in their recovery and wellbeing, without treating them as another 'back to work' procedure. Employees reported that effective communication and a positive relationship with their employer and manager made a substantive difference in their work experience after the heart attack. There was a discussion on the differences between the public and private sector indicating that good practices are firstly and mostly reinforced in the public sector compared to the private sector. There is legislation and policies in place in both countries, however, practices' interpretation was not always the same for all small, medium and large companies. Large and international companies and the public sector usually have the resources, specialists and expertise to correctly interpret the practices so that they can appropriately follow the law and avoid lawsuits and reputation damage. However, smaller companies, especially in the private sector, did not always followed the best practices, which consequently affected employees' back to work experience after a heart attack.

> *'I want to say that I have many acquaintances with similar health problems, who worked in the private sector. Most of them, unfortunately, have retired. They retired because their employer stopped being supportive with respect to their health issue and they could not find another job, and they had to retire earlier. Especially for jobs that include physical effort e.g. plumber, constructor etc., or lots of stress e.g. stockbroker. They can't continue. Most of them retired. There is no leniency in the private sector. It's all earnings and expenses for the investors; they can't start being nice and lose money. On the other side, the public sector has more social benefits and support; these concerns are addressed in the public sector. That's why there was always the notion that people with disabilities or other should be employed in the public sector.' (GR4M)*

With respect to specific practices, many participants discussed the importance of focusing on a person-centred approach when dealing with employees who had a heart attack and returned to work. Focusing on each employee as a unique case will help employers and managers to understand individual differences and needs, and not to put all employees with ill-health into

one category. Participants also highlighted the need to improve effective communication between the employer/manager and the employee, and the need for training/educating employers about the causes of cardiovascular disease, the prevention and successful recovery. Lastly, some participants discussed the importance of getting rid of stigmatisation through understanding and empathy, and empowering employees to do their best while they take care of their heart, instead of treating them as weak.

5.4. Discussion

The results yielded five themes as presented above: employment rights and security after a heart attack, economic situation, and health, work and resources/support after a heart attack. The key results enriched our understanding regarding participants' work-related experience after a heart attack, and current law, practices and policies on protecting people from employment insecurity. Each theme is going to be separately discussed below. The themes were similar between the two groups; however, some minor differences were observed, which are also discussed.

The first theme on employment rights and security after a heart attack showed that employees were not usually fully aware of their employment rights, especially after a heart attack, which might be either because of inaccessible information or information available only in legal jargon. That is linked to the next part where only a few employers formally informed their employees about their rights. In most cases, an informal action was taken, which indicates a gap of consistent and formal practices. Clear communication about rights should reassure the employees about their employment security during and after their recovery and limit the impact on psychological wellbeing (Chida & Steptoe, 2008). In most cases, participants assumed that their positive relationship with the employer justified a sense of security. Organisational practices lacked formality and standardisation, which allowed space for misunderstanding between the employers/managers and the employees, and at times led to insufficiently supportive treatment of the employees, who had a heart attack. Additionally, English participants tended to receive more formal guidance on the organisational procedures and rights after a heart attack e.g. phased return compared to the Greek participants, who would usually have a casual chat with their manager. Another key difference was that the most Greek participants did not have a phased return compared to the English participants.

In addition, participants indicated that their sense of job insecurity and employability was affected by existing organisational policies; job control is affected by organisational policies, which consequently affects levels of job insecurity (Greenhalgh & Rosenblatt, 1984). Participants also indicated that they were affected by their experience and expertise, business relationships, and willingness to be open to job role flexibility, which is partially related to job flexicurity (Origo & Pagani, 2009).

The second theme, economic situation, showed that all participants were somehow affected by the marketplace and financial situation in their country. All participants mentioned the challenge of covering expenses and supporting family while they struggle with financial difficulties e.g. not receiving full income while on sick leave. However, the Greek participants discussed the financial difficulties at national level in Greece more often than the English participants; Greek participants elaborated on the impact on their sense of future security and stability, which was expected due to the Greek economic crisis. The key difference was that the Greek participants mentioned facing a bigger struggle regarding keeping and finding a permanent full-time job compared to the English participants both due to the financial crisis at national level, but also due to decreased income during sick leave. The impact of austerity measures and high unemployment rates as supported by the literature, has taken its toll on Greek employees' job security and employment protection (Zavras et al., 2012). Greek participants kept mentioning the difficulties they faced due to unemployment, the fact that people cannot pay them back, their constant unpaid overtime and inability to veto that. On the other hand, the English participants mentioned the impact of market changes and organisational restructuring as an occasional problem, but not an everyday struggle. Previous studies have shown that the Greek economic crisis had and still has a vast effect on health and wellbeing (Vandoros, Hessel, Leone, & Avendano, 2013; Zavras et al., 2012).

The third theme and fourth theme included aspects of life, which changed after the heart attack and affected the participants in some way. The third theme focused on participants' health after a heart attack and what changes the heart attack has caused to them. Participants discussed life changes they made in order to be able to prioritise their health and avoid having another heart attack. They also mentioned how the heart attack affected their psychological and physical abilities in relation to doing their job. The impact of the heart attack on their sense of control and the process of recovery at both physical and psychological level

through various life changes has been discussed in key literature on the impact of a heart attack (Affleck, Tennen, Croog, & Levine, 1987; Krantz, 1980).

The fourth theme revealed that participants' views of themselves and their position and self at work was affected by the heart attack. They were concerned about stigmatisation and actions against it such as discrimination. Most participants mentioned the significance of being able to feel normal and able to do their job as they used to before the heart attack without being treated in a different way by their employer, manager and colleagues. While participants appreciated support provision, they did not feel comfortable by being treated as the 'weak' and 'disabled' as they needed to feel valuable and productive again (Affleck et al., 1987; Carr, Halpin, & Group, 2002; Smart Richman & Leary, 2009). Regarding job insecurity, some Greek employees believed that their heart problem would eventually cost them their job. They reported that their heart problem would make employers see them as 'weak' and unfit for their job. Essentially, this means that in Greece there was job insecurity and fear of unfair dismissal, despite regulations being in place at national level that aim at protecting employees returning to work after a serious health problem. Previous research also showed that people with both physical and mental ill health may be affected by the impact of stigmatisation at work (Crandall & Moriarty, 1995; H. Stuart, 2004). However, regarding employability, some participants, both English and Greek, were concerned about sharing their health history with prospective employers in fear of being stigmatised and/or discriminated during selection procedures (Waltz, Santuzzi, & Finkelstein, 2013).

All participants reported that their health issue should be irrelevant and that they should not be judged based on that; however, they acknowledged that some employers could potentially think of their health issue as a drawback (Carr et al., 2002; H. Stuart, 2004).

The fifth theme consisted of resources and support after a heart attack. Participants discussed the positive effect of their colleagues' support, but most importantly, both English and Greek employees extensively shared that they were affected by their employer's and manager's behaviour towards them after they returned to work after the heart attack. All participants supported that a positive and supportive environment at work helped or would have helped with their recovery. Both English and Greek participants received some sort of support from their employers, but it was only Greek participants, who discussed receiving financial support from their employer. Regarding support provision, it seemed that employers tended to follow basic legislation to avoid legal action against them but

did not act beyond that. Participants expressed problems, concerns, wishes and needs indicating that there is still much to be done to ensure that people, who return to work after a health problem, are treated appropriately and with care. Previous research showed that employer support mediates the relationship between self-efficacy and management of a chronic health issue such as heart disease (Munir, Randall, Yarker, & Nielsen, 2009).

With respect to employment protection policy and practice, employees reported that it was not a standardised or objective experience. For example, people working for an employer for many years perceived employment protection through the strength of their relationship with their employer indicating that temporary staff would not get the same treatment after returning to work after a heart attack. It was also apparent that employers that have invested in certain employees, would treat these employees better contrary to others, who have not been as productive even if they had suffered a heart attack too. This practically meant that employees, who had more years of experience and expertise, and more knowledge were treated better by their managers upon their return to work contrary to their colleagues, who had a lower status and less experience (Bohle et al., 2004; Groot & De Brink, 2000).

The key problem lied on the fact that usually small- and medium-sized enterprises (SMEs) in both countries did not interpret the terminology regarding employment protection and OSH appropriately. Lack of appropriate interpretation and understanding of the terminology regarding health and safety such as psychosocial risk assessment/psychosocial hazards, and employment protection such as fair adjustments, leads to unclear and confusing organisational practice, which does not fully support employees. Furthermore, the initiatives may be voluntary, but employers, who do not comply with the guidance for law implementation, and consequently fail to comply with the law, are prosecuted (Leka, Jain, Iavicoli, & Di Tecco, 2015; Leka, Jain, & Lerouge, 2017). Finally, these gaps in organisational policies and practices should be addressed by a comprehensive implementation of employment protection and health and safety legislation and initiatives. For this to happen, there needs to be both better awareness among employers and better inspection of workplaces by labour inspectorates (Leka et al., 2015).

5.4.1. Strengths of the current study

The strengths of the current research included the opportunity to explore work-related experiences of an English and a Greek sample with a CVD and to

identify similarities and differences between them. Additionally, another strength was that the sampling strategy included approaching participants both through NHS and charities in order to increase sampling variety and successful participation. Furthermore, the fact that the themes were substantially similar for both samples, reflected similar experiences despite country differences. Another important strength was the use of thematic analysis, which is easily accessible and a flexible analytic approach (Braun & Clarke, 2006). The analysis also allowed a 'thick description' of the data set and each emerging theme. Findings did not have much of unanticipated insights as the data collection was based on quality criteria for thematic analysis. Additionally, data saturation was achieved by collecting data until there were fewer surprises in the data and no more patterns or themes related to the research questions emerged from the data (Bauer, 2000; Fusch & Ness, 2015; O'reilly & Parker, 2013). Lastly, the approach of the current study allowed for both social and psychological interpretation of the data, which is consequently suited to informing policy making (Braun & Clarke, 2006; Tracy, 2010).

5.4.2. Limitations of the current study

The main limitation of the current study was its selective and interpretative nature of it, which did not allow further generalisations in the wider European population. In addition, thematic analysis would have a limited interpretative power if it was not used within the existing theoretical framework, as presented in the literature chapter and linked to the quantitative study. In addition, thematic analysis is sometimes treated as a way of analysis lacking rigour. To counteract that notion and avoid 'airy fairy' research (Labuschagne, 2003, p.100), COREQ, the eight 'big-tent' criteria and the guidelines by Braun and Clark (2006) were followed and cross-checked during the data collection, data analysis and reporting of the current study (Tong et al., 2007; Tracy, 2010).

Another limitation was that participants recruited from the NHS were based either in the East Midlands in England, UK, or Central Macedonia in Greece, which excludes other regions. Regarding participants through charities, only the English Heart Foundation responded to our invitation, and only four people out of eight met the criteria for an interview, and they were from East Midlands, South East and London. None of the Greek charities responded to our invitation.

Regarding the gender differences, it was not easy to identify any due to the small number of women participating in this study. However, a smaller number of

women was expected because more men tend to have heart attacks compared to women (Weidner, 2000).

5.5. Conclusion, implications and future research

The current chapter presented the findings of the qualitative study aiming to enrich the findings of the theoretical model from the quantitative study presented in Chapter 4. The current study provided suggestions with respect to employees' needs at work after a heart attack. Employees mentioned issues relevant to inefficient adjustments in their workplace, lack of appropriate workplace social support and guidance including gaps in policy and practice implementation, financial difficulties due to sick pay (lower income) combined with marketplace fluctuations, and personal difficulties with their health and self-view after the heart attack.

The successful implementation of EPL incorporates parts of both employment protection and health and safety legislation, as discussed in Chapter 2. The current legislation in both countries on employment protection focuses on sick leave and return to work covering minimum standards. Lack of adequate inspection of employers' and managers' practices was causing inconsistent support provision to employees, which consequently affected levels of job control and security. Moreover, all employees should be able to utilise a phased return, especially in Greece, where a phased return was not true for all participants. In addition, employment protection should not only be seen as a legal obligation for organisations, but also as a means of promoting health and empowering employees, who struggled with a health problem and return to work. As presented in the literature review and confirmed in the quantitative study, appropriate levels of workplace social support would protect employees from the impact of chronic illness, job demands, work-related stress, lack of job control, job insecurity and financial insecurity. Further discussion on EPL in the UK and Greece is presented in Chapter 6.

Lastly, based on the current study's findings, future research on the impact of employment protection in Europe on perceptions of job insecurity and health using quantitative data is necessary to draw more definite conclusions on this matter. In addition, further research on the implementation of employment protection is needed.

The final chapter of this thesis is going to 1) present the synthesis of mixed findings and an integrated model from the quantitative and qualitative study, 2) discuss the contribution and limitations of this research, and lastly 3) suggest

action for future research aiming to address the gaps identified in the current research.

5.6. Reflexivity

This reflexivity statement aims to enhance this study's transparency by presenting my academic background, views, my own experience as a researcher, and my own biases.

I am a female Greek doctoral researcher in my 30s, residing in the UK, and my educational background is in psychology, particularly in occupational health psychology. I had conducted qualitative research prior to this study, which helped me lead the current study in a professional manner. My interest in investigating the impact of work-related issues on physical and mental health has helped me stay attuned to the purpose of this research. The fact that I am Greek living in England triggered my interest in exploring the impact of job insecurity and employment protection in both countries due to their different economic situation; family and friends in Greece are more affected (e.g. many people losing their jobs) by the economic climate than family and friends in England.

Due to my personality, I enjoyed the human-centred nature of the qualitative study. The process of data collection using interviews and the interaction with the participants was interesting and insightful to me. The physical/practical difficulties of this study included relocating to Greece for three months to complete the interviews with Greek employees and transcribing 30 interviews in total. The psychological challenge of this study was suitably approaching each participant to help them feel relaxed and build rapport.

Concerning my own biases, my family is affected by the economic crisis in Greece, which made me keep cross-checking whether Greek employees struggled more with their financial situation than the English employees, or not. Additionally, I expected that participants working in the private sector would be more affected by job insecurity and lack of employment protection policy/practice than those working in the public sector, which was not always true.

Regarding my experience interviewing the participants, there was a variety of issues that are going to be discussed below. The majority of participants discussed very detailed personal issues, including stories from their childhood and early adulthood, which were linked to their life-changing experience. Some of them went off-topic, which was expected, but I had to keep focusing on the interview schedule while allowing them to talk about their life-changing event as a whole. Some male participants discussed sensitive topics such as sexual

dysfunction due to the heart attack, and fear of being seen as weak due to their perceived stereotypes about men's strength 'men should be strong'. In those situations, I made sure that I remained calm, neutral, and unbiased and suggested that seeing their doctor and/or therapist may help them resolve their physical and/or psychological issues. Besides, some of the participants treated the interview session almost like a counselling session, indicating that they would like to have further sessions with me. However, in those situations, I politely made clear that the interview had a specific research purpose and directed them to the right sources where they could get help from a therapist/counselling service.

Another issue was participants' concerns about having the interview recorded because they didn't want their employer to find out what they said. In those cases, I reassured them that everything was confidential and anonymised and that nothing would be shared with their employers. All participants were informed about their right to withdraw, but none of them did so, which was positive. I tried my best to build rapport, act professionally in a friendly manner so that they can feel comfortable about the interview.

Regarding my conduct at the hospitals both in Nottingham and Thessaloniki, I found that I always had to be ready to explain my role and position to the cardiac department's staff (the ones I hadn't met before) because some of them did not know me and they had a slightly cautious approach towards me which was expected, as I was in their offices. All the staff was happy with my professional conduct after we were introduced, and I explained that I was authorised to access their premises.

With respect to the vouchers offered as a 'thank you' to the participants for their time, the Greek hospitals did not encourage me to do this, and I had to remove that part from the leaflet/information sheet. I did my best to comply with their guidelines and instructions; however, I felt that it was a bit unfair for the Greek participants compared to the English ones who received a voucher. The organisational culture regarding research projects and patients' compensation seemed to be different between the English and Greek hospitals.

Lastly, my supervisors' support and guidance helped me deal with the issues mentioned above regarding the conduction of interviews, analysis, and interpretation, which improved my overall experience to a great extent.

6. Discussion

6.1. Introduction

Discussion reviews the key findings and conclusions outlined in the previous chapters. It examines them aiming to enrich relevant literature through the proposed model and qualitative findings. The chapter also discusses the overall strengths and limitations of this research and proposes future steps and action for research.

The thesis had two aims. The first aim was to create a theoretical basis for the proposed model, which was based on Engel's biopsychosocial model, but also incorporate the job demands-control-support (JDCS) model. The aim of this adapted model with job insecurity as they key concept, was not only to combine previous theoretical knowledge and models, but also to present a more comprehensive picture of the interactions between job insecurity, job demands, control, support, covariates and health-related outcomes for European employees, who had a CVD.

The second aim was to explore the impact of employment protection on experiences of job insecurity and support on employees, who returned to work after a heart attack, and had to continue their life and work while managing the effects of a CVD. The importance of this step lies in complementing the proposed theoretical model by adding the value and impact of EPL and policies on employees' life after a heart attack.

The main purpose of this thesis was to explore theoretical and empirical knowledge aiming to complement each other in a mixed method approach by combining quantitative and qualitative findings. Data collection was completed using a multilevel approach where the quantitative sample represented the European population from the EU27 in 2010 while the qualitative samples were drawn from two country-level populations, the UK and Greece. Sequential time orientation was used, as explained in Chapter 3, where quantitative analysis preceded qualitative analysis. That approach was taken because the proposed theoretical model was based on already established theoretical concepts. Complementarity was used where the role of the qualitative research was to enrich the theoretical model by adding the element of employment protection and indicate gaps for future research exploration.

Two studies were conducted during the empirical stage. The quantitative study using a sample of 1,584 employees (Chapter 4) explored the interactions between job insecurity, job demands, control, support, covariates and health-related outcomes at European level for employees with a CVD. The qualitative

study using a sample of 30 employees (Chapter 5) explored the interactions between job insecurity, employment protection, and support at work in the UK and Greece, which resulted into highlighting many similarities and some differences.

This last chapter aims to present each study's complementarity on key findings and discuss overall key findings regarding the current thesis objectives. Strengths and limitations will be presented to not only enhance research transparency, but also to help future researchers who decide to test the proposed model further. Legislation and policy gaps will also be discussed and recommendations for future research will be given.

The chapter is structured in six sections. The first section summarises the key findings of the proposed theoretical model and the key findings of the qualitative study. The second and third section integrate the results from the quantitative and qualitative study while drawing comparisons and similarities between the studies, but also previous literature. The fourth section focuses on the findings with respect to employment protection, job insecurity and health and outlines gaps in legislation and policies. The fifth section delineates the strengths, limitations and overall contribution of the current thesis. Finally, the last section provides a conclusion of the current research and recommendations for research, policy and practice.

6.2. Revisiting the Overall Model: A Summary of Findings

The following sub-sections will present the key quantitative and qualitative findings in order to set the basis for integration on the following sections and explain the extent to which the research questions of this thesis were answered. As outlined in Chapter 1, the key research questions are:

Quantitative part:

1) Are perceptions of job insecurity negatively associated with health-related outcomes in European employees with a CVD? If so, is there an interplay and interaction between job insecurity, health-related outcomes and other work-related and personal factors?

2) Are perceptions of job insecurity positively or negatively associated with work-related and personal factors for European employees, who have a CVD?

Qualitative part:

3) What are the perceived key factors associated with reintegration to work of employees with a CVD, who had a heart attack?

4) Do experiences of employment protection and workplace social support significantly improve employees' sense of job security, quality of life and health after a heart attack?

5) Are experiences of employment protection and workplace social support similar or different between English and Greek employees, who had a heart attack?

6) Are there any gaps in the implementation of employment protection for employees with a CVD? What are the future needs in policy and practice?

6.2.1. Key quantitative findings

The key quantitative findings were yielded from testing the proposed theoretical model on European employees with a CVD, as presented in Chapter 4. All hypotheses were partially confirmed and the finalised results from testing the proposed model with Mplus, including all interactions at the same time, are summarised in this section.

With respect to the first hypothesis (parts: a–e), when the full model and all interactions were run in Mplus at the same time, the results confirmed findings from previous research and showed that job insecurity was negatively associated with health status and marginally with wellbeing (Burchell, 2011; Ferrie, 2001), and financial security/confidence (Giannetti et al., 2014). However, job insecurity acted as a mediator with marginal significance only for the relationship between employability and health status, which is in line with previous findings (Cuyper et al., 2008). Additionally, regarding the predictive value of JDCS, social support was associated with work-related stress (negatively associated), wellbeing (positively associated) and work-life balance (positively associated), which agrees with previous research (Constable & Russell, 1986; Greenhalgh & Rosenblatt, 1984; Jang, 2009; Kinman et al., 2011; Thomas et al., 1985; Thompson & Prottas, 2006; Wittekind et al., 2010). In addition, job demands, and job control were negatively and positively associated with financial security/confidence, respectively. Job demands and control were also positively associated with work-related stress and health, respectively. These findings partially confirmed the proposed model and previous literature (Belkic et al., 2004; De Jonge et al., 2000; Demerouti et al., 2009; J. V Johnson & Hall, 1988; J. V Johnson et al., 1989; Kinman & Jones, 2008;

Kuper & Marmot, 2003; Nyberg et al., 2013; Schnall et al., 1994; Theorell & Karasek, 1996).

With respect to the second hypothesis (parts: a & b), the model in Mplus partially agreed with findings in previous research and showed that financial security/confidence acted as a mediator for the relationship between job insecurity and health (Giannetti et al., 2014; Kahn & Pearlin, 2006), and the relationship between job control and health (Giannetti et al., 2014; Kahn & Pearlin, 2006). However, responsibility for dependents did not act as a mediator or found to be associated with any of the health-related outcomes in this research and did not confirm that part of the hypothesis.

Regarding the third hypothesis (parts: a – d) wellbeing was associated with health (positively associated) (Gureje et al., 1998), work-related stress (negatively associated), work-life balance (positively associated) and presenteeism (negatively associated) (Biron et al., 2006; Skagen & Collins, 2016), which confirms previous findings. In addition, analysis with Mplus showed that work-life balance was negatively associated with presenteeism and work-related stress, and health was negatively associated with work-related stress and lack of work-life balance (Skagen & Collins, 2016). Lastly, presenteeism was positively associated with work-related stress and health.

Regarding the fourth hypothesis, workplace social support was positively associated with job control and negatively associated with job demands, but it did not mediate the interaction between support and demands, which partially confirms previous findings (Jang, 2009; Thompson & Prottas, 2006; Van Yperen & Hagedoorn, 2003).

With respect to the fifth hypothesis on covariates, education was positively associated with job control and work-related stress, and negatively associated with work-related stress and job demands. Additionally, years of experience in an organisation were negatively associated with levels of job insecurity and positively associated with time spent caring for elderly/disabled relatives; employees in senior positions spent more time taking care for their elderly/disabled family members than those in lower positions. These results were partially in line with previous findings (Gregorio & Lee, 2002; Groot & De Brink, 2000; Ross & Reskin, 1992), which suggest that education may affect levels of job control, employability, and financial security/confidence while work experience may affect job insecurity, financial security/confidence and job control. Additionally, Mplus results showed that a temporary type of contract was positively associated with job insecurity, work-related stress and lack of job control.

6.2.2. Key qualitative findings

The key qualitative findings were yielded from investigating the impact of employment protection and job insecurity by interviewing employees that had returned to work after a heart attack, as presented in Chapter 5. The thematic analysis led to five key themes. The emerging themes were related to the impact of the employment situation, stress due to financial difficulties, changes in behaviour and wellbeing after the heart attack, thoughts and plans about the future, and the experience of practical and emotional support.

The first theme on employment rights and security after a heart attack showed that employees were not usually fully aware of their employment rights, especially after a heart attack, which might be either because of inaccessible information or information available only in legal jargon. That is linked to the next part where only a few employers formally informed their employees about their rights. In addition, employees indicated that their sense of job insecurity and employability was affected by existing organisational policies; job control is affected by organisational policies, which consequently affects levels of job insecurity (Greenhalgh & Rosenblatt, 1984). Employees also indicated that they were affected by their experience and expertise, business relationships, and willingness to be open to job role flexibility, which is partially related to job flexicurity (Origo & Pagani, 2009).

The second theme, economic situation, showed that all employees were somehow affected by the marketplace and financial situation in their country. All employees mentioned the challenge of covering expenses and supporting their family while they struggle with financial difficulties, e.g. not receiving full income while on sick leave and experiencing relief when financial support was available.

The third and fourth themes included aspects of life, which changed after the heart attack and affected the employees in some way. The third theme focused on employees' health after a heart attack and what changes the heart attack has brought about for them. Employees discussed life changes they made in order to be able to prioritise their health and avoid having another heart attack.

The fourth theme revealed that employees' views of themselves and their position and self at work were affected by the heart attack. They were concerned about stigmatisation and actions against it such as discrimination. Most employees mentioned the significance of being able to feel normal and able to do their job as they used to do it before the heart attack without being treated in a different way by their employer, manager and colleagues. While employees appreciated support provision, they did not feel comfortable by being treated as 'weak' and 'disabled'

as they needed to feel valuable and productive again (Affleck et al., 1987; Carr et al., 2002; Smart Richman & Leary, 2009).

The fifth theme consisted of resources and support after a heart attack. Both English and Greek employees extensively shared that they were affected by their employer's and manager's behaviour towards them after they returned to work after a heart attack. Perception of employment protection and the experience of job security was primarily related to the employer and manager stance and behaviour, rather than existing regulation. It seemed that employers tended to follow basic legislation to avoid legal action against them but did not act beyond that in a way that employees would welcome. Employees expressed problems, concerns, wishes and needs indicating that there is still much to be done to ensure that people who return to work after a health problem, are treated appropriately and with care. Some specific issues that were highlighted included employers/managers not showing genuine interest in their health and recovery or even not being supportive and understanding of their health issue, employers/managers not understanding the physical limitation of their health problem, and employers/managers not giving them a chance to do a different and/or easier job until they feel physically better. Previous research showed that employer support mediates the relationship between self-efficacy and management of a chronic health issue such as heart disease, which is consistent with findings of this study (Munir et al., 2009).

The key difference between the English and Greek employees was that the Greek employees discussed the financial difficulties at national level in Greece more often than the English employees. The English employees mentioned the impact of market changes and organisation restructuring as an occasional problem, but not an everyday struggle. The impact of austerity measures and high unemployment rates as supported by the literature, has taken its toll on Greek employees' job security and employment protection. Greek employees kept mentioning the difficulties they faced due to unemployment, the fact that people cannot pay them back, their constant unpaid overtime and inability to veto that. Previous studies have shown that the Greek economic crisis had and still has a vast effect on health and wellbeing (Vandoros et al., 2013; Zavras et al., 2012).

6.3. Job Insecurity and Health-Related Outcomes for Employees with a CVD: Integrating Findings

Findings from both the quantitative and qualitative studies will be presented below where similarities and differences between the studies and previous literature will be further discussed. The final theoretical model with integrated findings regarding job insecurity and health-related outcomes is presented in Figure 6.1.

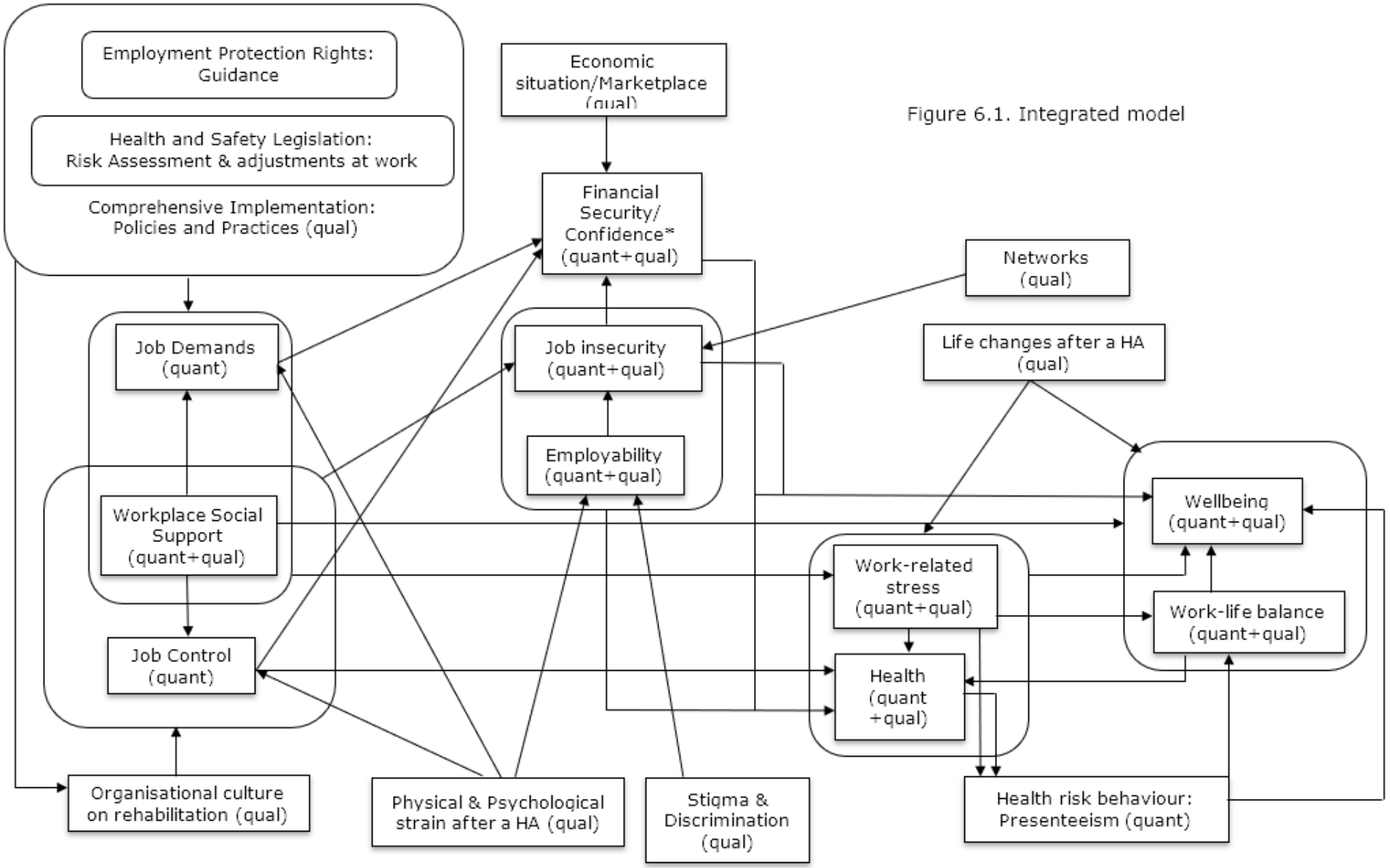


Figure 6.1. Integrated model

6.3.1. The impact of job insecurity on health status

The findings from multilevel structural equation modelling (MSEM) in the quantitative study showed that employees with a CVD from the EU27, who thought that they might lose their job within the next six months, were more likely to report poorer health compared to employees, who did not experience job insecurity. These findings are similar to previous studies indicating that perception of job insecurity increases the likelihood of poor health (Burchell, 2011; Ferrie, Marmot, Griffiths, & Ziglio, 1999; Kivimäki et al., 2002; Marmot, 2015; Marmot & Wilkinson, 2005).

In the quantitative study, not only job insecurity was investigated, but also other work-related and personal factors in relation to job insecurity, such as job demands, job control, workplace social support, financial security/confidence, employability, responsibility to dependents, work-related stress, work-life balance, and presenteeism. Results showed that the negative association between job insecurity and health was mediated by the levels of financial security/confidence the employee experienced. Therefore, the extent to which an employee's health was affected by job insecurity was based on the levels of financial security/confidence that employee experienced, which is consistent with the previous findings; employees, who do not experience stress about making ends meet, will not experience the biopsychosocial impact of job loss in the same way that job-dependent employees do (Cheng & Chan, 2008; Greenhalgh & Rosenblatt, 1984; Richter, 2011). The level of job control one experiences was found to be positively associated with health and mediated by the levels of financial security/confidence. This is supported by previous research indicating that one of the main causes of job insecurity is experiencing loss of job control, which consequently has a biopsychosocial impact on the employee, and increases the likelihood of developing a CVD when the employee faces high job demands (Belkic, Landsbergis, Schnall, & Baker, 2004; De Jonge, Bosma, Peter, & Siegrist, 2000; Demerouti, Le Blanc, Bakker, Schaufeli, & Hox, 2009; Greenhalgh & Rosenblatt, 1984; Johnson & Hall, 1988; Johnson et al., 1989; Kinman & Jones, 2008; Kuper & Marmot, 2003; Nyberg et al., 2013; Schnall et al., 1994; Theorell & Karasek, 1996). Additionally, experience of employability was found to be positively associated with health and marginally mediated by the experience of job insecurity. However, employability did not moderate the interaction between job insecurity and health-related outcomes, which is partially in line with research by Kirves et al. (2011).

With respect to integrating the findings above with the qualitative findings, interviews with 30 employees who had a heart attack and returned to work revealed that a number of factors affected their views of job insecurity in relation to their experience of employment protection. The interviewees mentioned that experiences of employment protection helped them not feel insecure about their job; consequently, they felt that their health was not affected by job insecurity because they did not experience any. They mentioned that factors such as existing organisational practices and policies with respect to employment protection, their experience and expertise, their connections (networks) and ability to change their job role helped them feel secure in their job. As long as these factors were existent in combination with knowing that their job was secured through EPL, employees did not mention experiencing any physical or psychological strain due to job insecurity.

Employees also mentioned that after the heart attack, they were trying to prioritise their health, avoid putting their job first, and improve their work-life balance. They mentioned that cognitive and behavioural changes helped them set health as a priority.

Overall, these findings confirmed the hypothesis that job insecurity is negatively associated with employees' health status.

6.3.2. The impact of job insecurity on wellbeing

The MSEM findings for wellbeing in the quantitative study showed that employees with a CVD from the EU27, who thought that they might lose their job within the next six months, were more likely to report lower levels of wellbeing compared to employees who did not experience job insecurity; although, the significance was marginal in the current study. Nevertheless, the findings are similar to those from previous studies indicating that perceptions of job insecurity increase the likelihood both of poor health and lack of wellbeing (Burchell, 2011; Ferrie, Marmot, Griffiths, & Ziglio, 1999; Kivimäki et al., 2002; Marmot, 2015; Marmot & Wilkinson, 2005).

Similarly, to the previous findings with respect to these other factors, results showed that the positive association between financial security/confidence, which was negatively associated with job insecurity, and wellbeing was mediated by employees' health. Therefore, the extent to which an employee's wellbeing was affected by financial security/confidence was based on how good or bad his/her health was. This is consistent with employees, who are not financially secure/confident and also struggle with ongoing health issues, may experience

lower levels of wellbeing (Catalano, 1991; Marmot & Wilkinson, 2005). Additionally, work-related stress was negatively associated with wellbeing and mediated by health. The extent to which an employee's wellbeing was affected by work-related stress was again based on how good or bad his/her health was. Health, workplace social support, and work-life balance were also positively associated with employees' wellbeing. Work-related stress and presenteeism were negatively associated with employees' wellbeing. These findings were in line with previous research on the impact of work-related stress and presenteeism on wellbeing and health (Bell et al., 2012; Elstad & Vabø, 2008; Heraclides et al., 2012; Jung et al., 2007; Skagen & Collins, 2016; Tennant, 2001; Thoits, 2010).

Integrating findings showed that interviewed employees discussed the following in relation to their wellbeing: workplace social support, as seen in the quantitative study, taking care of themselves, and positive self-perception. The factors played a significant role in maintaining wellbeing. Taking care of themselves was, as explained above, related to setting their health as a priority despite work issues such as job insecurity. Self-perception was related to employees' ability to do the job again and build a healthy routine through which they would gain job control, satisfaction and self-respect. This is in line with previous research support that positive self-perception is positively associated with wellbeing and health (Kaleta, Polanska, Dziankowska-Zaborszczyk, Hanke, & Drygas, 2009). Workplace social support was related to any type of support, psychological and/or practical, which eased their work-related stress. Employees who reported a positive view about themselves after the heart attack and receiving support indicated that they were doing well with their life after the heart attack and did not experience job insecurity. These findings again are supported by previous research stating that social support is positively associated with wellbeing and health (Schwarzer & Leppin, 1991; Uchino, 2006).

Overall, these findings confirmed the hypothesis that job insecurity negatively associated with wellbeing for employees with a CVD.

6.3.3. The impact of job insecurity on work-life balance

The MSEM findings in the quantitative study showed that employees with a CVD from the EU27, who thought that they might lose their job within the next six months, did not experience a direct impact on their work-life balance due to perceptions of job insecurity. However, their work-life balance was negatively associated with work-related stress and presenteeism. Employees who received support at work, experienced lower levels of work-related stress and job

insecurity. Work-related stress mediated the relationship between workplace social support and work-life balance. In addition, job insecurity and work-life balance were both associated with employees' wellbeing, negatively and positively, respectively.

Findings from previous studies indicate that job insecurity affects work-life balance by putting pressure on employees, especially those who have children; this occurs because job insecurity, work intensification, lone parenting and increased demands for parents to be involved in their children's education overlap (Burchell, Wichert, & Nolan, 2002; Dex, 1999; Dex & Bond, 2005; Dex & Smith, 2002). However, the findings of the current study indicated that job insecurity was not directly associated with levels of work-life balance. Instead, work-related stress was the key indicator of lacking work-life balance. Results on the impact of work-related stress on employees' work-life balance are in line with previous studies. Research indeed shows that work-related stress not only affects work-life balance, but also health status, wellbeing, and presenteeism (Bell et al., 2012; Elstad & Vabø, 2008; Heraclides et al., 2012; Jung et al., 2007; Tennant, 2001; Thoits, 2010). Additionally, it should be noted that the mean age of the sample was 49 years old, which may be an age when most people have grown-up children; therefore, their parenting responsibilities may be different to those who have young children. This could potentially affect the direction and strength of relationships in the current study and needs attention in future research.

In addition, the findings above were true when the model was controlled for country, sector, age and sex. However, separate group analysis without controlling for sex and sector showed that job insecurity was negatively associated with work-life balance for female employees having a temporary contract in the public sector, which partially confirmed previous research (Burchell, Wichert, & Nolan, 2002; Dex, 1999; Dex & Bond, 2005; Dex & Smith, 2002).

Interviews with employees, who had a heart attack and returned to work, showed that, with respect to their work-life balance, setting their health and work-life balance as a priority to avoid having another heart attack was very important. Most employees mentioned that work-life balance was not their priority before having the heart attack and thought that could have potentially deteriorated their health. They explained that pressure at work was driving them to work more hours and neglect their personal life, which is in line with the quantitative findings. Interviews with the employees also added the element of necessity regarding work-life balance; after the heart attack, conscious effort to change behaviours and treat work-life balance as a priority, despite work-related pressure and stress,

was highlighted as the way to go forward with their life. These findings are in line with previous research indicating that job insecurity is negatively associated with work-life balance and health, and work-life balance is positively associated with health (Houston, 2005; Lunau et al., 2014).

Overall, the findings of the model after controlling for the effect of country differences, sector, sex and age, did not confirm the hypothesis that job insecurity is negatively associated with work-life balance. However, results increased understanding of the factors affecting employees' work-life balance.

6.3.4. The impact of job insecurity on presenteeism

The MSEM findings in the quantitative study showed that employees with a CVD from EU27, who thought that they might lose their job within the next six months, went to work while being unwell not due to perceptions of job insecurity, but rather due to experiencing work-related stress. This is in line with research showing that work-related stress not only affects health, but also levels of health-risk behaviours such as presenteeism (Bell et al., 2012; Elstad & Vabø, 2008; Heraclides et al., 2012; Jung et al., 2007; Tennant, 2001; Thoits, 2010). In addition, presenteeism was positively associated with poor health, which is in line with previous research. Previous research shows that there is a reciprocal interaction between presenteeism and health, where health conditions affect levels of presenteeism, and presenteeism affects health (Schultz et al., 2009; Skagen & Collins, 2016; Yang et al., 2015).

Interviewed employees, who had a heart attack and returned to work, showed that the first point of reference for them with respect to presenteeism was avoiding work when feeling unwell, which was encouraged by their employer, managers and colleagues. Similar to the findings of the quantitative study, interviewees did not mention job insecurity as the cause of presenteeism. They mainly discussed the fact that pressure at work and lack of support and understanding from their employers, managers and colleagues put pressure on them to work while feeling unwell. Most employees, who said that they felt supported at work, did not work when they were unwell. Some employees mentioned that their employer, manager and/or colleagues told them to stop working or go home when feeling unwell, which showed that their employers, managers, and colleagues took their health issue seriously. Regarding data integration, these findings were in line with the quantitative study, but also indicated the importance of employers, managers and colleagues' understanding of health issues. This is not in line with previous research indicating that

employees, who experienced pressure at work and received support from their colleagues, went to work while feeling unwell (Biron & Saksvik, 2009). However, the interviewed employees in the qualitative study said that they were able to miss work when feeling unwell due to their employer's/manager's support, not their colleagues' support.

Overall, these findings did not confirm the hypothesis that job insecurity is positively associated with presenteeism. However, results showed which factors affect levels of presenteeism in employees with a CVD. It should also be considered that the nature and perceived severity of the health issue may overpower the impact of job insecurity on levels of presenteeism.

6.3.5. The impact of job insecurity on work-related stress

The MSEM findings in the quantitative study showed that employees with a CVD from the EU27, who thought that they might lose their job within the next six months, experienced work-related stress not due to perceptions of job insecurity, but rather due to increased job demands and lack of workplace social support. Despite the fact that job insecurity was not associated with work-related stress, the findings are in line with previous research on the impact of job demands on stress levels (Brough & Williams, 2007; Johansson, 1989; MacDonald, 2003). Additionally, previous research also shows that support provision is linked to better health and lower levels of stress (Schwarzer & Leppin, 1991; Thoits, 2010; Viswesvaran et al., 1999). Work-related stress was also positively associated with education and type of contract indicating that employees who were more educated than others and had a permanent position, experienced more work-related stress than those who had a lower degree and a temporary position. This is in line with research showing that the effort out in permanent work can be associated with work-related stress (stress caused while doing the job) and distress (Inoue, Tsurugano, & Yano, 2011; Yeh, Ko, Chang, & Chen, 2007). Temporary employment has been linked to stress because of the impact of precariousness and future uncertainty, not because of pressure at work (De Cuyper et al., 2008; Inoue et al., 2011; Virtanen et al., 2005; Yeh et al., 2007). Regarding education, there is research showing that education is positively associated with mental health and wellbeing (Gardner & Oswald, 2002). However, in the case of work-related stress, results showed that education is positively associated with job demands and consequently work-related stress. Employees, who are more educated, are more likely to have senior roles with high job demands, and experience more work-related stress.

As mentioned earlier, the findings above were true when the model was controlled for country, sector, age and sex. The separate group analysis without controlling for sex and sector showed that job insecurity showed a positive trend for work-related stress for male employees with a CVD, and a marginally significant association for temporary employees with a CVD. These findings were partially in line with previously research (Burchell, 2011;Ferrie, Marmot, Griffiths,& Ziglio , 1999;Kivimäki et al., 2002; Marmot, 2015; Marmot & Wilkinson, 2005).

Qualitative findings showed that the first point of reference for the employees with respect to work-related stress was the nature of their job (physical and mental effort), their job's demands and support provision. Additionally, employees did not mention experiencing work-related stress due to job insecurity. These findings were in line with the quantitative findings of the model discussed above. Employees also discussed the significance of their employer's/manager's support, which helped them ease the impact of job demands and work-related stress, which confirms previous findings (Jang, 2009; Kossek et al., 2011).

Overall, the findings, after controlling for country differences, sector, sex and age, did not confirm the hypothesis that job insecurity is positively associated with work-related stress, which contradicts the findings on job insecurity being negatively associated with work-related stress. A potential explanation would be that the impact of job insecurity on experiences of work-related stress may be affected by other confounding factors for employess with CVD.

6.4. The Job Demands-Control-Support Model and Job Insecurity: Integrating Findings

The final theoretical model with integrated findings regarding the JDCS model and job insecurity was presented in Figure 6.1.

6.4.1. Job demands affecting levels of job insecurity

The MSEM findings in the quantitative study showed that employees with a CVD from the EU27, who thought that they might lose their job within the next six months, did not experience job insecurity due to job demands, but due to lack of job control, workplace social support, sense of employability, years of experience and permanent contract. That was in line with the qualitative findings. Instead, job demands were positively associated with work-related stress, as discussed earlier, and financial security/confidence; job demands mediated the interaction between education and financial security/confidence. Previous

research has shown that levels of education and years of work experience, understood through the notion of job stability, may affect sense of job control, job insecurity and consequently financial security/confidence (Green & Leeves, 2013; Gregorio & Lee, 2002; Groot & De Brink, 2000; McGuinness & Wooden, 2009; Neumark, 2000; Ross & Reskin, 1992; Zavras et al., 2012).

Interviews with the employees highlighted the importance of employment protection. For the interviewees, EPL, policy and practice within their organisation helped them not experience job insecurity. This is in line with research indicating that employment protection promotes job security (Barone, 2001; Büchtemann & Walwei, 1996; Pissarides, 2001).

Overall, these findings did not confirm the hypothesis that job demands would be positively associated with job insecurity. However, results showed the impact of job demands on other significant factors such as work-related stress.

6.4.2. Job control affecting levels of job insecurity

The MSEM findings in the quantitative study showed that employees with a CVD from EU27, who thought that they might lose their job within the next six months, experienced job insecurity due to lack of job control. Job control was negatively associated with job insecurity. Higher levels of job control indicated lower levels of job insecurity, which is in line with previous key literature on the antecedents of job insecurity (Greenhalgh & Rosenblatt, 1984). In addition, despite previous findings suggesting that job control buffers the impact of job insecurity on health, the current study did not find a significant buffering effect, but a direct positive association between job control and health (Barling & Kelloway, 1996; B. Schreurs et al., 2010). Additionally, job control was positively associated with financial/security and the interaction was mediated by job insecurity.

Additionally, employees with temporary jobs experienced higher levels of job insecurity compared to those in permanent positions; temporary employment already sets a limited length to employment which is out of employees' control. However, literature suggests that health for both permanent and temporary employees is affected in the same way by job insecurity (Virtanen et al., 2011).

The interviews with the employees showed that job control for them was achieved through a working environment, which could cover their needs after a heart attack and promote their recovery and ability to do their job as they used to by utilising workplace social support. Employees repetitively mentioned that for them job control was understood through being able to do their job again, but

also receive suitable support based on their needs without worrying about the future of their employment. These findings are in line with the quantitative study, but also highlight the importance of a suitable working environment, which enhances employees' ability to do their job and their sense of job control (Barker & Nussbaum, 2011; Stansfeld & Candy, 2006).

Overall, these findings not only confirmed the hypothesis that job control is negatively associated with job insecurity, but also delineated the importance of work environment adjustments and support to enhance the sense of job control.

6.4.3. Workplace social support affecting levels of job insecurity

The MSEM findings in the quantitative study showed that employees with a CVD from the EU27, who thought that they might lose their job within the next six months, experienced job insecurity due to lack of workplace social support. Workplace social support was negatively associated with job insecurity and work-related stress. Workplace social support work positively associated with wellbeing and work-life balance. This is in line with previous research showing that both formal and informal workplace social support affects the sense of job control, and consequently job insecurity, employability and its consequences on health and wellbeing (Constable & Russell, 1986; Greenhalgh & Rosenblatt, 1984; Jang, 2009; Kinman et al., 2011; Thomas et al., 1985; Thompson & Prottas, 2006; Wittekind et al., 2010).

With respect to social support in the qualitative study, interviewees discussed the significant role of the employer, manager and colleagues. Most employees mentioned that they felt more relaxed, secure, and confident in their work and health when they received some type of social support. These findings were similar to the findings of the quantitative study. Some employees also mentioned receiving emotional support from their employer/manager/colleagues, financial assistance from their employer, and information and appraisal support from their manager. Only a few employees experienced multifaceted support, but all of them discussed the potential difficulty of not receiving any type of support. Employees also mentioned that some employers and managers did not provide appropriate support provision based on their physical and psychological needs. These findings confirm research stating that social support provision decreases stress and increases sense of wellbeing, security and belonging (Cobb, 1976; Frese, 1999; Heaney & Israel, 2008; Jang, 2009; Schwarzer & Leppin, 1991; Thoits, 1995).

Overall, the findings not only confirmed the hypothesis that lack of workplace social support is negatively associated with job insecurity, but also indicated the significant role of social support provision at work and the need for employers to prioritise it.

6.5. Employment Protection, Job Insecurity and Health

The findings below not only present employees' views and experiences with respect to employment protection, job insecurity and their recovery, but also identify gaps in legislation, policies and practices, which affect employees who return to work after a heart attack.

6.5.1. Employees' experiences

There were many employees, both English and Greek, who were not clear about what employment protection and rights entail. They either found out some details through the cardiologist and/or through their employer as they gradually returned to work, but they did not have prior knowledge. That is linked to the fact that only a few employers formally informed their employees about their rights. In most cases, an informal action was taken, which indicates a gap of consistent and formal practices; clear communication about rights should reassure employees about their employment security during and after their recovery and limit negative impact on psychological wellbeing (Chida & Steptoe, 2008). In most cases, employees assumed that their positive relationship with the employer justified a sense of security.

Employees, who were fully or even partially aware of their employment rights, and the fact that employers had to comply with EPL reported no experiences of job insecurity. That applied to the period upon their return to work after the heart attack. However, employees discussed the long-term impact of their health situation and the need for certain adjustments at work. They mentioned that lack of suitable adjustments, practical but also psychosocial including support provision, would hinder their ability to do their job, which could lead to problems with their employment, and increased job insecurity. From their comments, employment protection seemed to have a primary and a secondary effect. The primary effect of employment protection was about legislation making it difficult for employers to fire somebody, who had a long time off due to a health issue such as a heart attack. The secondary effect of employment protection was the vital role of fair adjustments at work, which enable employees with a health condition to keep doing their job. Gaps in primary and secondary employment

protection are discussed below. These findings were partially in line with research suggesting that strict employment protection increases job insecurity in the private sector, but not in the public sector; jobs in the public sector are usually perceived as insulated from labour market fluctuations (Clark & Postel-Vinay, 2009). However, other findings suggest that appropriate use of employment protection strictness does not increase job insecurity (Pissarides, 2001).

Lastly, both English and Greek employees made similar comments with respect to employment protection with the only exception that Greek employees highlighted the impact of the Greek financial crisis on unemployment levels, future employment opportunities, and the employers' difficulty to pay their wages.

6.5.2. Gaps in legislation

EPL in the UK and Greece follows a similar pattern due to the requirements of their EU membership as presented in the literature review. EPL, which is relevant to employees, who return to work after a health problem, covers sick leave, fair adjustments and unfair dismissals. Additional legislation that is applicable in both countries is health and safety legislation which covers the assessment of all types of risks to workers' health and safety, including psychosocial risks such as job insecurity and support at work. All employers in the UK must comply with EPL and the Health and Safety at Work Act (1974) and the Management of Health & Safety at Work regulations (1992). By following this set of regulations, employers must provide a safe working environment, a safe system of work, safe equipment, protection from hazards and provision of necessary training; the right to fair and just conditions (Ales, 2013; Cushway, 2014; Riesenhuber, 2012). In Greece, all issues concerning employment rights and occupational safety and health (OSH) are under the responsibility of the Ministry of Labour and Social Security. Under law 1568/1985 in Greece, employers are legally responsible for protecting and promoting occupational health and safety for their employees. In addition to this law, there is the transposition of the 1989 EC Framework Directive, which provides a more accessible and simplified version of the existing law (EU-OSHA, 2019a; Leka, 2003).

EPL specifies minimum standards for the employers and is not broad enough to encompass guidance for implementation. Therefore, in addition to regulation, several initiatives have emerged to guide employers. For example, PRIMA-EF for psychosocial risk management is available both in the UK and Greece (Leka et al., 2008; Leka & Kortum, 2008). Additionally, EU-OSHA (2019) provides guidelines on risk assessment for psychosocial risks and stress, which are available to all

employers in the UK and Greece. Lastly, Management Standards for work-related stress are available by the HSE in the UK, but they are voluntary and not used by all employers (EU-OSHA, 2002; HSE, 2019; Sivris & Leka, 2015).

The key problem lies on the fact that usually small- and medium-sized enterprises (SMEs) in both countries did not interpret the terminology regarding employment protection and OSH appropriately. Lack of appropriate interpretation and understanding of the terminology regarding health and safety such as psychosocial risk assessment/psychosocial hazards, and employment protection such as fair adjustments, leads to unclear and confusing organisational practice, which does not fully support employees. Furthermore, the initiatives may be voluntary, but employers, who do not comply with the guidance for law implementation, and consequently fail to comply with the law, are prosecuted (Leka et al., 2015, 2017).

6.5.3. Gap between policy and practice

As discussed above, organisations must follow legislation on employment protection and occupational health and safety. Psychosocial risks, which are related to employment protection concerning sick leave, fair adjustments and unfair dismissals, are meant to be addressed by health and safety legislation, which states that employers must provide a healthy and safe working environment. A healthy and safe environment should protect and promote both physical and mental health. As discussed above, legislation on health and safety has been complemented with a number of initiates aiming to help employers manage psychosocial risks by using psychosocial risk assessment tools and training. However, there is lack of awareness among employers both in relation to their legal requirements to assess and manage psychosocial risks and in relation to available tools and resources (Leka, 2003; Leka et al., 2015).

Both English and Greek employees mentioned gaps and issues regarding employment protection, policies and practices. These issues included lack of consistent support from the employer and/or manager, which affected their experience back to work after the heart attack; lack of regulation regarding support provision. There were some differences between the public and private sector with respect to sick leave pay with private sector organisations not consistently covering sick leave pay in both countries. There was no clear regulation in Greece regarding phased return to work as many Greek employees did not follow a phased return compared to the English employees. Many employers seemed to follow basic legislation to avoid legal action but missed

following further steps and practices to ensure a smooth transition back to work after the heart attack, which is in line with previous findings on employers' action for law implementation (Leka, 2003).

Interviews with employees showed that organisational practices on employment protection awareness lacked formality and standardisation, which allowed space for misunderstanding between the employers/managers and the employees, and at times led to insufficiently supportive treatment of those employees who had suffered a heart attack. Most employees discussed the significance of support provision by the employer and manager, including understanding of the health issue, genuine interest in the employee, and effective communication. However, that was not consistently experienced by the employees, which indicated a gap in workplace social support. Previous research indicates that lack of workplace social support is indeed a problem and has an impact on employees' health and wellbeing (Kossek et al., 2011; Schwarzer & Leppin, 1991). Employees working for an employer for many years perceived employment protection through the strength of their relationship with their employer indicating that temporary staff would not get the same treatment after returning to work after a heart attack; they would not have received the same level of support if they were temporary or new staff, which points to lack of regulation regarding support provision. These findings are in line with findings on experience and type of contract affecting job insecurity (Bohle et al., 2004; Groot & De Brink, 2000).

In addition, some employees believed that their heart problem will eventually cost them their job and make it more difficult to find another one. They reported that their heart problem will make employers see them as 'weak' and unfit for their job. Essentially, this means that there was job insecurity and fear of unfair dismissal, despite regulations being in place at national level that aim at protecting employees returning to work after a serious health problem. Previous research also shows that people with both physical and mental ill health may be affected by the impact of stigmatisation at work (Crandall & Moriarty, 1995; H. Stuart, 2004).

Findings overall point to a gap between policy and practice and lack of appropriate implementation of the legal framework in a comprehensive way, taking into account both employment protection and occupational health and safety regulations. These gaps in organisational policies and practices should be addressed by a comprehensive implementation of employment protection and health and safety legislation and initiatives. For this to happen, there needs to be

both better awareness among employers and better inspection of workplaces by labour inspectorates (Leka et al., 2015).

6.6. Strengths and limitations of this research

Most of the strengths and limitations derived from the implementation of this research were discussed in each chapter. Nevertheless, a summary and some additional strengths and limitations are presented below.

6.6.1. A summary of strengths

This thesis has theoretical and practical implications for organisations and countries. The strengths of the current research not only include a comprehensive theory-driven model based on the biopsychosocial model (Engel, 1977), which was tested on the European population, but also the exploration of work-related experiences of English and Greek employees who returned to work after a heart attack.

Regarding the quantitative part of this thesis, the main strength was the use of a large representative European dataset. This enabled us to test our hypotheses at European level, but also be confident about data quality due to the European Foundation's research standards. In addition, the large dataset increased the accuracy of the significance of our findings due to the power and increased reliability (Hussein, 2011) of the data. Since the quantitative study was based on a secondary analysis, there was no delay with respect to participant recruitment, handing out surveys, collecting and collating documentation, and no major ethical concerns (Glass, 1976).

The use of multilevel structural equation modelling was followed for this study for the part where we had to test the model at country level. The state-of-the-art is focused on multilevel approaches due to their rich factor inclusion and complexity (Heck & Thomas, 2015). Markov Chain multiple imputations took into account uncertainty of missing values (Sinharay et al., 2001). This was employed on Mplus as an alternative way to listwise deletion and FIML to explore the stability of results (E. A. Stuart et al., 2009). The technique of multiple imputation has been supported by researchers because it gives the freedom to calculate missing values based on a probabilistic approach. In this way, the impact of running an analysis with missing values was avoided, which lead to more conclusive results (Sterne et al., 2009).

Regarding the qualitative part of this thesis, the strength was that the sampling strategy included approaching employees both through the NHS and

charities in order to increase sampling variety and successful participation. The fact that the themes were substantially similar for both English and Greek employees, showed that experiences of employment protection and job insecurity after a heart attack were similar between those two countries. Lastly, findings did not have much of unanticipated insights and data saturation was achieved by retrieving similar information from most of the employees. Lastly, the approach of the current study allowed for both social and psychological interpretation of the data, which is consequently suited to informing policy making (Braun & Clarke, 2006; Tracy, 2010).

Regarding the mixed-methods research approach of this thesis, the advantage was that it was possible to assess both quantitative and qualitative data with respect to quality by cross-checking several criteria before integrating the findings. For the quantitative study, both reliability and validity of scales and items were checked in statistical terms (Bryman, 2015). For the qualitative study, reliability and validity were checked through trustworthiness and rigour by using sample appropriateness and methodological coherence (Morse et al., 2002). Sample appropriateness was achieved by randomly selecteing employees who had a CVD (specifically: they had a heart attack) in order to explore the experiences of this specific sample. Methodological coherence was achieved by creating an interview schedule based on current literature and the quantitative findings, and following the COREQ, the eight 'big-tent' criteria and the guidelines by Braun and Clark (2006). Finally, methodological coherence was achieved by appropriately answering the research questions through the identified themes.

From a mixed-methods point of view for both studies, all three criteria were met: the studies and findings were relevant to the research questions, transparency of methods, and integration of results were achieved (Bryman et al., 2008). In addition, the data were collected after the commencement of the financial crisis which allowed the investigation of differences between European countries during the crisis and exploration of the employment protection and workplace health protection and promotion.

The results and theoretical assumptions proposed in this research are expected to guide future research on the topic of employment protection and job insecurity with a view to improve employees' quality of life after a health problem such as a CVD. The advantage of the current research is that it brings both quantitative and qualitative aspects together, which complement each other, and can further inform future research, policy makers and organisations about gaps and necessary changes.

6.6.2. A summary of limitations

Despite the strengths summarised above, this research presents several limitations. The first limitation is the use of the biopsychosocial model by Engel (1977). The model has received criticism for its biopsychosocial approach. He has been criticised for using this model as a euphemism to psychosomatic illness (McLaren, 2009). The model has been criticised for the lack of safeguards against either the under-representation or over-representation of any of the three categories, biological, psychological and social; individual differences in wording may confuse what falls under each category. Therefore, some researchers argue that these categories may be pointless (Benning, 2015; Lehman et al., 2017). In addition, some researchers have argued that the biopsychosocial model borders on anarchy because the focus and approach of each intervention may be determined by the e.g. practitioner based on personal preference, which introduces biases (Benning, 2015; Ghaemi, 2009). However, the model is an epistemologically important approach because it combines biological, psychological and social elements (Ghaemi, 2010). The proposed model is expressed through the combination of biopsychosocial factors aiming to improve employees' wellbeing, health, and life. Therefore, the criticisms on Engel's model apply to our approach too.

Regarding the quantitative part of this thesis, one key limitation is that the study was cross-sectional on a European representative sample. Cross-sectional studies are not as rigorous as longitudinal studies because they test hypotheses at a specific point of time instead of using waves and forming a better understanding over time (Bryman, 2015). A secondary analysis was conducted and there were specific research goals, which were not similar to the EWCS research goals. However, we were aware of the limitations imposed by secondary analysis. Inappropriateness of the data can be a key limitation. Data collected by the researcher are collected based on the nature of the research questions. Some questions of the survey such as the one on financial security/confidence, presenteeism, work-life balance and work-related stress could be phrased in a different way so that they could better address the research questions and statistical hypotheses (Denscombe, 2014). Another limitation was that we could not control for the data quality and understanding of the questions by the respondents, which can sometimes affect the results. However, research conducted by Eurofound adheres to the highest standards both in terms of ethical and quality issues. Another limitation was that only employees with a CVD could

be selected as there were no specific categories for employees who had e.g. a heart attack, stroke, angina etc., and it was likely that individuals with non-traditional working hours (shift workers, etc.) were underrepresented. Moreover, the purely biological and medical aspect such as biometrics on employees' heart health (heart rate, cell rejuvenation, healing progress etc.) were not included in this research due to the unavailability of data in the survey of European Working Conditions (EWCS, 2010). Regarding the JDCS model, the key limitations were the limited inclusion of factors by default (the model includes only job demands, job control, and workplace social support), and the level of consistency regarding conceptualisation of demands and control (Van der Doef & Maes, 1999). However, these limitations were the basis for building a more comprehensive model.

Furthermore, another limitation was that some of the variables were not normally distributed; therefore, various techniques such as bootstrapping and robust maximum likelihood had to be used to make sure that the results were trustworthy (Field, 2013). In addition, the current study included Markov Chain multiple imputations to compare results with FIML and listwise deletion. However, we are aware of the debate regarding the plausibility of results using multiple imputations. If there was any severe discrepancy between the imputation model and the analysis model, this would lead to unreliable estimates (Sinharay et al., 2001). Using imputations as a replacement technique is challenging because the imputed values are only a proxy for the true values. Due to this limitation, this approach was treated with caution due to the uncertainty beyond the sampling variation and was cross-checked with listwise deletion and full information maximum likelihood (Mittag, 2013).

Regarding the qualitative part of this thesis, the first limitation was its selective and interpretative nature of it, which did not allow further generalisations in the wider European population even though the findings of the quantitative part were based on a European population (EU27). In addition, thematic analysis would have a limited interpretative power if it was not used within the existing theoretical framework. COREQ, the eight 'big-tent' criteria and the guidelines by Braun and Clark (2006) had to be carefully followed and cross-checked during the data collection, data analysis and reporting of the current study (Tong et al., 2007; Tracy, 2010) to avoid lack of analytical rigour. Another limitation was that employees recruited from the NHS were based either in the East Midlands in the UK, or Central Macedonia in Greece, which excludes other regions. Regarding employees through charities, only the British Heart Foundation responded to our invitation, and only four people out of eight met the criteria for an interview, and

they were from the East Midlands, the South East and London. None of the Greek charities responded to our invitation. Consequently, the key limitation was that the final sample of employees was not representative of the whole country, the UK and Greece, respectively. Lastly, even if it was expected to have more male employees than female due to the fact that more men tend to have heart attacks compared to women (Weidner, 2000), it was not easy to identify any gender differences due to the small number of women participating in this study.

Regarding the thesis as a mixed-methods approach, the main limitation was that the findings from the qualitative study, which complemented the quantitative study, were not further checked by statistically measuring the levels of the experience of employment protection and control of job insecurity among employees, who had a heart attack. However, these aspects can be explored in future research. Additionally, although both studies were conducted during the period of the European economic crisis, the European Working Conditions Survey sample was interviewed in 2010 compared to the qualitative study sample who were interviewed in 2015-2016. It was also not possible to compare the findings from the English and Greek employees in the quantitative study as we did in the qualitative study because the number of employees in each country, who had a CVD in the EWCS, was too small (only 18 English employees and 11 Greek employees).

Overall, the current thesis was not free of limitations, but these limitations can be addressed in future research before attempting to explore the model further or in a different population.

6.6.3. Contribution

The contribution of the current thesis is that it applied the biopsychosocial model into the occupational setting and added to knowledge on the impact of job insecurity and employment protection on employees with a CVD. The current thesis also contributed knowledge to the impact of job insecurity and its interplay with other work-related and personal factors in the European population, instead of just one country, with a view to draw conclusions that apply at European level. The current thesis sets the basis for further research on the quality of life of employees who return to work after a health issue and their experience and needs in terms of support and employment protection. Our research has highlighted potential gaps between policy and practice that need to be addressed to facilitate appropriate return to work for these employees. Additionally, the current research brought various work-related and personal issues to attention for employees who

had a heart attack and returned to work. The current research not only confirmed a proposed theoretical model, but also informed its qualitative aspect, and enhanced overall findings on employees' experience of job insecurity, employment protection, and challenges with recovery and work-life. Finally, the current research's substantial contribution is that it identifies which work-related practices help employees effectively cope with their recovery and its challenges after a heart problem.

6.7. Conclusions, implications and recommendations for future research, policy and practice

Based on both studies' findings, future research is necessary to understand how to achieve a comprehensive implementation of employment protection and health and safety legislation through supporting organisational policies and practices that will benefit employees affected by CVDs.

The current research could provide guidance on developing and testing future organisational interventions on support provision for developing coping mechanisms amongst employees who had or are likely to have a heart problem. Assisting employees to develop coping mechanisms in order to avoid future ill health is imperative for NCDs control. This guidance could be utilised both in the public and private sector as long as specialists develop appropriate and relevant interventions. Future research on the use of model also on other physical and mental health issues will add knowledge on how employees' transition back to work is affected by employment protection, job insecurity and workplace social support, and what the differences are. Future research could also investigate employment protection from both a quantitative and qualitative perspective. Additionally, further training and education on the prevention, causes, and impact of CVDs on work-life is necessary so that all employers are capable of properly supporting employees.

Research will also be needed in order to implement changes in policies regarding standardised management support after a heart attack and other chronic illnesses. Policies and legislation should also be informed in a manner that all employees can utilise a phased return, especially in Greece where a phased return was not implemented for all employees. Employment protection should not only be treated as a legal obligation for organisations, but also as a means of promoting health and empowering employees, who struggle with a health problem and return to work. The key role of both physical and psychosocial support should be reiterated through appropriate guidelines and good practices, developed on the

basis of legal requirements for employment protection and health and safety at work. Existing examples of good practice can also be disseminated and utilised more widely across Europe (Leka et al., 2015).

Finally, using a person-centred approach to provide appropriate social support at work to employees with a CVD will a) control the intensity of perceived job demands, b) increase employees' sense of control, d) alleviate job insecurity, e) allow the promotion and effective application of employment protection and health and safety practices at work.

References

Addison, J. T., & Teixeira, P. (2003). The economics of employment protection. *Journal of Labor Research*, *24*(1), 85–128.

Adkins, C. L., Werbel, J. D., & Farh, J.L. (2001). A field study of job insecurity during a financial crisis. *Group & Organization Management*, *26*(4), 463–483.

Adler, N. E., Boyce, T., Chesney, M. A., Cohen, S., Folkman, S., Kahn, R. L., & Syme, S. L. (1994). Socioeconomic status and health: the challenge of the gradient. *American Psychologist*, *49*(1), 15.

Affleck, G., Tennen, H., Croog, S., & Levine, S. (1987). Causal attribution, perceived control, and recovery from a heart attack. *Journal of Social and Clinical Psychology*, *5*(3), 339–355.

Ahola, K., Toppinen-Tanner, S., Huuhtanen, P., Koskinen, A., & Väänänen, A. (2009). Occupational burnout and chronic work disability: An eight-year cohort study on pensioning among Finnish forest industry workers. *Journal of Affective Disorders*, *115*(1–2), 150–159.

Ales, E. (2013). *Health and safety at work: European and comparative perspective*. Kluwer Law International.

Allen, I. E., & Seaman, C. A. (2007). Likert scales and data analyses. *Quality Progress*, *40*(7), 64–65.

Alwan, A. (2011). *Global status report on noncommunicable diseases 2010.* World Health Organization.

Anderson, C. J., & Pontusson, J. (2007). Workers, worries and welfare states: Social protection and job insecurity in 15 OECD countries. *European Journal of Political Research*, *46*(2), 211–235.

Aronsson, G., & Gustafsson, K. (2005). Sickness presenteeism: prevalence, attendance-pressure factors, and an outline of a model for research. *Journal of Occupational and Environmental Medicine*, *47*(9), 958–966.

Aronsson, G., Gustafsson, K., & Dallner, M. (2000). Sick but yet at work. An empirical study of sickness presenteeism. *Journal of Epidemiology and Community Health*, *54*(7), 502–509.

Ashford, S. J., Lee, C., & Bobko, P. (1989). Content, cause, and consequences of job insecurity: A theory-based measure and substantive test. *Academy of Management Journal*, *32*(4), 803–829.

Ashforth, B. E., & Fugate, M. (2001). Role transitions and the life span. *Role Transitions in Organizational Life: An Identity-Based Perspective*, 225–257.

Asparouhov, T., & Muthén, B. (2010). Multiple imputation with Mplus. *MPlus Web*

Notes.

Atkinson, J. (1984). Manpower strategies for flexible organisations. *Personnel Management*, *16*(8), 28–31.

Awang, Z. (2012). *Structural equation modeling using AMOS graphic*. Penerbit Universiti Teknologi MARA.

Awang, Z. (2015). SEM Made Simple. *First. MPWS Rich Publication Sdn. Bhd.(1132290-K)*.

Baker, S. E., & Edwards, R. (2012). How many qualitative interviews is enough. Discussion Paper. NCRM. (Unpublished)

Bandura, A., & Walters, R. H. (1977). *Social learning theory* (Vol. 1). Prentice-hall Englewood Cliffs, NJ.

Bank, W. (2011). The Growing Danger of Non-Communicable Diseases: Acting Now to Reverse Course. In *Conference Paper*.

Barker, L. M., & Nussbaum, M. A. (2011). Fatigue, performance and the work environment: a survey of registered nurses. *Journal of Advanced Nursing*, *67*(6), 1370–1382.

Barling, J., & Kelloway, E. K. (1996). Job insecurity and health: The moderating role of workplace control. *Stress Medicine*, *12*(4), 253–259.

Barnard, C. (2012). *EU employment law*. Oxford University Press.

Barone, A. (2001). Employment protection legislation: a critical review of the literature. *Cesifin WP*, 7.

Bartley, M. (1994). Unemployment and ill health: understanding the relationship. *Journal of Epidemiology & Community Health*, *48*(4), 333–337.

Bartley, M. (2005). Job insecurity and its effect on health. BMJ Publishing Group Ltd.

Bartley, M., & Ferrie, J. (2001). Glossary: unemployment, job insecurity, and health. *Journal of Epidemiology & Community Health*, *55*(11), 776–781.

Baruch, Y. (2001). Employability: a substitute for loyalty? *Human Resource Development International*, *4*(4), 543–566.

Bauer, M. W. (2000). Chapter 3: Individual and group interviewing" from Bauer, MW & Gaskell, G.(eds.), Qualitative researching: with text, image and sound. A practical Handbook pp. 1-2. London: Sage Publications.

Beauducel, A., & Wittmann, W. W. (2005). Simulation study on fit indexes in CFA based on data with slightly distorted simple structure. *Structural Equation Modeling*, *12*(1), 41–75.

Belkic, K. L., Landsbergis, P. A., Schnall, P. L., & Baker, D. (2004). Is job strain a major source of cardiovascular disease risk? *Scandinavian Journal of Work,*

Environment & Health, *30*(2), 85–128.

Bell, A. S., Rajendran, D., & Theiler, S. (2012). Job Stress, Wellbeing, Work-Life Balance and Work-Life Conflict Among Australian Academics. *E-Journal of Applied Psychology*, *8*(1).

Belot, M., Boone, J., & Van Ours, J. (2007). Welfare-improving employment protection. *Economica*, *74*(295), 381–396.

Ben-Gal, I. (2005). Outlier detection. In *Data mining and knowledge discovery handbook* (pp. 131–146). Springer.

Benavides, F. G., Benach, J., Diez-Roux, A. V, & Roman, C. (2000). How do types of employment relate to health indicators? Findings from the Second European Survey on Working Conditions. *Journal of Epidemiology & Community Health*, *54*(7), 494–501.

Bennett, D. A. (2001). How can I deal with missing data in my study? *Australian and New Zealand Journal of Public Health*, *25*(5), 464–469.

Benning, T. B. (2015). Limitations of the biopsychosocial model in psychiatry. *Advances in Medical Education and Practice*, *6*, 347.

Bentler, P. M. (2006). EQS 6 Structural equations modeling program manual. Encino, CA: Multivariate Software. Inc.

Bergström, G., Bodin, L., Hagberg, J., Lindh, T., Aronsson, G., & Josephson, M. (2009). Does sickness presenteeism have an impact on future general health? *International Archives of Occupational and Environmental Health*, *82*(10), 1179–1190.

Berntson, E., & Marklund, S. (2007). The relationship between perceived employability and subsequent health. *Work & Stress*, *21*(3), 279–292.

Bertola, G., Boeri, T., & Cazes, S. (1999). Employment protection and labour market adjustment in OECD countries: Evolving institutions and variable enforcement. *Employment and Training Papers*, *48*.

Biron, C., Brun, J.-P., Ivers, H., & Cooper, C. (2006). At work but ill: psychosocial work environment and well-being determinants of presenteeism propensity. *Journal of Public Mental Health*, *5*(4), 26–37.

Biron, C., & Saksvik, P. Ø. (2009). Sickness presenteeism and attendance pressure factors: Implications for practice. *International Handbook of Work and Health Psychology*, *New York: John Wiley, 77–96.*

Blossfeld, H.-P., & Hakim, C. (1997). *Between equalization and marginalization: women working part-time in Europe*. Oxford University Press.

Bohle, P., Quinlan, M., Kennedy, D., & Williamson, A. (2004). Working hours, work-life conflict and health in precarious and" permanent" employment.

Revista de Saúde Pública, *38*, 19–25.

Boland, A., Cherry, G., & Dickson, R. (2017). *Doing a systematic review: A student's guide*. Sage.

Boonstra, W. (2005). Proposals for a better stabiliy pact. *Intereconomics*, *40*(1), 4–9.

Bourdieu, P., & Richardson, J. G. (1986). Handbook of Theory and Research for the Sociology of Education. *The Forms of Capital*, 241–258.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101.

Braun, V., Clarke, V., Hayfield, N., & Terry, G. (2019). Thematic analysis. *Handbook of Research Methods in Health Social Sciences*, 843–860.

Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, *1*(3), 185–216.

British Heart Foundation. (2019). *UK Factsheet April 2019*.

Brough, P., & Williams, J. (2007). Managing occupational stress in a high-risk industry: Measuring the job demands of correctional officers. *Criminal Justice and Behavior*, *34*(4), 555–567.

Brown, P., Hesketh, A., & Williams, S. (2004). *The mismanagement of talent: Employability and jobs in the knowledge economy*. Oxford University Press on Demand.

Brunner, E., & Marmot, M. (2009). Social organization, stress, and health. DOI:10.1093/acprof:oso/9780198565895.003.02

Bryman, A. (2015). *Social research methods*. Oxford university press.

Bryman, A., Becker, S., & Sempik, J. (2008). Quality criteria for quantitative, qualitative and mixed methods research: A view from social policy. *International Journal of Social Research Methodology*, *11*(4), 261–276.

Büchtemann, C. F., & Walwei, U. (1996). Employment security and dismissal protection. *International Handbook of Labour Market Policy and Evaluation, Cheltenham: Edward Elgar*, 652–693.

Buelens, M., & Van den Broeck, H. (2007). An analysis of differences in work motivation between public and private sector organizations. *Public Administration Review*, *67*(1), 65–74.

Bunker, S. J., Colquhoun, D. M., Esler, M. D., Hickie, I. B., Hunt, D., Jelinek, V. M., Tennant, C. C. (2003). "Stress" and coronary heart disease: psychosocial risk factors. *Medical Journal of Australia*, *178*(6), 272–276.

Burchell, B. (2011). A temporal comparison of the effects of unemployment and job insecurity on wellbeing. *Sociological Research Online*, *16*(1), 1–13.

Burchell, B. J., Wichert, I. C., & Nolan, J. P. (2002). Job insecurity, psychological well-being and family life. In *The insecure workforce* (pp. 193–221). Routledge.

Burgard, S. A., Seefeldt, K. S., & Zelner, S. (2012). Housing instability and health: findings from the Michigan Recession and Recovery Study. *Social Science & Medicine*, *75*(12), 2215–2224.

Busby, N., & James, G. (2011). *Families, care-giving and paid work: challenging labour law in the 21st century*. Edward Elgar Publishing.

Cahuc, P., & Postel-Vinay, F. (2002). Temporary jobs, employment protection and labor market performance. *Labour Economics*, *9*(1), 63–91.

Campello, M., Graham, J. R., & Harvey, C. R. (2010). The real effects of financial constraints: Evidence from a financial crisis. *Journal of Financial Economics*, *97*(3), 470–487.

Carifio, J., & Perla, R. J. (2007). Ten Common Misunderstandings. Misconceptions, Persistent Myths and Urban Legends about Likert Scales and Likert Response Formats and Their Antidotes*. Journal of Social Sciences, 3,* 106-116.

Carr, V., Halpin, S., & Group, L. P. D. S. (2002). *Stigma and discrimination*. Commonwealth Department of Health and Ageing , Australia.

Catalano, R. (1991). The health effects of economic insecurity. *American Journal of Public Health*, *81*(9), 1148–1152.

Cattell, V. (2001). Poor people, poor places, and poor health: the mediating role of social networks and social capital. *Social Science & Medicine*, *52*(10), 1501–1516.

Cazes, S., & Nesporova, A. (2001). Labour Market Flexibiilty in the Transition Countries: How Much Is too Much. *Int'l Lab. Rev.*, *140*, 293.

Cazes, S., & Nesporova, A. (2004). Labour markets in transition: Balancing flexibility and security in Central and Eastern Europe. *Revue de l'OFCE*, (5), 23–54.

Chamnan, P., Simmons, R. K., Khaw, K.-T., Wareham, N. J., & Griffin, S. J. (2010). Estimating the population impact of screening strategies for identifying and treating people at high risk of cardiovascular disease: modelling study. *Bmj*, *340*, c1693.

Chen, H., & Boore, J. R. P. (2010). Translation and back-translation in qualitative nursing research: methodological review. *Journal of Clinical Nursing*, *19*(1-2), 234–239.

Cheng, G. H., & Chan, D. K. (2008). Who suffers more from job insecurity? A meta-analytic review. *Applied Psychology*, *57*(2), 272–303.

Cheung, G. W., & Lau, R. S. (2008). Testing mediation and suppression effects of latent variables: Bootstrapping with structural equation models. *Organizational Research Methods*, *11*(2), 296–325.

Chignell, B. (2018). Understanding Bradford factor scores. Retrieved June 7, 2019, from https://www.ciphr.com/advice/understanding-the-bradford-factor-score/

Clark, A., & Postel-Vinay, F. (2009). Job security and job protection. *Oxford Economic Papers*, *61*(2), 207–239.

Clauwaert, S., & Schömann, I. (2012). The crisis and national labour law reforms: a mapping exercise. *European Labour Law Journal*, *3*(1), 54–69.

Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic Medicine, 38,* 300-314.

Cohen, L., Manion, L., & Morrison, K. (2002). *Research methods in education*. routledge.

Constable, J. F., & Russell, D. W. (1986). The effect of social support and the work environment upon burnout among nurses. *Journal of Human Stress*, *12*(1), 20–26.

Cooper, C., & Dewe, P. (2008). Well-being—absenteeism, presenteeism, costs and challenges. *Occupational Medicine*, *58*(8), 522–524.

Cornaz, S., Taffé, P., & Santos-Eggimann, B. (2009). Life-course socioeconomic environment and health risk behaviours. A multilevel small-area analysis of young-old persons in an urban neighbourhood in Lausanne, Switzerland. *Health & Place*, *15*(1), 273–283.

Council of Europe Publishing. (2005). Reconciling labour flexibility with social cohesion—Facing the challenge. *Trends in Social Cohesion*, (15).

Cox, T., & Griffiths, A. (1996). The assessment of psychosocial hazards at work. *Handbook of Work and Health Psychology*, *127*, 143.

Cox, T., Griffiths, A., & Leka, S. (2005). Work Organization and Work-Related Stress. *Occupational Hygiene*, 421–432.

Crandall, C. S., & Moriarty, D. (1995). Physical illness stigma and social rejection. *British Journal of Social Psychology*, *34*(1), 67–83.

Crant, J. M. (2000). Proactive behavior in organizations. *Journal of Management*, *26*(3), 435–462.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Cullen, J., & McLaughlin, A. (2006). What drives the persistence of presenteeism as a managerial value in hotels?: Observations noted during an Irish work-

life balance research project. *International Journal of Hospitality Management*, *25*(3), 510–516.

Cushway, B. (2014). *The Employer's Handbook 2014-15: An Essential Guide to Employment Law, Personnel Policies and Procedures*. Kogan Page Publishers.

Cuyper, N. De, Bernhard-Oettel, C., Berntson, E., Witte, H. De, & Alarco, B. (2008). Employability and employees' well-being: Mediation by job insecurity. *Applied Psychology*, *57*(3), 488–509.

Cuyper, N., & Witte, H. (2006). The impact of job insecurity and contract type on attitudes, well-being and behavioural reports: a psychological contract perspective. *Journal of Occupational and Organizational Psychology*, *79*(3), 395–409.

De Cuyper, N., De Jong, J., De Witte, H., Isaksson, K., Rigotti, T., & Schalk, R. (2008). Literature review of theory and research on the psychological impact of temporary employment: Towards a conceptual model. *International Journal of Management Reviews*, *10*(1), 25–51.

De Cuyper, N., & De Witte, H. (2006). The impact of job insecurity and contract type on attitudes, well-being and behavioural reports: a psychological contract perspective. *Journal of Occupational and Organizational Psychology*, *79*(3), 395–409.

De Cuyper, N., & De Witte, H. (2007). Job insecurity in temporary versus permanent workers: Associations with attitudes, well-being, and behaviour. *Work & Stress*, *21*(1), 65–84.

De Grip, A., Van Loo, J., & Sanders, J. (2004). The industry employability index: Taking account of supply and demand characteristics. *Int'l Lab. Rev.*, *143*, 211.

De Jonge, J., Bosma, H., Peter, R., & Siegrist, J. (2000). Job strain, effort-reward imbalance and employee well-being: a large-scale cross-sectional study. *Social Science & Medicine*, *50*(9), 1317–1327.

De Lange, A. H., Taris, T. W., Kompier, M. A. J., Houtman, I. L. D., & Bongers, P. M. (2003). " The very best of the millennium": longitudinal research and the demand-control-(support) model. *Journal of Occupational Health Psychology*, *8*(4), 282.

De Witte, H., Pienaar, J., & De Cuyper, N. (2016). Review of 30 years of longitudinal studies on the association between job insecurity and health and well-being: is there causal evidence? *Australian Psychologist*, *51*(1), 18–31.

Dekker, S. W. A., & Schaufeli, W. B. (1995). The effects of job insecurity on psychological health and withdrawal: A longitudinal study. *Australian*

Psychologist, *30*(1), 57–63.

Demerouti, E., Le Blanc, P. M., Bakker, A. B., Schaufeli, W. B., & Hox, J. (2009). Present but sick: a three-wave study on job demands, presenteeism and burnout. *Career Development International*, *14*(1), 50–68.

Denscombe, M. (2014). *The good research guide: for small-scale social research projects*. McGraw-Hill Education (UK).

Dex, S. (1999). *Families and the labour market: trends, pressures and policies*. Family Policy Studies Centre London.

Dex, S., & Bond, S. (2005). Measuring work-life balance and its covariates. *Work, Employment and Society*, *19*(3), 627–637.

Dex, S., & Smith, C. (2002). *Family-friendly Employment Policies in Britain*. Policy Press.

Domenighetti, G., d'Avanzo, B., & Bisig, B. (2000). Health effects of job insecurity among employees in the Swiss general population. *International Journal of Health Services*, *30*(3), 477–490.

Doyle, L., Brady, A.-M., & Byrne, G. (2009). An overview of mixed methods research. *Journal of Research in Nursing*, *14*(2), 175–185.

Dutton, D. B., & Levine, S. (1989). Overview, methodological critique, and reformulation. In J.P. Bunker, D. S. Gomby, & B. H. Kehrer (Eds.), *Pathways to health (pp. 22-69),* Menlo Park, CA: The Henry J. Kaiser Family Foundation.

EHRC (2019). In employment: Workplace adjustments. Retrieved January 1, 2018, from https://www.equalityhumanrights.com/en/multipage-guide/dealing-physical-barriers-workplace

Elstad, J. I., & Vabø, M. (2008). Job stress, sickness absence and sickness presenteeism in Nordic elderly care. *Scandinavian Journal of Public Health*, *36*(5), 467–474.

Emslie, C., & Hunt, K. (2009). 'Live to work'or 'work to live'? A qualitative study of gender and work–life balance among men and women in mid-life. *Gender, Work & Organization*, *16*(1), 151–172.

Engel, G.L. (1980). The clinical application of the biopsychosocial model. *The American Journal of Psychiatry*, *5*, 535–544.

Engel, George L. (1977). The need for a new medical model: a challenge for biomedicine. *Science*, *196*(4286), 129–136.

Engel, George L. (1981). The clinical application of the biopsychosocial model. In *The Journal of Medicine and Philosophy: A Forum for Bioethics and Philosophy of Medicine* (Vol. 6, pp. 101–124). Oxford University Press.

Ennis, K. Y., Chen, M.-H., Smith, G. C., D'Amico, A. V, Zhang, Y., Quinn, S. A.,

Ennis, R. D. (2015). The impact of economic recession on the incidence and treatment of cancer. *Journal of Cancer*, *6*(8), 727.

Erlinghagen, M. (2007). *Self-Perceived Job Insecurity and Social Context: Are There Different European Cultures of Anxiety?* DIW-Diskussionspapiere.

Erlinghagen, M. (2008). Self-perceived job insecurity and social context: A multi-level analysis of 17 European countries. *European Sociological Review*, *24*(2), 183–197.

EU-OSHA. (2019a). National legislation on safety and health at work. Retrieved June 24, 2019, from https://osha.europa.eu/en/safety-and-health-legislation/national-legislation-safety-and-health-work

EU-OSHA. (2019b). Stress and psychosocial risks. Retrieved January 1, 2019, from https://osha.europa.eu/en/themes/psychosocial-risks-and-stress

Eurofound. (2007). Work-related stress. Retrieved from www.eurofound.europa.eu

Eurofound. (2010). European Survey of Working Conditions, (6971), 1–34.

European Agency for Safety and Health at Work. (2002). *Systems and Programmes: How to Tackle Psychosocial Issues and Reduce Work-related Stress*.

European Agency for Safety and Health at Work. (2005). *Priorities for occupational safety and health research in the EU-25* (Vol. 1). Office for Official Publications of the European Communities.

European Foundation for the Improvement of Living and Working Conditions. (2012). *5th European Working Conditions Survey*. Publications Office of the European Union.

EuropeanCommission. (2006). Flexicurity: Combining Flexibility and Security. *Social Agenda*, 15–20.

EuropeanCommission. (2019). Conditions for membership. Retrieved January 1, 2019, from https://ec.europa.eu/neighbourhood-enlargement/policy/conditions-membership_en

Ezzy, D. (2013). *Qualitative analysis*. Routledge.

Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods*, *5*(1), 80–92.

Ferlander, S. (2007). The importance of different forms of social capital for health. *Acta Sociologica*, *50*(2), 115–128.

Ferrie, J. E. (2001). Is job insecurity harmful to health? *Journal of the Royal Society of Medicine*, *94*(2), 71–76.

Ferrie, J. E., Marmot, M., Griffiths, J., & Ziglio, E. (1999). Labour market changes and job insecurity: a challenge for social welfare and health promotion.

Ferrie, J. E., Shipley, M. J., Marmot, M. G., Stansfeld, S., & Smith, G. D. (1995). Health effects of anticipation of job change and non-employment: longitudinal data from the Whitehall II study. *Bmj*, *311*(7015), 1264–1269.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage.

Floyd, M., Povall, M., & Watson, G. (1994). *Mental health at work*. Jessica Kingsley Publishers.

Footman, K., Roberts, B., Tumanov, S., & McKee, M. (2013). The comorbidity of hypertension and psychological distress: a study of nine countries in the former Soviet Union. *Journal of Public Health*, *35*(4), 548–557.

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. SAGE Publications Sage CA: Los Angeles, CA.

Forrier, A., & Sels, L. (2003). The concept employability: A complex mosaic. *International Journal of Human Resources Development and Management*, *3*(2), 102–124.

Frankenhaeuser, M. (1989). A biopsychosocial approach to work life issues. *International Journal of Health Services*, *19*(4), 747–758.

Frese, M. (1999). Social support as a moderator of the relationship between work stressors and psychological dysfunctioning: a longitudinal study with objective measures. *Journal of Occupational Health Psychology*, *4*(3), 179.

Friedman, M. (2009). *Capitalism and freedom*. University of Chicago press.

Fudge, J., McCrystal, S., & Sankaran, K. (2012). *Challenging the legal boundaries of work regulation*. Bloomsbury Publishing.

Fugate, M., Kinicki, A. J., & Ashforth, B. E. (2004). Employability: A psycho-social construct, its dimensions, and applications. *Journal of Vocational Behavior*, *65*(1), 14–38.

Furceri, D., & Mourougane, A. (2009). The effect of financial crises on potential output: new empirical evidence from OECD countries. *OECD Economic Department Working Papers* No. 699.

Furceri, D., & Mourougane, A. (2012). How do institutions affect structural unemployment in times of crises? *Panoeconomicus*, *59*(4), 393–419.

Gabriel, P., & Liimatainen, M.-R. (2000). Mental health in the workplace: Introduction, executive summaries.

Gallo, W. T., Teng, H.-M., Falba, T. A., Kasl, S. V, Krumholz, H. M., & Bradley, E. H. (2006). The impact of late career job loss on myocardial infarction and

stroke: a 10 year follow up using the health and retirement survey. *Occupational and Environmental Medicine*, *63*(10), 683–687.

Ganster, D. C., & Schaubroeck, J. (1991). Work stress and employee health. *Journal of Management*, *17*(2), 235–271.

Gardner, J., & Oswald, A. (2002). How does education affect mental well-being and job satisfaction. *Economics Department Warwick University*.

Gaunt, R., & Benjamin, O. (2007). Job insecurity, stress and gender: The moderating role of gender ideology. *Community, Work and Family*, *10*(3), 341–355.

Gelos, M. G., Rennhack, M. R., Walsh, M. J. P., & Berkmen, P. (2009). *The global financial crisis: Explaining cross-country differences in the output impact*. International Monetary Fund.

George, D. (n.d.). i Mallery, M.(2010). *SPSS for Windows Step by Step: A Simple Guide and Reference, 17.0 Update*.

Ghaemi, S. N. (2009). The rise and fall of the biopsychosocial model. *The British Journal of Psychiatry*, *195*(1), 3–4.

Ghaemi, S. N. (2010). *The rise and fall of the biopsychosocial model: reconciling art and science in psychiatry*. JHU Press.

Giannetti, C., Madia, M., & Moretti, L. (2014). Job insecurity and financial distress. *Applied Financial Economics*, *24*(4), 219–233.

Gili, M., Roca, M., Basu, S., McKee, M., & Stuckler, D. (2012). The mental health risks of economic crisis in Spain: evidence from primary care centres, 2006 and 2010. *The European Journal of Public Health*, *23*(1), 103–108.

Gimpelson, V., & Oshchepkov, A. (2012). Does more unemployment cause more fear of unemployment? *IZA Journal of Labor & Development*, *1*(1), 6.

Glass, G. V. (1976). Primary, secondary, and meta-analysis of research. *Educational Researcher*, *5*(10), 3–8.

Gold, M. (2009). *Employment Policy in the European Union: origins, themes and prospects*. Macmillan International Higher Education.

Golden, L. (2012). The effects of working time on productivity and firm performance, research synthesis paper. *International Labor Organization (ILO) Conditions of Work and Employment Series*, (33).

Golsch, K. (2005). *The impact of labour market insecurity on the work and family life of men and women. A comparison of Germany, Great Britain and Spain* (Vol. 403).

Gough, D., Oliver, S., & Thomas, J. (2017). *An introduction to systematic reviews*. Sage.

GOV.UK (2019a). Equality Act 2010: guidance. Retrieved from https://www.gov.uk/guidance/equality-act-2010-guidance

GOV.UK (2019b). Working, jobs and pensions. Retrieved May 1, 2017, from https://www.gov.uk/taking-sick-leave

Graham, J. W., Olchowski, A. E., & Gilreath, T. D. (2007). How many imputations are really needed? Some practical clarifications of multiple imputation theory. *Prevention Science*, *8*(3), 206–213.

Grahl, J. (2009). *Global finance and social Europe*. Edward Elgar Publishing.

Green, C. P., & Leeves, G. D. (2013). Job Security, Financial Security and Worker Well-being: New Evidence on the Effects of Flexible Employment. *Scottish Journal of Political Economy*, *60*(2), 121–138.

Greene, J. C., Benjamin, L., & Goodyear, L. (2001). The merits of mixing methods in evaluation. *Evaluation*, *7*(1), 25–44.

Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis*, *11*(3), 255–274.

Greenhalgh, L., & Rosenblatt, Z. (1984). Job insecurity: Toward conceptual clarity. *Academy of Management Review*, *9*(3), 438–448.

Gregorio, J. De, & Lee, J. (2002). Education and income inequality: new evidence from cross-country data. *Review of Income and Wealth*, *48*(3), 395–416.

Groot, W., & De Brink, H. M. V. (2000). Education, training and employability. *Applied Economics*, *32*(5), 573–581.

Gureje, O., Von Korff, M., Simon, G. E., & Gater, R. (1998). Persistent pain and well-being: a World Health Organization study in primary care. *Jama*, *280*(2), 147–151.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). Multivariate data analysis . Uppersaddle River. NJ: Pearson Prentice Hall.

Haley, W. E. (2003). Family caregivers of elderly patients with cancer: understanding and minimizing the burden of care. *J Support Oncol*, *1*(4 Suppl 2), 25–29.

Hall, D. T. (2002). *Careers in and out of organizations* (Vol. 107). Sage.

Hall, D. T., & Mirvis, P. H. (1995). The new career contract: Developing the whole person at midlife and beyond. *Journal of Vocational Behavior*, *47*(3), 269–289.

Hämäläinen, P., Takala, J., & Saarela, K. L. (2007). Global estimates of fatal work-related diseases. *American Journal of Industrial Medicine*, *50*(1), 28–41.

Hammarström, A., Virtanen, P., & Janlert, U. (2010). Are the health consequences

of temporary employment worse among low educated than among high educated? *The European Journal of Public Health*, *21*(6), 756–761.

Hamra, G., MacLehose, R., & Richardson, D. (2013). Markov Chain Monte Carlo: an introduction for epidemiologists. *International Journal of Epidemiology*, *42*(2), 627–634. Retrieved from http://dx.doi.org/10.1093/ije/dyt043

Hank, K., & Erlinghagen, M. (2011). Perceptions of job security in Europe's ageing workforce. *Social Indicators Research*, *103*(3), 427–442.

Hansen, C. D., & Andersen, J. H. (2008). Going ill to work–What personal circumstances, attitudes and work-related factors are associated with sickness presenteeism? *Social Science & Medicine*, *67*(6), 956–964.

Harvey, L. (2001). Defining and measuring employability. *Quality in Higher Education*, *7*(2), 97–109.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Press.

Heaney, C. A., & Israel, B. A. (2008). Social networks and social support. *Health Behavior and Health Education: Theory, Research, and Practice*, *4*, 189–210.

Heck, R. H., & Thomas, S. L. (2015). *An introduction to multilevel modeling techniques: MLM and SEM approaches using Mplus*. Routledge.

Hemp, P. (2004). Presenteeism: at work-but out of it. *Harvard Business Review*, *82*(10), 49–58.

Heponiemi, T., Elovainio, M., Pentti, J., Virtanen, M., Westerlund, H., Virtanen, P., Vahtera, J. (2010). Association of contractual and subjective job insecurity with sickness presenteeism among public sector employees. *Journal of Occupational and Environmental Medicine*, *52*(8), 830–835.

Heraclides, A. M., Chandola, T., Witte, D. R., & Brunner, E. J. (2012). Work stress, obesity and the risk of Type 2 Diabetes: Gender-specific bidirectional effect in the Whitehall II study. *Obesity*, *20*(2), 428–433.

Hewitt, B., Baxter, J., & Western, M. (2006). Family, work and health: the impact of marriage, parenthood and employment on self-reported health of Australian men and women. *Journal of Sociology*, *42*(1), 61–78.

Hilderbrandt, E., Lorentzen, B., & Eberhard, S. (2001). *Towards a Sustainable Worklife: Building Social Capacity - European Approaches*. Berlin.

Hilgert, M. A., Hogarth, J. M., & Beverly, S. G. (2003). Household financial management: The connection between knowledge and behavior. *Fed. Res. Bull.*, *89*, 309.

Hillage, J., & Pollard, E. (1998). *Employability: developing a framework for policy analysis*. DfEE London.

Hoff, L. A. (2014). *Crisis: How to Help Yourself and Others in Distress Or Danger*. Oxford University Press.

Houston, D. M. (2005). Work-life balance in the 21st century. In *Work-life balance in the 21st century* (pp. 1–10). Springer.

Health and Safety Executive (HSE) (2019). Employer's responsibilities. Retrieved January 1, 2017, from http://www.hse.gov.uk/workers/employers.htm

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55.

Hussein, S. (2011). The use of'large scale datasets' in UK social care research.

International Labour Organization (ILO) (2008). Declaration on Social Justice for a Fair Globalization. Geneva.

International Labour Organization (ILO) (2012). *Global employment trends 2012: preventing a deeper job crisis*. Geneva.

Inoue, M., Tsurugano, S., & Yano, E. (2011). Job stress and mental health of permanent and fixed-term workers measured by effort-reward imbalance model, depressive complaints, and clinic utilization. *Journal of Occupational Health*, 1102090169.

International Organization for Standardization (ISO) (1991). Ergonomic principles related to mental work-load – Part 1: General terms and definitions.

International Organization for Standardization (ISO) (1996). Ergonomic principles related to mental work-load - Part 2: Design principles.

International Organization for Standardization (ISO) (2004). Ergonomic principles related to mental work-load – Part 3: Principles and requirements concerning methods for measuring and assessing mental workload.

Jakab, Erno, & Lazar, I. (2007). Workplace psychosomatic damages due to workplace stress between 1995 and 2002 in Hungarian employees according to data from two nationwide representative surveys. *Magyar Pszichologiai Szemle (Hungarian Psychological Review)*, *62*(3), 313–343.

Jakab, Ernő, & Lázár, I. (2007). Munkahelyi pszichoszomatika: Workplace psychosomatic research. *Magyar Pszichológiai Szemle*, *62*(3), 313–343.

Jang, S. J. (2009). The relationships of flexible work schedules, workplace support, supervisory support, work-life balance, and the well-being of working parents. *Journal of Social Service Research*, *35*(2), 93–104.

Jenkins, R., & Coney, N. (1992). *Prevention of Mental Ill Health at Work: A Conference*. HM Stationery Office.

Jeon, Y.-H., Essue, B., Jan, S., Wells, R., & Whitworth, J. A. (2009). Economic

hardship associated with managing chronic illness: a qualitative inquiry. *BMC Health Services Research*, *9*(1), 182.

Johansson, G. (1989). Job demands and stress reactions in repetitive and uneventful monotony at work. *International Journal of Health Services*, *19*(2), 365–377.

Johns, G. (2010). Presenteeism in the workplace: A review and research agenda. *Journal of Organizational Behavior*, *31*(4), 519–542.

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, *33*(7), 14–26.

Johnson, J. V, & Hall, E. M. (1988). Job strain, work place social support, and cardiovascular disease: a cross-sectional study of a random sample of the Swedish working population. *American Journal of Public Health*, *78*(10), 1336–1342.

Johnson, J. V, Hall, E. M., & Theorell, T. (1989). Combined effects of job strain and social isolation on cardiovascular disease morbidity and mortality in a random sample of the Swedish male working population. *Scandinavian Journal of Work, Environment & Health*, 271–279.

Jones, K. (2012). Do multilevel models ever give different results? *Preparation. Available at: Https://Www. Researchgate. Net/Publication/252146040*.

Jørgensen, H. (2000). Danish Labour Market Policy Since 1994: The New Columbus Egg of Labour Market Regulation. In *Preventing Unemployment in Europe: a New Framework for Labour Market Policy*.

Jørgensen, H. (2011). *Danish" flexicurity" in crisis-or just stress-tested by the crisis?* Friedrich-Ebert-Stiftung, International Dialogue.

Jung, M. H., Lee, Y. M., & Arakida, M. (2007). Stress and presenteeism in workers of small and medium enterprises. *Korean Journal of Occupational and Environmental Medicine*, *19*(1), 47–55.

Kahn, J. R., & Pearlin, L. I. (2006). Financial strain over the life course and health among older adults. *Journal of Health and Social Behavior*, *47*(1), 17–31.

Kaleta, D., Polanska, K., Dziankowska-Zaborszczyk, E., Hanke, W., & Drygas, W. (2009). Factors influencing self-perception of health status. *Central European Journal of Public Health*, *17*(3), 122.

Karanikolos, M., Mladovsky, P., Cylus, J., Thomson, S., Basu, S., Stuckler, D., … McKee, M. (2013). Financial crisis, austerity, and health in Europe. *The Lancet*, *381*(9874), 1323–1331.

Karasek Jr, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 285–308.

Kasl, S. V, & Cobb, S. (1970). Blood pressure changes in men undergoing job loss: A preliminary report. *Psychosomatic Medicine*, *32*(1), 19–38.

Kelloway, E. K. (2014). *Using Mplus for Structural Equation Modeling: A Researcher's Guide: A Researcher's Guide*. SAGE Publications.

Kentikelenis, A., Karanikolos, M., Papanicolas, I., Basu, S., McKee, M., & Stuckler, D. (2011). Health effects of financial crisis: omens of a Greek tragedy. *The Lancet*, *378*(9801), 1457–1458.

Kim, B. J., Lee, S., Ryu, W., Kim, C. K., Chung, J., Kim, D., Yoon, B. (2013). Excessive work and risk of haemorrhagic stroke: a nationwide case-control study. *International Journal of Stroke*, *8*(A100), 56–61.

Kinman, G., & Jones, F. (2008). A life beyond work? Job demands, work-life balance, and wellbeing in UK academics. *Journal of Human Behavior in the Social Environment*, *17*(1–2), 41–60.

Kinman, G., Wray, S., & Strange, C. (2011). Emotional labour, burnout and job satisfaction in UK teachers: The role of workplace social support. *Educational Psychology*, *31*(7), 843–856.

Kirves, K., De Cuyper, N., Kinnunen, U., & Nätti, J. (2011). Perceived job insecurity and perceived employability in relation to temporary and permanent workers' psychological symptoms: A two samples study. *International Archives of Occupational and Environmental Health*, *84*(8), 899–909.

Kivimäki, M., Leino-Arjas, P., Luukkonen, R., Riihimäi, H., Vahtera, J., & Kirjonen, J. (2002). Work stress and risk of cardiovascular mortality: prospective cohort study of industrial employees. *Bmj*, *325*(7369), 857.

Kivimäki, M., Nyberg, S. T., Batty, G. D., Fransson, E. I., Heikkilä, K., Alfredsson, L., … Casini, A. (2012). Job strain as a risk factor for coronary heart disease: a collaborative meta-analysis of individual participant data. *The Lancet*, *380*(9852), 1491–1497.

Kline, R. B. (2015). *Principles and practice of structural equation modeling*. Guilford publications.

Kossek, E. E., Pichler, S., Bodner, T., & Hammer, L. B. (2011). Workplace social support and work–family conflict: A meta-analysis clarifying the influence of general and work–family-specific supervisor and organizational support. *Personnel Psychology*, *64*(2), 289–313.

Krantz, D. S. (1980). Cognitive processes and recovery from heart attack: a review and theoretical analysis. *Journal of Human Stress*, *6*(3), 27–38.

Krause, N., Jay, G., & Liang, J. (1991). Financial strain and psychological well-

being among the American and Japanese elderly. *Psychology and Aging*, *6*(2), 170.

Kruppe, T., Rogowski, R., & Schömann, K. (1998). *Labour market efficiency in the European Union: Employment protection and fixed term contracts*. Routledge.

Kugler, A. D., & Saint-Paul, G. (2004). How do firing costs affect worker flows in a world with adverse selection? *Journal of Labor Economics*, *22*(3), 553–584.

Kuper, H., & Marmot, M. (2003). Job strain, job demands, decision latitude, and risk of coronary heart disease within the Whitehall II study. *Journal of Epidemiology & Community Health*, *57*(2), 147–153.

Kysh, L. (2013). Difference between a systematic review and a literature review. In *Medical Library Group of Southern California & Arizona (MLGSCA) and the Northern California and Nevada Medical Library Group (NCNMLG) Joint Meeting*.

La Valle, I. (2002). *Happy families?: Atypical work and its influence on family life*. Policy Press.

Labuschagne, A. (2003). Qualitative research-airy fairy or fundamental? *The Qualitative Report*, *8*(1), 100–103.

Ladipo, D., Mankelow, R., & Burchell, B. (2005). Working like a dog, sick as a dog: Job intensification in the late twentieth century. In *Systems of Production* (pp. 103–117). Routledge.

Landsbergis, P. A. (1988). Occupational stress among health care workers: a test of the job demands-control model. *Journal of Organizational Behavior*, *9*(3), 217–239.

Larson, J. H., Wilson, S. M., & Beley, R. (1994). The impact of job insecurity on marital and family relationships. *Family Relations*, 138–143.

László, K. D., Pikhart, H., Kopp, M. S., Bobak, M., Pajak, A., Malyutina, S., Marmot, M. (2010). Job insecurity and health: A study of 16 European countries. *Social Science & Medicine*, *70*(6), 867–874.

Lazarus, R. S. (2006). *Stress and emotion: A new synthesis*. Springer Publishing Company.

Lazear, E. P. (1990). Job security provisions and employment. *The Quarterly Journal of Economics*, *105*(3), 699–726.

Le Bon, G. (2009). *Psychology of Crowds (annotated)*. Sparkling Books.

LeBreton, J. M., & Senter, J. L. (2008). Answers to 20 questions about interrater reliability and interrater agreement. *Organizational Research Methods*, *11*(4), 815–852.

Lehman, B. J., David, D. M., & Gruber, J. A. (2017). Rethinking the biopsychosocial model of health: Understanding health as a dynamic system. *Social and Personality Psychology Compass*, *11*(8), e12328.

Leka, S. (2003). *Occupational health and safety practices in small and medium sized enterprises: A comparative study between the UK and Greece*. University of Nottingham.

Leka, S., Cox, T., & Zwetsloot, G. (2008). The European framework for psychosocial risk management (PRIMA-EF). *The European Framework for Psychosocial Risk Management: PRIMA-EF, Leka S and Cox T (Eds.)*, 1–16.

Leka, S., Jain, A., Iavicoli, S., & Di Tecco, C. (2015). An evaluation of the policy context on psychosocial risks and mental health in the workplace in the European Union: achievements, challenges, and the future. *BioMed Research International*, *2015*.

Leka, S., Jain, A., & Lerouge, L. (2017). Work-related psychosocial risks: Key definitions and an overview of the policy context in Europe. In *Psychosocial risks in labour and social security law* (pp. 1–12). Springer.

Leka, S., & Kortum, E. (2008). A European framework to address psychosocial hazards. *Journal of Occupational Health*, 804030007.

Levine, D. (2013). *Pathology of the Capitalist Spirit: An Essay on Greed, Loss, and Hope*. Springer.

Lewchuk, W., Clarke, M., & De Wolff, A. (2008). Working without commitments: precarious employment and health. *Work, Employment and Society*, *22*(3), 387–406.

Lewchuk, W., De Wolff, A., King, A., & Polanyi, M. (2003). From job strain to employment strain: Health effects of precarious employment. *Just Labour*.

Lifton, R. J. (1999). *The protean self: Human resilience in an age of fragmentation*. University of Chicago Press.

Lin, E. H. B., Katon, W., Von Korff, M., Rutter, C., Simon, G. E., Oliver, M., Young, B. (2004). Relationship of depression and diabetes self-care, medication adherence, and preventive care. *Diabetes Care*, *27*(9), 2154–2160.

Little, R. J. A. (1992). Regression with missing X's: a review. *Journal of the American Statistical Association*, *87*(420), 1227–1237.

Little, R. J. A., & Rubin, D. B. (2014). *Statistical analysis with missing data*. John Wiley & Sons.

Liukkonen, V., Virtanen, P., Kivimäki, M., Pentti, J., & Vahtera, J. (2004). Social capital in working life and the health of employees. *Social Science & Medicine*, *59*(12), 2447–2458.

Lozano, L. M., García-Cueto, E., & Muñiz, J. (2008). Effect of the number of response categories on the reliability and validity of rating scales. *Methodology*, *4*(2), 73–79.

Lunau, T., Bambra, C., Eikemo, T. A., van Der Wel, K. A., & Dragano, N. (2014). A balancing act? Work–life balance, health and well-being in European welfare states. *The European Journal of Public Health*, *24*(3), 422–427.

MacCallum, R. C., & Austin, J. T. (2000). Applications of structural equation modeling in psychological research. *Annual Review of Psychology*, *51*(1), 201–226.

MacDonald, W. (2003). The impact of job demands and workload on stress and fatigue. *Australian Psychologist*, *38*(2), 102–117.

Mack, N. (2005). Qualitative research methods: A data collector's field guide.

Madipelli, S., Sarma, V. S. V., & Chinnappaiah, Y. (2013). Factors causing work life imbalance among working women-a study on school teachers. *Indian Journal of Industrial Relations*, 621–633.

Madsen, P. K. (2005). *How can it possibly fly?: The paradox of a dynamic labour market in a Scandinavian welfare state*. Center for Arbejdsmarkedsforskning, Carma.

Mansfield, E. R., & Helms, B. P. (1982). Detecting multicollinearity. *The American Statistician*, *36*(3a), 158–160.

Markus, K. A. (2012). Principles and practice of structural equation modeling by Rex B. Kline. *Structural Equation Modeling: A Multidisciplinary Journal*, *19*(3), 509–512.

Marmot, M. (2015). The health gap: the challenge of an unequal world. *The Lancet*, *386*(10011), 2442–2444.

Marmot, M. G., & Bell, R. (2009). How will the financial crisis affect health? *Bmj*, *338*, b1314.

Marmot, M., & Wilkinson, R. (2005). *Social determinants of health*. OUP Oxford.

Maslow, A., & Lewis, K. J. (1987). Maslow's hierarchy of needs. *Salenger Incorporated*, *14*, 987.

McArdle, S., Waters, L., Briscoe, J. P., & Hall, D. T. T. (2007). Employability during unemployment: Adaptability, career identity and human and social capital. *Journal of Vocational Behavior*, *71*(2), 247–264.

McClough, A. C., & Rogelberg, S. G. (2003). Selection in teams: An exploration of the teamwork knowledge, skills, and ability test. *International Journal of Selection and Assessment*, *11*(1), 56–66.

McDonald, R. P., & Ho, M.-H. R. (2002). Principles and practice in reporting

structural equation analyses. *Psychological Methods*, *7*(1), 64.

McDonough, P. (2000). Job insecurity and health. *International Journal of Health Services*, *30*(3), 453–476.

McGuinness, S., & Wooden, M. (2009). Overskilling, job insecurity, and career mobility. *Industrial Relations: A Journal of Economy and Society*, *48*(2), 265–286.

McKee-Ryan, F., Song, Z., Wanberg, C. R., & Kinicki, A. J. (2005). Psychological and physical well-being during unemployment: a meta-analytic study. *Journal of Applied Psychology*, *90*(1), 53.

McLaren, N. (2009). A critical review of the biopsychosocial model. *Australian and New Zealand Journal of Psychiatry*.

McQuaid, R. W., & Lindsay, C. (2005). The concept of employability. *Urban Studies*, *42*(2), 197–219.

Meade, A. W., Johnson, E. C., & Braddy, P. W. (2008). Power and sensitivity of alternative fit indices in tests of measurement invariance. *Journal of Applied Psychology*, *93*(3), 568.

Melamed, S., Shirom, A., Toker, S., Berliner, S., & Shapira, I. (2006). Burnout and risk of cardiovascular disease: Evidence, possible causal paths, and promising research directions. *Psychological Bulletin*, *132*(3), 327.

Merrill, D. M. (1997). *Caring for elderly parents: Juggling work, family, and caregiving in middle and working class families*. Greenwood Publishing Group.

Micco, A., & Pagés, C. (2006). The economic effects of employment protection: Evidence from international industry-level data. IZA Discussion Papers 2433. *Institute for the Study of Labor (IZA)*.

Michie, S. (2002). Causes and management of stress at work. *Occupational and Environmental Medicine*, *59*(1), 67–72.

Mirowsky, J., & Ross, C. E. (2003). *Social causes of psychological distress*. Transaction Publishers.

Mittag, N. (2013). Imputations: Benefits, risks and a method for missing data. *Unpublished Manuscript*.

Morse, J. M., Barrett, M., Mayan, M., Olson, K., & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods*, *1*(2), 13–22.

Munir, F., Randall, R., Yarker, J., & Nielsen, K. (2009). The influence of employer support on employee management of chronic health conditions at work. *Journal of Occupational Rehabilitation*, *19*(4), 333.

Muñoz de Bustillo, R., De Pedraza, P., De Bustillo, R. M., & De Pedraza, P. (2010).

Determinants of job insecurity in five European countries. *European Journal of Industrial Relations*, *16*(1), 5–20.

Muthén, L. K., & Muthén, B. O. (2010). *Mplus user's guide: Statistical analysis with latent variables: User'ss guide*. Muthén & Muthén.

Näswall, K., & De Witte, H. (2003). Who feels insecure in Europe? Predicting job insecurity from background variables. *Economic and Industrial Democracy*, *24*(2), 189–215.

Fusch, P. I., & Ness, L. R. (2015). Are We There Yet? Data Saturation in Qualitative Research. The Qualitative Report, 20(9), 1408-1416. Retrieved from http://nsuworks.nova.edu/tqr/vol20/iss9/3

Nettleton, S., & Burrows, R. (1998). Mortgage debt, insecure home ownership and health: an exploratory analysis. *Sociology of Health & Illness*, *20*(5), 731–753.

Neumark, D. (2000). *Changes in job stability and job security: A collective effort to untangle, reconcile, and interpret the evidence*. National bureau of economic research.

Newman, K. S. (2008). *Laid off, laid low: Political and economic consequences of employment insecurity*. Columbia University Press.

Newsom, J. (2012). Practical approaches to dealing with nonnormal and categorical variables. *Retrieved April*, *8*, 2012.

Nicholson, N., & Johns, G. (1985). The absence culture and psychological contract—who's in control of absence? *Academy of Management Review*, *10*(3), 397–407.

Nollen, S. D. (1996). Negative aspects of temporary employment. *Journal of Labor Research*, *17*(4), 567–582.

Nyberg, S. T., Fransson, E. I., Heikkilä, K., Alfredsson, L., Casini, A., Clays, E., … Ferrie, J. E. (2013). Job strain and cardiovascular disease risk factors: meta-analysis of individual-participant data from 47,000 men and women. *PloS One*, *8*(6), e67323.

O'reilly, M., & Parker, N. (2013). 'Unsatisfactory Saturation': a critical exploration of the notion of saturated sample sizes in qualitative research. *Qualitative Research*, *13*(2), 190–197.

Osborne, J. W. (2015). What is rotating in exploratory factor analysis. *Practical assessment, research & evaluation*, *20*(2), 1-7.

Organisation for Economic Co-operation and Development (OECD) (1999). *Employment outlook. Employment protection and labour market performances*. *Paris: OECD*.

Organisation for Economic Co-operation and Development (OECD) (2009). OECD strategic response to the financial and economic crisis. *Paris: OECD*.

Organisation for Economic Co-operation and Development (OECD) (2013a). *Detailed description of employment protection legislation, 2012-2013*.

Organisation for Economic Co-operation and Development (OECD) (2013b). Employment outlook. Projecting jobs, enhancing flexibility: A new look at employment protection legislation. *Paris: OECD*.

Organisation for Economic Co-operation and Development (OECD) (2018). OECD Labour Force Statistics 2018. *OECD Publishing Paris*. https://doi.org/https://doi.org/10.1787/oecd_lfs-2018-en.

Organisation for Economic Co-operation and Development (OECD) (2019). OECD Indicators of Employment Protection. Retrieved January 15, 2014, from http://www.oecd.org/els/emp/oecdindicatorsofemploymentprotection.htm

Onwuegbuzie, A. J., & Collins, K. M. T. (2007). A typology of mixed methods sampling designs in social science research. *The Qualitative Report*, *12*(2), 281–316.

Onwuegbuzie, A. J., & Leech, N. L. (2006). Linking research questions to mixed methods data analysis procedures 1. *The Qualitative Report*, *11*(3), 474–498.

OPEKA.GR (2019). People with disabilities: Legislation. Retrieved June 7, 2019, from https://opeka.gr/atoma-me-anapiria/nomothetiko-plaisio/

Origo, F., & Pagani, L. (2009). Flexicurity and job satisfaction in Europe: The importance of perceived and actual job stability for well-being at work. *Labour Economics*, *16*(5), 547–555.

Origo, F., & Pagani, L. (2012). Flexicurity and Workers' Well-Being in Europe: Is Temporary Employment Always Bad? In *Quality of life in Italy* (pp. 243–261). Springer.

Osborne, J. W. (2013). *Best practices in data cleaning: A complete guide to everything you need to do before and after collecting your data*. Sage.

Osborne, J. W. (2015). What is rotating in exploratory factor analysis. *Practical Assessment, Research & Evaluation*, *20*(2), 1–7.

Otterbach, S., & Sousa-Poza, A. (2016). Job insecurity, employability and health: an analysis for Germany across generations. *Applied Economics*, *48*(14), 1303–1316.

Page, A., Lane, A., Taylor, R., & Dobson, A. (2012). Trends in socioeconomic inequalities in mortality from ischaemic heart disease and stroke in Australia, 1979–2006. *European Journal of Preventive Cardiology*, *19*(6), 1281–1289.

Pallant, J. (2013). *SPSS survival manual*. McGraw-Hill Education (UK).

Peiperl, M., & Baruch, Y. (1997). Back to square zero: The post-corporate career. *Organizational Dynamics*, *25*(4), 7–22.

Pichler, F. (2009). Determinants of work-life balance: Shortcomings in the contemporary measurement of WLB in large-scale surveys. *Social Indicators Research*, *92*(3), 449.

Pissarides, C. A. (2001). Employment protection. *Labour Economics*, *8*(2), 131–159.

Price, R. H., Choi, J. N., & Vinokur, A. D. (2002). Links in the chain of adversity following job loss: how financial strain and loss of personal control lead to depression, impaired functioning, and poor health. *Journal of Occupational Health Psychology*, *7*(4), 302.

Prince, M., Patel, V., Saxena, S., Maj, M., Maselko, J., Phillips, M. R., & Rahman, A. (2007). No health without mental health. *The Lancet*, *370*(9590), 859–877.

Probst, T. M. (2008). Job insecurity. *Handbook of Organizational Behavior*, 178–195.

Probst, T. M., & Brubaker, T. L. (2001). The effects of job insecurity on employee safety outcomes: Cross-sectional and longitudinal explorations. *Journal of Occupational Health Psychology*, *6*(2), 139.

Rajani, N. B., Giannakopoulos, G., & Filippidis, F. T. (2016). Job insecurity, financial difficulties and mental health in Europe. *Occupational Medicine*, *66*(8), 681–683.

Randzio-Plath (ed.), C. (2001). *Globalisation of Financial Markets and Financial Stability: Challenges for Europe*. Baden-Baden: Nomos Verlagsgesellschaft.

Reinartz, W., Haenlein, M., & Henseler, J. (2009). An empirical comparison of the efficacy of covariance-based and variance-based SEM. *International Journal of Research in Marketing*, *26*(4), 332–344.

Resnick, H. E., & Howard, B. V. (2002). Diabetes and cardiovascular disease. *Annual Review of Medicine*, *53*(1), 245–267.

Rhemtulla, M., Brosseau-Liard, P. É., & Savalei, V. (2012). When can categorical variables be treated as continuous? A comparison of robust continuous and categorical SEM estimation methods under suboptimal conditions. *Psychological Methods*, *17*(3), 354.

Richter, A. (2011). Job insecurity and its consequences: Investigating moderators, mediators and gender. Department of Psychology, Stockholm University.

Riesenhuber, K. (2012). *European employment law: a systematic exposition*. Intersentia.

Rodgers, G. (1989). Precarious work in Western Europe: The state of the debate. *Precarious Jobs in Labour Market Regulation: The Growth of Atypical Employment in Western Europe*, *3*.

Ross, C. E., & Mirowsky, J. (1992). Households, employment, and the sense of control. *Social Psychology Quarterly*, 217–235.

Ross, C. E., & Reskin, B. F. (1992). Education, control at work, and job satisfaction. *Social Science Research*, *21*(2), 134–148.

Rugulies, R., Christensen, K. B., Borritz, M., Villadsen, E., Bültmann, U., & Kristensen, T. S. (2007). The contribution of the psychosocial work environment to sickness absence in human service workers: Results of a 3-year follow-up study. *Work & Stress*, *21*(4), 293–311.

Sale, J. E. M., Lohfeld, L. H., & Brazil, K. (2002). Revisiting the quantitative-qualitative debate: Implications for mixed-methods research. *Quality and Quantity*, *36*(1), 43–53.

Sanders, J., & De Grip, A. (2004). Training, task flexibility and the employability of low-skilled workers. *International Journal of Manpower*, *25*(1), 73–89.

Sanderson, K., & Cocker, F. (2013). Presenteeism: Implications and health risks. *Australian Family Physician*, *42*(4), 172.

Santrock, J. W., & Santrock, J. W. (2008). *Life span development: A topical approach to*. McGraw-Hill.

Sarafino, E. P., & Smith, T. W. (2014). *Health psychology: Biopsychosocial interactions*. John Wiley & Sons.

Satorra, A., & Muthen, B. (1995). Complex sample data in structural equation modeling. *Sociological Methodology*, *25*(1), 267–316.

Saunders, M. N. K. (2011). *Research methods for business students, 5/e*. Pearson Education India.

Sayegh, L., Anthony, W. P., & Perrewé, P. L. (2004). Managerial decision-making under crisis: The role of emotion in an intuitive decision process. *Human Resource Management Review*, *14*(2), 179–199.

Schabracq, M., Winnubst, J. A. M., & Cooper, C. L. (2003). *The handbook of work and health psychology*. Wiley Online Library.

Schaubroeck, J., Jones, J. R., & Xie, J. L. (2001). Individual differences in utilizing control to cope with job demands: effects on susceptibility to infectious disease. *Journal of Applied Psychology*, *86*(2), 265.

Schaubroeck, J., & Merritt, D. E. (1997). Divergent effects of job control on coping with work stressors: The key role of self-efficacy. *Academy of Management Journal*, *40*(3), 738–754.

Schaufeli, W. B., Leiter, M. P., & Maslach, C. (2009). Burnout: 35 years of research and practice. *Career Development International*, *14*(3), 204–220.

Schnall, P. L., Dobson, M., Rosskam, E., & Elling, R. H. (2018). *Unhealthy work: Causes, consequences, cures*. Routledge.

Schnall, P. L., Landsbergis, P. A., & Baker, D. (1994). Job strain and cardiovascular disease. *Annual Review of Public Health*, *15*(1), 381–411.

Schreuder, K. J., Roelen, C. A. M., Koopmans, P. C., & Groothoff, J. W. (2008). Job demands and health complaints in white and blue collar workers. *Work*, *31*(4), 425–432.

Schreurs, B. H. J., Hetty van Emmerik, I. J., Günter, H., & Germeys, F. (2012). A weekly diary study on the buffering role of social support in the relationship between job insecurity and employee performance. *Human Resource Management*, *51*(2), 259–279.

Schreurs, B., Van Emmerik, H., Notelaers, G., & De Witte, H. (2010). Job insecurity and employee health: The buffering potential of job control and job self-efficacy. *Work & Stress*, *24*(1), 56–72.

Schultz, A. B., Chen, C.-Y., & Edington, D. W. (2009). The cost and impact of health conditions on presenteeism to employers. *Pharmacoeconomics*, *27*(5), 365–378.

Schumpeter, J. A. (1976). *Capitalism, Socialism, and Democracy* (5th ed.). London: Routledge.

Schwarzer, R., & Leppin, A. (1991). Social support and health: A theoretical and empirical overview. *Journal of Social and Personal Relationships*, *8*(1), 99–127.

Selye, H. (1976). Stress without distress. In *Psychopathology of human adaptation* (pp. 137–146). Springer.

Selye, H. (2013). *Stress in health and disease*. Butterworth-Heinemann.

Sharma, M., & Majumdar, P. K. (2009). Occupational lifestyle diseases: An emerging issue. *Indian Journal of Occupational and Environmental Medicine*, *13*(3), 109.

Silla, I., De Cuyper, N., Gracia, F. J., Peiró, J. M., & De Witte, H. (2009). Job insecurity and well-being: Moderation by employability. *Journal of Happiness Studies*, *10*(6), 739–751.

Simou, E., & Koutsogeorgou, E. (2014). Effects of the economic crisis on health and healthcare in Greece in the literature from 2009 to 2013: a systematic review. *Health Policy*, *115*(2–3), 111–119.

Singleton, J. (2000). Women caring for elderly family members: Shaping non-

traditional work and family initiatives. *Journal of Comparative Family Studies*, 367–375.

Sinharay, S., Stern, H. S., & Russell, D. (2001). The use of multiple imputation for the analysis of missing data. *Psychological Methods*, *6*(4), 317.

Sivris, K. C., & Leka, S. (2015). Examples of holistic good practices in promoting and protecting mental health in the workplace: current and future challenges. *Safety and Health at Work*, *6*(4), 295–304.

Skagen, K., & Collins, A. M. (2016). The consequences of sickness presenteeism on health and wellbeing over time: a systematic review. *Social Science & Medicine*, *161*, 169–177.

Skorstad, E. J., & Ramsdal, H. (2009). Flexible organizations and the new working life. *A European Perspective. Farnham/Burlington*.

Slevin, M. L., Nichols, S. E., Downer, S. M., Wilson, P., Lister, T. A., Arnott, S., Goldstone, A. H. (1996). Emotional support for cancer patients: what do patients really want? *British Journal of Cancer*, *74*(8), 1275.

Slopen, N., Glynn, R. J., Buring, J. E., Lewis, T. T., Williams, D. R., & Albert, M. A. (2012). Job strain, job insecurity, and incident cardiovascular disease in the Women's Health Study: results from a 10-year prospective study. *PLoS One*, *7*(7), e40512.

Smart Richman, L., & Leary, M. R. (2009). Reactions to discrimination, stigmatization, ostracism, and other forms of interpersonal rejection: a multimotive model. *Psychological Review*, *116*(2), 365.

Spector, P. E., & Brannick, M. T. (2011). Methodological urban legends: The misuse of statistical control variables. *Organizational Research Methods*, *14*(2), 287–305.

Spicer, J. (1987). *The EAP solution: Current trends & future issues*. Hazelden.

Spruill, T. M. (2010). Chronic psychosocial stress and hypertension. *Current Hypertension Reports*, *12*(1), 10–16.

Stafford, M., Mein, G., Marmot, M., Head, J., Harris, M., Ferrie, J., … Bell, R. (2004). Work, stress and health: The Whitehall II study.

Stansfeld, S., & Candy, B. (2006). Psychosocial work environment and mental health--a meta-analytic review.

Staufenbiel, T., & König, C. J. (2010). A model for the effects of job insecurity on performance, turnover intention, and absenteeism. *Journal of Occupational and Organizational Psychology*, *83*(1), 101–117.

Steptoe, A., & Brydon, L. (2009). Emotional triggering of cardiac events. *Neuroscience & Biobehavioral Reviews*, *33*(2), 63–70.

Steptoe, A., & Kivimäki, M. (2012). Stress and cardiovascular disease. *Nature Reviews Cardiology*, *9*(6), 360.

Sterne, J. A. C., White, I. R., Carlin, J. B., Spratt, M., Royston, P., Kenward, M. G., … Carpenter, J. R. (2009). Multiple imputation for missing data in epidemiological and clinical research: potential and pitfalls. *Bmj*, *338*, b2393.

Stone, R. I., & Short, P. F. (1990). The competing demands of employment and informal caregiving to disabled elders. *Medical Care*, 513–526.

Strauss, K., & Fudge, J. (2013). Temporary work, agencies and unfree labour: Insecurity in the new world of work. In *Temporary Work, Agencies and Unfree Labour* (pp. 17–41). Routledge.

Strike, P. C., & Steptoe, A. (2004). Psychosocial factors in the development of coronary artery disease. *Progress in Cardiovascular Diseases*, *46*(4), 337–347.

Stuart, E. A., Azur, M., Frangakis, C., & Leaf, P. (2009). Multiple imputation with large data sets: a case study of the Children's Mental Health Initiative. *American journal of epidemiology*, *169*(9), 1133-1139.

Stuart, H. (2004). Stigma and work. *Healthcare Papers*, *5*(2), 100–111.

Stuckler, D., Basu, S., Suhrcke, M., Coutts, A., & McKee, M. (2009). The public health effect of economic crises and alternative policy responses in Europe: an empirical analysis. *The Lancet*, *374*(9686), 315–323.

Stuckler, D., Basu, S., Suhrcke, M., Coutts, A., & McKee, M. (2011). Effects of the 2008 recession on health: a first look at European data. *The Lancet*, *378*(9786), 124–125.

Stuff, J. E., Casey, P. H., Szeto, K. L., Gossett, J. M., Robbins, J. M., Simpson, P. M., Bogle, M. L. (2004). Household food insecurity is associated with adult health status. *The Journal of Nutrition*, *134*(9), 2330–2335.

Suikkanen, A., & Viinamäki, L. (1999). New dimensions of labour market citizenship. *WHO Regional Publications European Series*, 31–58.

Sullivan, G. M., & Artino Jr, A. R. (2013). Analyzing and interpreting data from Likert-type scales. *Journal of Graduate Medical Education*, *5*(4), 541–542.

Sun, W. (2017). Application of Markov Chain Monte-Carlo Multiple Imputation Method to Deal with Missing Data from the Mechanism of MNAR in Sensitivity Analysis for a Longitudinal Clinical Trial. In *Monte-Carlo Simulation-Based Statistical Modeling* (pp. 233–252). Springer.

Szanton, S. L., Thorpe, R. J., & Whitfield, K. (2010). Life-course financial strain and health in African–Americans. *Social Science & Medicine*, *71*(2), 259–265.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics*. Allyn &

Bacon/Pearson Education.

Takala, J., Hämäläinen, P., Saarela, K. L., Yun, L. Y., Manickam, K., Jin, T. W., Lim, S. (2014). Global estimates of the burden of injury and illness at work in 2012. *Journal of Occupational and Environmental Hygiene*, *11*(5), 326–337.

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, *2*, 53.

Taylor, S. E. (2011). Social support: A review. *The Handbook of Health Psychology*, *189*, 214.

Tennant, C. (2001). Work-related stress and depressive disorders. *Journal of Psychosomatic Research*, *51*(5), 697–704.

Thabane, L., Mbuagbaw, L., Zhang, S., Samaan, Z., Marcucci, M., Ye, C., Kosa, D. (2013). A tutorial on sensitivity analyses in clinical trials: the what, why, when and how. *BMC Medical Research Methodology*, *13*(1), 92.

Theorell, T., & Karasek, R. A. (1996). Current issues relating to psychosocial job strain and cardiovascular disease research. *Journal of Occupational Health Psychology*, *1*(1), 9.

Thoits, P. A. (1995). Stress, coping, and social support processes: Where are we? What next? *Journal of Health and Social Behavior*, 53–79.

Thoits, P. A. (2010). Stress and health: Major findings and policy implications. *Journal of Health and Social Behavior*, *51*(1_suppl), S41–S53.

Thomas, P. D., Goodwin, J. M., & Goodwin, J. S. (1985). Effect of Social Support on Stress-Related Changes. *Am J Psychiatry*, *142*, 735–737.

Thompson, C. A., & Prottas, D. J. (2006). Relationships among organizational family support, job autonomy, perceived control, and employee well-being. *Journal of Occupational Health Psychology*, *11*(1), 100.

Tokar Asaad, C. (2015). Financial literacy and financial behavior: Assessing knowledge and confidence. *Financial Services Review*, *24*(2).

Tomarken, A. J., & Waller, N. G. (2005). Structural equation modeling: Strengths, limitations, and misconceptions. *Annu. Rev. Clin. Psychol.*, *1*, 31–65.

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, *19*(6), 349–357.

Toppinen-Tanner, S., Ahola, K., Koskinen, A., & Väänänen, A. (2009). Burnout predicts hospitalization for mental and cardiovascular disorders: 10-year prospective results from industrial sector. *Stress and Health: Journal of the International Society for the Investigation of Stress*, *25*(4), 287–296.

Townsend, N, Wickramasinghe, K., Bhatnagar, P., Smolina, K., Nichols, M., Leal, J., Rayner, M. (2012). Coronary heart disease statistics: A compendium of health statistics. *Coronary Heart Disease 2012 Edition*, 210. https://doi.org/978-1-899088-12-6

Townsend, Nick, Wickramasinghe, K., Bhatnagar, P., Smolina, K., Nichols, M., Leal, J., … Rayner, M. (2012). Coronary heart disease statistics 2012.

Tracy, S. J. (2010). Qualitative quality: Eight "big-tent" criteria for excellent qualitative research. *Qualitative Inquiry*, *16*(10), 837–851.

Tsutsumi, A., Kayaba, K., & Ishikawa, S. (2011). Impact of occupational stress on stroke across occupational classes and genders. *Social Science & Medicine*, *72*(10), 1652–1658.

Turner, C. (2013). *Unlocking employment law*. Routledge.

Uchino, B. N. (2006). Social support and health: a review of physiological processes potentially underlying links to disease outcomes. *Journal of Behavioral Medicine*, *29*(4), 377–387.

Umberson, D., Pudrovska, T., & Reczek, C. (2010). Parenthood, childlessness, and well-being: A life course perspective. *Journal of Marriage and Family*, *72*(3), 612–629.

Underhill, E., & Quinlan, M. (2011). Beyond statutory enforcement—alternative approaches to improving OSH in the temporary agency sector. *Policy and Practice in Health and Safety*, *9*(2), 109–131.

Uutela, A. (2010). Economic crisis and mental health. *Current Opinion in Psychiatry*, *23*(2), 127–130.

Van der Doef, M., & Maes, S. (1998). The job demand-control (-support) model and physical health outcomes: A review of the strain and buffer hypotheses. *Psychology and Health*, *13*(5), 909–936.

Van der Doef, M., & Maes, S. (1999). The job demand-control (-support) model and psychological well-being: a review of 20 years of empirical research. *Work & Stress*, *13*(2), 87–114.

Van Yperen, N. W., & Hagedoorn, M. (2003). Do high job demands increase intrinsic motivation or fatigue or both? The role of job control and job social support. *Academy of Management Journal*, *46*(3), 339–348.

Vandoros, S., Hessel, P., Leone, T., & Avendano, M. (2013). Have health trends worsened in Greece as a result of the financial crisis? A quasi-experimental approach. *The European Journal of Public Health*, *23*(5), 727-731.

Ventegodt, S., Merrick, J., & Andersen, N. J. (2003). Quality of life theory III. Maslow revisited. *The Scientific World Journal*, *3*, 1050–1057.

Viebrock, E., & Clasen, J. (2009a). Flexicurity: A State-of-the-Art Review. *REC-WP Working Papers on the Reconciliation of Work and Welfare in Europe*, (01–2009).

Viebrock, E., & Clasen, J. (2009b). Flexicurity and welfare reform: a review. *Socio-Economic Review*, *7*(2), 305–331.

Virtanen, M., Kivimäki, M., Joensuu, M., Virtanen, P., Elovainio, M., & Vahtera, J. (2005). Temporary employment and health: a review. *International Journal of Epidemiology*, *34*(3), 610–622.

Virtanen, M., Nyberg, S. T., Batty, G. D., Jokela, M., Heikkilä, K., Fransson, E. I., … Burr, H. (2013). Perceived job insecurity as a risk factor for incident coronary heart disease: systematic review and meta-analysis.

Virtanen, P., Janlert, U., & Hammarström, A. (2011). Exposure to temporary employment and job insecurity: a longitudinal study of the health effects. *Occupational and Environmental Medicine*, *68*(8), 570–574.

Viswesvaran, C., Sanchez, J. I., & Fisher, J. (1999). The role of social support in the process of work stress: A meta-analysis. *Journal of Vocational Behavior*, *54*(2), 314–334.

Von Hippel, C., Mangum, S. L., Greenberger, D. B., Heneman, R. L., & Skoglind, J. D. (1997). Temporary employment: Can organizations and employees both win? *Academy of Management Perspectives*, *11*(1), 93–104.

Vosko, L. F. (2006). *Precarious employment: Understanding labour market insecurity in Canada*. McGill-Queen's University Press Montreal.

Vosko, L. F. (2010). *Managing the margins: Gender, citizenship, and the international regulation of precarious employment*. Oxford University Press.

Voydanoff, P. (2005). Work demands and work-to-family and family-to-work conflict: Direct and indirect relationships. *Journal of Family Issues*, *26*(6), 707–726.

Waenerlund, A.-K., Virtanen, P., & Hammarström, A. (2011). Is temporary employment related to health status? Analysis of the Northern Swedish Cohort. *Scandinavian Journal of Public Health*, *39*(5), 533–539.

Waltz, P. R., Santuzzi, A. M., & Finkelstein, L. M. (2013). Focusing on employability through the lens of stigma. *Industrial and Organizational Psychology*, *6*(1), 28–31.

Walwei, U. (2002). Are part-time jobs better than no jobs? In *Part-Time Prospects* (pp. 114–133). Routledge.

Warren, J. A., & Johnson, P. J. (1995). The impact of workplace support on work-family role strain. *Family Relations*, 163–169.

Weidner, G. (2000). Why do men get more heart disease than women? An international perspective. *Journal of American College Health*, *48*(6), 291–294.

Welch, G. L. (2004). Job Insecurity and Fatherhood: Health, Anger, and Job Security Satisfaction Outcomes for Parenting and Non-parenting Men. Oklahoma State University.

Westman, M., Etzion, D., & Danon, E. (2001). Job insecurity and crossover of burnout in married couples. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, *22*(5), 467–481.

Wilkins, E., Wilson, L., Wickramasinghe, K., Bhatnagar, P., Leal, J., Luengo-Fernandez, R., Townsend, N. (2017). European cardiovascular disease statistics 2017.

Wilkinson, R. G., & Marmot, M. (2003). *Social determinants of health: the solid facts*. World Health Organization.

Wilthagen, T., & Tros, F. (2004). The concept of 'flexicurity': a new approach to regulating employment and labour markets. *Transfer: European Review of Labour and Research*, *10*(2), 166–186.

Winefield, A. H., Winefield, H. R., Tiggemann, M., & Goldney, R. D. (1991). A longitudinal study of the psychological effects of unemployment and unsatisfactory employment on young adults. *Journal of Applied Psychology*, *76*(3), 424.

Witte, H. De. (1999). Job insecurity and psychological well-being: Review of the literature and exploration of some unresolved issues. *European Journal of Work and Organizational Psychology*, *8*(2), 155–177.

Wittekind, A., Raeder, S., & Grote, G. (2010). A longitudinal study of determinants of perceived employability. *Journal of Organizational Behavior*, *31*(4), 566–586.

Wolf, D. A., Freedman, V. A., & Soldo, B. J. (1997). The division of family labor: Care for elderly parents. *Journals of Gerontology Series B*, *52*, 102–109.

Wong, N. D. (2014). Epidemiological studies of CHD and the evolution of preventive cardiology. *Nature Reviews Cardiology*, *11*(5), 276.

World Health Organization. (2004). *The global burden of disease*. Geneva.

World Health Organization. (2010). *Global status report on noncommunicable diseases 2010*. Geneva.

World Health Organization. (2011). *Non-communicable diseases: Country profiles 2011*. Geneva.

Yamashita, M., & Arakida, M. (2006). Concept analysis of presenteeism and its possible applications in Japanese occupational health. *Sangyo Eiseigaku Zasshi= Journal of Occupational Health*, *48*(6), 201–213.

Yang, T., Zhu, M., & Xie, X. (2015). The determinants of presenteeism: a comprehensive investigation of stress-related factors at work, health, and individual factors among the aging workforce. *Journal of Occupational Health*, 15–114.

Yeh, Y. Y., Ko, J. R., Chang, Y., & Chen, C. V. (2007). Job stress and work attitudes between temporary and permanently employed nurses. *Stress and Health: Journal of the International Society for the Investigation of Stress*, *23*(2), 111–120.

YPAKP.GR (2019). Work-related issues. Retrieved May 1, 2017, from http://www.ypakp.gr/index.php?ID=NiXrM5HdeBBdm6IL

Yusuf, S., Reddy, S., Ôunpuu, S., & Anand, S. (2001). Global burden of cardiovascular diseases: part I: general considerations, the epidemiologic transition, risk factors, and impact of urbanization. *Circulation*, *104*(22), 2746–2753.

Zavras, D., Tsiantou, V., Pavi, E., Mylona, K., & Kyriopoulos, J. (2012). Impact of economic crisis and other demographic and socio-economic factors on self-rated health in Greece. *The European Journal of Public Health*, *23*(2), 206–210.

Zeytinoglu, I., Denton, M., Davies, S., Baumann, A., Blythe, J., & Boos, L. (2007). Associations between work intensification, stress and job satisfaction: The case of nurses in Ontario. *Relations Industrielles/Industrial Relations*, *62*(2), 201–225.

Appendix

Appendix A: Quantitative Study

A1. Letter of approval from the University of Nottingham

21st May 2014

Dear Kalliopi,

Ethics Reference No: P08052014 Occupation SoM PAPsych

Study Title: Job insecurity in Europe and its impact on health: A focus on cardiovascular disease.

Chief Investigator/Supervisor: Dr Stavroula Leka, Associate Professor, Centre for Organizational Health and Development, Division of Psychiatry & Applied Psychology, School of Medicine

Lead Investigator/Student: Kalliopi Sivri, PhD Student Occupational Psychology, Division of Psychiatry and Applied Psychology, School of Medicine

Duration of Study: 05/2014-05/2015
No of Subjects: n/a dataset study

Thank you for your recent application dated 15th May 2014 for a study involving secondary analysis of Eurofound's dataset on Working Conditions and the following documents were received:

Job insecurity and cardiovascular disease in Europe:

- Research Ethics Checklist dated 15/05/2014
- Research Proposal version 1.0, 15/05/2014

These have been reviewed and are satisfactory and the study is approved.

Please can you submit a copy of the letter of permission from Eurofound when this is available for our files please.

Approval is given on the understanding that the Conditions of Approval set out below are followed.

1. You must follow the protocol agreed and inform the Committee of any changes using a notification of amendment form (please request a form).

2. You must notify the Chair of any serious or unexpected event.

3. This study is approved for the period of active recruitment requested. The Committee also provides a further 5-year approval for any necessary work to be performed on the study

which may arise in the process of publication and peer review.

4. An End of Project Progress Report is completed and returned when the study has finished (Please request a form).

Yours sincerely,

Dr Clodagh Dugdale
Chair, Faculty of Medicine & Health Sciences Research Ethics Committee

A2. Proposed model with detailed hypotheses on mediation, covariates and other interactions

The following hypotheses are the extended version of the primary and secondary hypotheses presented in the thesis.

Primary Hypotheses (H1-H2):

H1. Job insecurity will mediate the relationship between:

Job demands-control-support and:

a) health-related outcomes (health status, wellbeing, work-life balance, presenteeism as a health-risk behaviour, work-related stress);

b) financial security/confidence;

c) employability;

d) responsibility to dependents (children and elderly/disabled relatives).

Employability and:

e) health-related outcomes (health status, wellbeing, work-life balance, presenteeism as a health-risk behaviour, work-related stress.

H2. Financial security/confidence and responsibility for dependents (caring for children and elderly/disabled relatives) will mediate the relationship between:

a) job insecurity and health-related outcomes (health status, wellbeing, work-life balance, presenteeism as a health-risk behaviour, work-related stress);

b) JDCS and health-related outcomes (health status, wellbeing, work-life balance, presenteeism as a health-risk behaviour, work-related stress).

Secondary Hypotheses (H3-H5):

H3. a) Health status, work-life balance, presenteeism and work-related stress will predict wellbeing.

b) Work-life balance, presenteeism and work-related stress will predict health status.

c) Presenteeism and work-related stress will predict work-life balance.

d) Health status and work-related stress will predict presenteeism.

H4. Employees, who feel supported at work will experience:

a) an increased sense of job control;

b) lower levels of job demands;

&

c) job control will mediate the relationship between support and job demands.

H5. Covariates: Education and years of experience will positively affect:

a) job insecurity;

b) job control;

c) employability;

d) financial security/confidence.

Type of contract will predict:

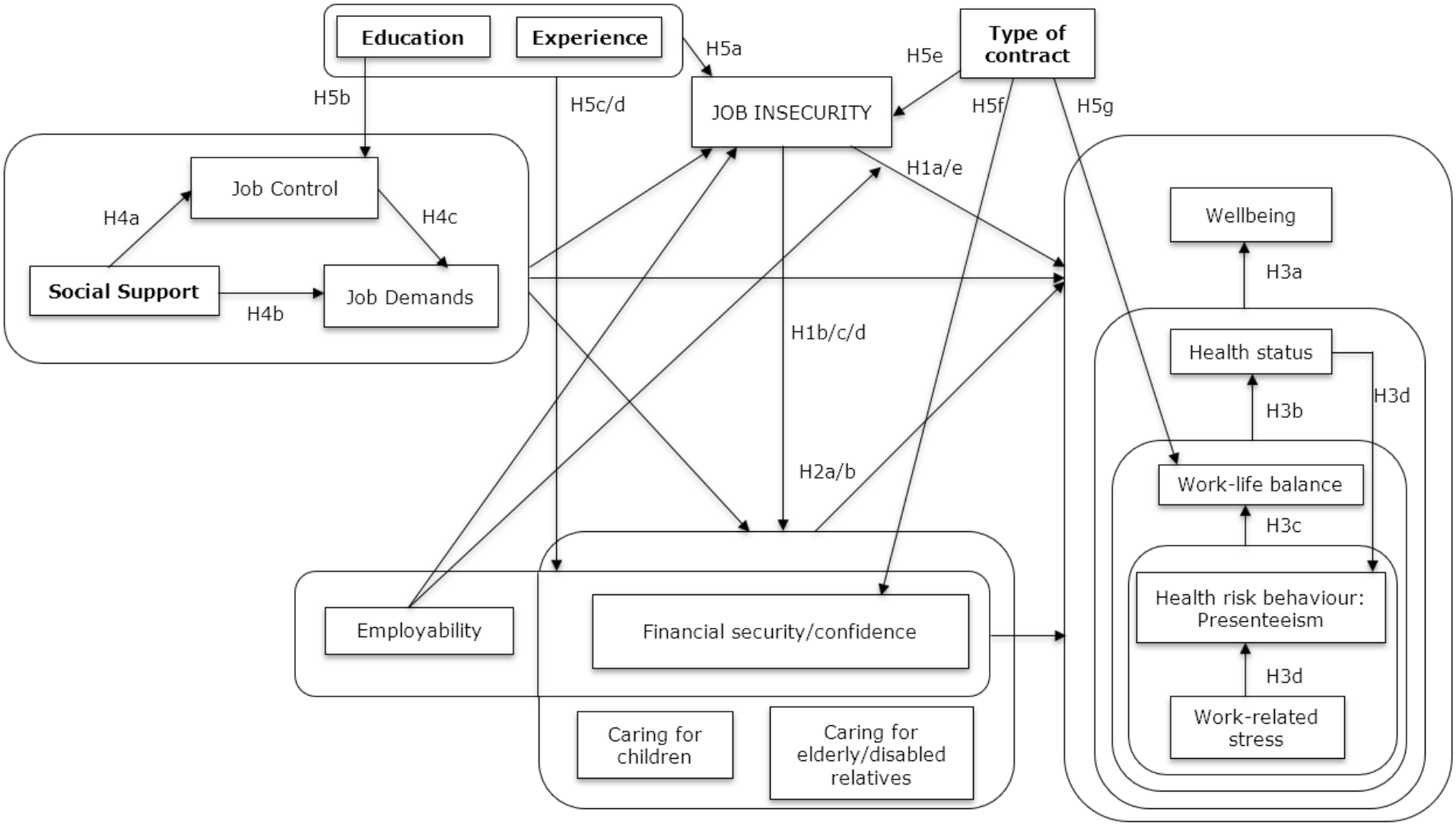
e) job insecurity;

f) financial security/confidence;

g) work-life balance.

The proposed model based on the detailed hypotheses is below (Figure A2).

Figure A2: Proposed Multi-mediational model controlled for country, sector, gender and age differences (IVs are highlighted in bold)



A3. SPSS: Statistical preparation to mediation and moderation analysis

A3.1. Hierarchical multiple regressions: Secondary checks

The hierarchical multiple regression for financial security/confidence (FS, DV) revealed that at step one, all control variables contributed to the regression model, F (4, 1185) =8.925, p<.001, and accounted for 2.9% of the variation in FS. At step two, job insecurity, job demands, job control and workplace social support significantly contributed to the regression model and accounted for another 13.5% of the variation in FS, F (8, 1185) =28.932, p<.001. The Durbin-Watson test yielded an acceptable value of 1.950.

Table A3.1.1 Summary of hierarchical regression analysis for variables predicting financial security/confidence

Variable	**Unstandardised coefficient**		**Standardised coefficient**	**R**	**R²**	**ΔR²**
	B	**SE B**	**β**			
Step 1				.171	.029	.029
Country	-.018	.005	-.106***			
Sector	-.152	.057	-.078**			
Sex	.294	.077	.111***			
Age	-.059	.038	-.045			
Step 2				.405	.164	.135
Country	-.015	.004	-.092**			
Sector	-.028	.053	-.014			
Sex	.205	.072	.077**			
Age	-.015	.036	-.011			
Job insecurity	.239	.028	.240***			
Job demands	-.128	.037	-.096**			
Job control	.208	.041	.155***			
Social support at work	.090	.040	.068*			

N = 1185; *p < .05, **p < .01, ***p< .001

The hierarchical multiple regression for employability (E, DV) revealed that at step one, only sex and age contributed to the regression model, F (4, 1223) =16.240, p<.001, and accounted for 5% of the variation in E. At step two, job control contributed to the regression model and accounted for another 1.4% of the variation in E, F (6, 1221) =14.108, p<.001. The Durbin-Watson test yielded an acceptable value of 1.983.

Table A3.1.2. Summary of hierarchical regression analysis for variables predicting employability

Variable	**Unstandardised coefficient**		**Standardised coefficient**	**R**	**R²**	**ΔR²**
	B	**SE B**	**β**			
Step 1				.225	.050	.050
Country	.000	.004	.002			
Sector	-.049	.052	-.027			
Sex	-.161	.070	-.065*			
Age	-.261	.035	-.210***			
Step 2				.255	.060	.014
Country	.000	.004	.000			
Sector	-.079	.052	-.043			
Sex	-.139	.070	-.056*			
Age	-.261	.035	-.210***			
Job control	-.132	.040	-.105**			
Social support at work	-.034	.038	-.028			

N = 1223; *p < .05, **p < .01, ***p< .001

Responsibility to dependents included caring for children and caring for elderly/disabled relatives. The hierarchical multiple regression for caring for children (CHI, DV) revealed that at step one, only sex and age contributed to the regression model, F (4, 1157) =14.104, p<.001, and accounted for 4.7% of the variation in CHI. At step two, job insecurity contributed to the regression model and accounted for another .7% of the variation in CHI, F (6, 1157) =10.903, p<.001. The Durbin-Watson test yielded an acceptable value of 2.063.

Caring for elderly/disabled relatives (ELD) was not checked at this stage because it was correlated only with CHI and years of working experience (XP). A secondary check on the interaction of ELD with XP and CHI was run on Mplus and presented later in the structural equation modelling.

Table A3.1.3. Summary of hierarchical regression analysis for variables predicting caring for children

Variable	**Unstandardised coefficient**		**Standardised coefficient**	**R**	**R²**	**ΔR²**
	B	**SE B**	**β**			
Step 1				.216	.047	.047
Country	.004	.008	.014			
Sector	-.149	.090	-.048			

Sex	-.307	.124	-.072*			
Age	.431	.124	.197***			
Step 2				.232	.054	.007
Country	.005	.008	.020			
Sector	-.104	.091	-.033			
Sex	-.336	.124	-.079**			
Age	.441	.063	202***			
Job insecurity	.095	.047	.059*			
Job control	.111	.063	.052			

N = 1157; *p < .05, **p < .01, ***p< .001

The hierarchical multiple regression for job demands (JD, DV) revealed that at step one, only sector and age contributed to the regression model, F (4, 1375) =19.383, p<.001, and accounted for 5.4% of the variation in JD. At step two, workplace social support contributed to the regression model and accounted for another 2.2% of the variation in JD, F (5, 1375) =22.474, p<.001. The Durbin-Watson test yielded an acceptable value of 2.012.

Table A3.1.4. Summary of hierarchical regression analysis for variables predicting job demands

Variable	**Unstandardised coefficient**		**Standardised coefficient**	**R**	**R²**	**ΔR²**
	B	**SE B**	**β**			
Step 1				.231	.054	.054
Country	-.040	.021	-.051			
Sector	1.044	.250	.115***			
Sex	-.491	.336	-.039			
Age	1.1162	.165	.186***			
Step 2				.275	.076	.022
Country	-.040	.021	-.050			
Sector	.925	.248	.099***			
Sex	-.438	.332	-.035			
Age	1.133	.164	.181***			
Social support at work	-.937	.163	-.150***			

N = 1375; *p < .05, **p < .01, ***p< .001

The hierarchical multiple regression for caring for job control (CON, DV) revealed that at step one, only sector and sex contributed to the regression model, F (4, 1283) =8.039, p<.001, and accounted for 2.5% of the variation in CON. At

step two, workplace social support children significantly contributed to the regression model and accounted for another 21.7% of the variation in CON, F (5, 1283) =81.417, p<.001. The Durbin-Watson test yielded an acceptable value of 2.064.

Table A3.1.5. Summary of hierarchical regression analysis for variables predicting job control

Variable	**Unstandardised coefficient**		**Standardised coefficient**	**R**	**R²**	**ΔR²**
	B	**SE B**	**β**			
Step 1				.157	.025	.025
Country	-.011	.018	-.017			
Sector	-1.087	.220	-.139***			
Sex	.800	.296	.076**			
Age	-.172	.146	-.033			
Step 2				.492	.242	.217
Country	-.018	.016	-.027			
Sector	-.782	.194	-.100***			
Sex	.611	.261	.058*			
Age	-.140	.129	-.027			
Social support at work	2.443	.128	.468***			

N = 1283; *p < .05, **p < .01, ***p< .001

A3.2. Mediation analysis

Mediation analyses were based on the correlation and regressions findings reported earlier. Standardised indirect effects were computed for each of 5,000 (default in PROCESS) bootstrapped samples, and the 95% confidence interval was computed by determining the indirect effects at the 2.5th and 97.5th percentiles. Mediation analysis was completed with listwise deletion on SPSS. Preliminary mediation analysis was conducted for the JDCS and JI on the health-related outcomes. Employability was tested directly in the structural model.

The results for health are presented in Table A3.2.1. The relationship between job insecurity and health status was partially mediated by financial security/confidence, and work-life balance. In addition, the relationship between job demands and health status was partially mediated by financial security/confidence, job insecurity, presenteeism and work-related stress; employability did not mediate the relationship between job demands and health

status. The relationship between job control and health status was partially mediated by financial security/confidence, employability and job insecurity; presenteeism and work-related stress did not act as mediators. Lastly, the relationship between workplace social support and health status was partially mediated by financial security/confidence, employability, job insecurity, presenteeism and work-related stress.

The relationship between job insecurity and wellbeing was partially mediated by health, financial security/confidence and work-life balance. The relationship between job control and health status was partially mediated by health, financial security/confidence, work-life balance, and job insecurity; presenteeism and work-related stress did not act as mediators. Lastly, the relationship between workplace social support and wellbeing was partially mediated by health, financial security/confidence, work-life balance, job insecurity, presenteeism and work-related stress. The results for wellbeing are presented in Table A3.2.2.

The relationship between job insecurity and work-life balance was partially mediated by financial security/confidence. The relationship between job demands and work-life balance was partially mediated by financial security/confidence, job insecurity, presenteeism and work-related stress. Lastly, the relationship between workplace social support and work-life balance was partially mediated by financial security/confidence, job insecurity, presenteeism and work-related stress. The results for work-life balance are presented in Table A3.2.3.

The relationship between job demands and presenteeism was partially mediated by work-related stress and health. Lastly, the relationship between workplace social support and presenteeism was also partially mediated by work-related stress and health. The results for presenteeism are presented in Table A3.2.4.

Table A3.2.1. Mediation for Health Status

HS=health, WLB= work-life balance, HRB= Log10 of presenteeism, WRS= work-related stress, JI= job insecurity, FS= financial security/confidence, E= employability, JD=job demands, CON=control, SS= workplace social support

		Indirect path through the mediator					
	Direct path	FS	E	WLB	JI	HRB	WRS
Direct path							
a) JI->HS	.057**	.033**	n/a	.008**	n/a	n/a	n/a
b) JD->HS	-.050*	-.021**	.004	n/a	-.010**	-.007**	-.014**
c) CON->HS	.089**	.037**	.009**	n/a	.015**	.001	-.001
d) SS->HS	.080**	.283**	.005**	n/a	.015**	.005**	.006**
Indirect path							
JI->Mediator Mediator->HS		.297** .112**	n/a	.136** -.060**	n/a	n/a	n/a
JD->Mediator Mediator->HS		-.204** .106**	-.060 -.077**	n/a	-.154** .064**	-.159** .047**	.369** -.038**
CON->Mediator Mediator->HS		.351** .107**	-.141** -.066**	n/a	.293** .054**	.032 .048*	.034 -.046**
SS->Mediator Mediator->HS		.261** .108**	-.074* -.074**	n/a	.277** .054**	.096** .054**	-.186** -.036*
a) Total Effect .104**, **R²** .035 **F** 48.034							
b) Total Effect -.099** **R²** .019							

F	24.638
c) Total Effect	.152**
R²	.042
F	50.459
d) Total Effect	.141**
R²	.038
F	48.551

*p < .05, **p < .01.

Table A3.2.2. Mediation for Wellbeing

W= Wellbeing, WLB= work-life balance, HRB= Log10 of presenteeism, WRS= work-related stress, JI= job insecurity, FS= financial security/confidence, CON=control, SS= workplace social support							
		Indirect path through the mediator					
	Direct path	FS	WLB	JI	HRB	WRS	HS
Direct path							
a) JI->W	.484**	.223**	.077**	n/a	n/a	n/a	.234**
b) CON->W	.836**	.219**	.072**	.104**	.013	-.022	.270**
c) SS->W	1.08**	.176**	.082**	.088**	.041**	.088**	.249**
Indirect path							
JI->Mediator Mediator->W		.303** .735**	.142** .542**	n/a	n/a	n/a	.108** 2.16**
CON->Mediator Mediator->W		.348** .630**	.180** .343**	.284** .368**	.035 .377**	.036 -.611**	.147** 1.82**
SS->Mediator Mediator->W		.264** .668**	.252** .287*	.269** .326**	.096** .428**	-.182** -.484**	.139** 1.78**
a) Total Effect 1.01** **R²** .057 **F** 82.568							
b) Total Effect 1.48** **R²** .070 **F** 89.251							
c) Total Effect 1.80** **R²** .106 **F** 147.171							
*p < .05, **p < .01.							

Table A3.2.3 Mediation for Work-life balance

WLB= work-life balance, HRB= Log10 of presenteeism, WRS= work-related stress, JI= job insecurity, FS= financial security/confidence, JD=job demands, SS= workplace social support					
		Indirect path through the mediator			
	Direct path	FS	JI	HRB	WRS
Direct path					
a) JI->WLB	.090**	.049**	n/a	n/a	n/a
b) JD->WLB	-.143**	-.032**	-.010**	-.020**	-.043**
c) SS->WLB	.164**	.041**	.013**	.012**	.026**
Indirect path					
JI->Mediator Mediator->WLB		.304** .161**	n/a	n/a	n/a
JD->Mediator Mediator->WLB		-.207** .835**	-.155** .475**	-.157** .455**	.366** -.684**
SS->Mediator Mediator->WLB		.270** .151**	.270** .051*	.096** .125**	-.190** -.136**
a) Total Effect .139** **R²** .025 **F** 36.626					
b) Total Effect -.250** **R²** .049 **F** 68.062					
c) Total Effect .257** **R²** .051 **F** 68.241					
*p < .05, **p < .01.					

Table A3.2.4. Mediation for Presenteeism (HRB)

HS=health, HRB= Log10 of presenteeism, WRS= work-related stress, JD=job demands, SS= workplace social support			
		Indirect path through the mediator	
	Direct path	WRS	HS
Direct path			
a) JD->HRB	-.050**	-.021**	-.004**
b) SS->HRB	.029**	.024**	.014**
Indirect path			
JD->Mediator Mediator->HRB		.378** -.056**	-.0894** .048**
SS->Mediator Mediator->HRB		-.185** -.065**	.136** .053**
a) Total Effect -.151** **R²** .023 **F** 33.331			
b) Total Effect .096** **R²** .009 **F** 12.598			
*p < .05, **p < .01.			

A3.3. Moderation analysis

Based on the findings of previous literature, it was necessary to check a) workplace social support as a potential moderator for the interaction between job demands and the health-related outcomes, and job control and health-related outcomes, b) employability as a moderator for the interaction between job insecurity and the health-related outcomes. As a secondary step, financial security/confidence, and responsibility to dependents (caring for children and elderly/disabled relatives) were also checked to eliminate the possibility of a moderating effect on the interaction between job insecurity and the health-related outcomes.

Results showed that the interaction term, workplace social support, explained a significant increase in variance in health for the interaction between job control and health, $\Delta R2 = .006$, $F (3, 1280) = 24.764$, $p< .001$, but not for job demands. Thus, workplace social support was a significant moderator of the relationship between job control and health. The unstandardised simple slope/effect for employees 1 SD below the mean of workplace social support was .031, $p>.05$; the unstandardised simple slope/effect for employees with a mean level of workplace social support was .081, $p<.001$; the unstandardised simple slope/effect for employees 1 SD above the mean of negative affect was .132, $p<001$. Workplace social support did not moderate any of the other interactions.

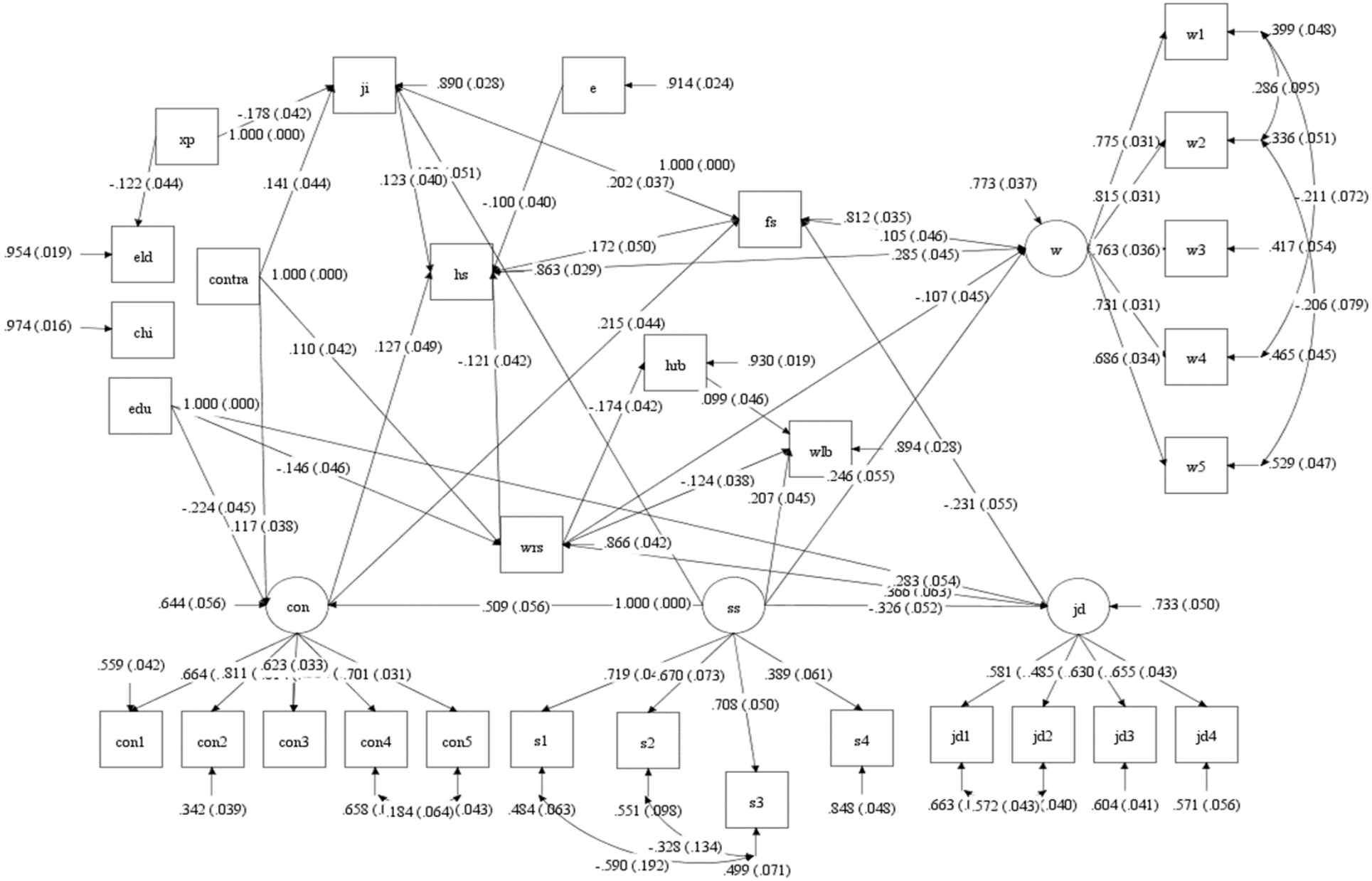
Additionally, job control, employability, financial security/confidence, and responsibility to dependents did not moderate any of the relationships between job insecurity and a) health, b) wellbeing, c) work-life balance, d) presenteeism, and c) work-related stress.

A4. Mplus: Model results

A4.1. One-level SEM: The model

Step 5 Final One-level SEM (STDYX estimates):

HS=health, W=wellbeing, WLB= work-life balance, HRB= Log10 of presenteeism, WRS= work-related stress, JI= job insecurity, FS= financial security/confidence, E= employability, CHI=caring for children, ELD=caring for elderly, JD=job demands, CON=control, SS= workplace social support, EDU= education levels, XP= years of work experience, CONTRA= type of contract


ji
.890 (.028)
e
.914 (.024)
xp
-.178 (.042)
1.000 (.000)
-.122 (.044)
.141 (.044)
.123 (.040)
.051)
-.100 (.040)
1.000 (.000)
.202 (.037)
fs
.812 (.035)
.773 (.037)
w1
.399 (.048)
.286 (.095)
.775 (.031)
w2
.336 (.051)
.815 (.031)
-.211 (.072)
.954 (.019)
eld
contra
1.000 (.000)
hs
.172 (.050)
.863 (.029)
.105 (.046)
.285 (.045)
w
.763 (.036)
w3
.417 (.054)
.974 (.016)
chi
.110 (.042)
.127 (.049)
-.121 (.042)
.215 (.044)
-.107 (.045)
.731 (.031)
-.206 (.079)
hub
.930 (.019)
.099 (.046)
.686 (.034)
w4
.465 (.045)
edu
1.000 (.000)
-.174 (.042)
wlb
.894 (.028)
w5
.529 (.047)
-.146 (.046)
-.124 (.038)
.246 (.055)
.207 (.045)
-.224 (.045)
.117 (.038)
-.231 (.055)
wrs
.866 (.042)
.283 (.054)
.644 (.056)
con
.509 (.056)
1.000 (.000)
ss
-.326 (.052)
jd
.733 (.050)
.559 (.042)
.664 (
.811 (
.623 (.033)
.701 (.031)
.719 (.0
.670 (.073)
.389 (.061)
.708 (.050)
.581 (
.485 (
.630 (
.655 (.043)
con1
con2
con3
con4
con5
s1
s2
s4
jd1
jd2
jd3
jd4
.342 (.039)
.658 (
.184 (.064)
.043)
.484 (.863)
.551 (.098)
s3
.848 (.048)
.663 (
.572 (.043)
.040)
.604 (.041)
.571 (.056)
-.328 (.134)
-.590 (.192)
.499 (.071)

A4.2. Two-level SEM results

Codes:
HS=health, W=wellbeing, WLB= work-life balance, HRB= Log10 of presenteeism, WRS= work-related stress, JI= job insecurity, FS= financial security/confidence, E= employability, ELD=caring for elderly, JD=job demands, CON=control, SS= workplace social support, EDU= education levels, XP= years of work experience, CONTRA= type of contract

STDYX Standardisation

Within Level

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
CON BY				
CON1	0.633	0.017	36.253	0.000
CON2	0.789	0.037	21.239	0.000
CON3	0.581	0.020	29.214	0.000
CON4	0.584	0.030	19.500	0.000
CON5	0.675	0.025	26.491	0.000
JD BY				
JD1	0.575	0.027	21.384	0.000
JD2	0.423	0.048	8.893	0.000
JD3	0.615	0.026	23.502	0.000
JD4	0.626	0.036	17.430	0.000
SS BY				
S1	0.693	0.023	30.479	0.000
S2	0.746	0.031	24.199	0.000
S3	0.686	0.026	26.175	0.000
S4	0.364	0.029	12.435	0.000
W BY				
W1	0.763	0.025	30.954	0.000
W2	0.803	0.019	41.622	0.000
W3	0.798	0.020	40.623	0.000
W4	0.721	0.022	32.743	0.000
W5	0.653	0.029	22.685	0.000
W ON				
SS	0.237	0.060	3.930	0.000
JD ON				
SS	-0.231	0.052	-4.451	0.000
CON ON				
SS	0.551	0.029	19.028	0.000
JD ON				
AGE	0.246	0.029	8.577	0.000

EDU	0.358	0.048	7.403	0.000
W ON				
WLB	0.079	0.029	2.758	0.006
HRB	0.053	0.026	2.019	0.043
JI	0.063	0.036	1.762	0.078
FS	0.114	0.036	3.149	0.002
HS	0.290	0.027	10.613	0.000
WRS	-0.099	0.041	-2.449	0.014
CON ON				
EDU	-0.246	0.032	-7.663	0.000
CONTRA	0.103	0.030	3.446	0.001
HS ON				
CON	0.132	0.028	4.637	0.000
WLB ON				
SS	0.224	0.050	4.492	0.000
WRS ON				
JD	0.340	0.044	7.803	0.000
SS	-0.092	0.044	-2.087	0.037
JI ON				
CON	0.087	0.044	1.976	0.048
SS	0.191	0.058	3.321	0.001
FS ON				
JD	-0.221	0.047	-4.676	0.000
CON	0.209	0.036	5.838	0.000
HS ON				
AGE	0.150	0.030	4.935	0.000
JI	0.079	0.031	2.528	0.011
FS	0.159	0.032	4.953	0.000
E	-0.119	0.028	-4.181	0.000
WRS	-0.078	0.032	-2.433	0.015
WLB	0.102	0.036	2.830	0.005
WLB ON				
AGE	-0.128	0.025	-5.184	0.000
HRB	0.103	0.030	3.392	0.001
WRS	-0.088	0.037	-2.385	0.017
E ON				
AGE	-0.235	0.039	-6.015	0.000
CHI ON				
AGE	0.193	0.044	4.391	0.000
HRB ON				
SEX	0.101	0.045	2.227	0.026
AGE	-0.095	0.034	-2.810	0.005

WRS	-0.153	0.026	-5.995	0.000
HS	0.072	0.030	2.354	0.019
ELD ON				
SEX	-0.151	0.020	-7.381	0.000
XP	-0.083	0.029	-2.817	0.005
WRS ON				
EDU	-0.221	0.042	-5.257	0.000
CONTRA	0.132	0.026	5.041	0.000
JI ON				
E	-0.071	0.027	-2.633	0.008
XP	-0.146	0.036	-3.996	0.000
CONTRA	0.118	0.029	4.026	0.000
FS ON				
JI	0.119	0.036	3.336	0.001
EDU	-0.122	0.037	-3.247	0.001
CHI WITH				
W	-0.021	0.046	-0.448	0.654
ELD WITH				
W	0.026	0.032	0.821	0.412
CON4 WITH				
CON5	0.195	0.039	5.040	0.000
JD2 WITH				
JD1	0.562	0.029	19.167	0.000
S3 WITH				
S1	-0.483	0.076	-6.358	0.000
S4	0.152	0.056	2.718	0.007
ELD WITH				
CHI	0.076	0.033	2.286	0.022
W1 WITH				
W2	0.276	0.053	5.205	0.000
W4	-0.113	0.065	-1.728	0.084
W2 WITH				
W5	-0.138	0.069	-1.993	0.046
S2 WITH				
S3	-0.397	0.090	-4.397	0.000
AGE WITH				
XP	0.423	0.029	14.366	0.000
Means				
AGE	4.602	0.137	33.587	0.000

EDU	2.811	0.136	20.696	0.000
XP	1.185	0.040	29.943	0.000
Intercepts				
E	2.968	0.191	15.527	0.000
CHI	0.712	0.207	3.440	0.001
HS	3.647	0.204	17.859	0.000
W1	1.667	0.135	12.387	0.000
W2	1.732	0.130	13.360	0.000
W3	1.729	0.135	12.841	0.000
W4	1.710	0.125	13.652	0.000
W5	1.630	0.136	11.986	0.000
WLB	2.677	0.141	19.041	0.000
HRB	1.115	0.258	4.318	0.000
WRS	2.316	0.162	14.287	0.000
JD1	0.848	0.164	5.164	0.000
JD2	1.094	0.168	6.510	0.000
JD3	0.967	0.149	6.512	0.000
JD4	0.319	0.162	1.970	0.049
CON1	2.373	0.082	28.835	0.000
CON2	2.553	0.103	24.710	0.000
CON3	2.814	0.118	23.823	0.000
CON4	2.291	0.094	24.460	0.000
CON5	2.903	0.094	30.798	0.000
S1	1.972	0.038	51.309	0.000
S2	1.928	0.051	37.810	0.000
S3	2.289	0.059	38.955	0.000
S4	2.305	0.053	43.350	0.000
ELD	3.715	0.155	23.915	0.000
Variances				
CONTRA	1.000	0.000	999.000	999.000
AGE	1.000	0.000	999.000	999.000
EDU	1.000	0.000	999.000	999.000
XP	1.000	0.000	999.000	999.000
SS	1.000	0.000	999.000	999.000
Residual Variances				
JI	0.897	0.019	47.193	0.000
FS	0.812	0.030	26.742	0.000
E	0.945	0.018	51.352	0.000
CHI	0.963	0.017	56.781	0.000
HS	0.865	0.016	53.043	0.000
W1	0.417	0.038	11.091	0.000
W2	0.354	0.031	11.427	0.000
W3	0.363	0.031	11.577	0.000
W4	0.480	0.032	15.084	0.000
W5	0.573	0.038	15.219	0.000
WLB	0.898	0.028	32.293	0.000
HRB	0.948	0.017	56.285	0.000
WRS	0.849	0.028	29.977	0.000
JD1	0.669	0.031	21.635	0.000
JD2	0.821	0.040	20.370	0.000
JD3	0.622	0.032	19.305	0.000

JD4	0.608	0.045	13.533	0.000
CON1	0.599	0.022	27.090	0.000
CON2	0.378	0.059	6.449	0.000
CON3	0.662	0.023	28.606	0.000
CON4	0.659	0.035	18.833	0.000
CON5	0.545	0.034	15.850	0.000
S1	0.519	0.032	16.470	0.000
S2	0.444	0.046	9.667	0.000
S3	0.530	0.036	14.735	0.000
S4	0.868	0.021	40.713	0.000
ELD	0.970	0.008	115.988	0.000
CON	0.626	0.035	18.040	0.000
JD	0.758	0.039	19.625	0.000
W	0.721	0.025	28.317	0.000

Between Level

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
FS ON				
JI	0.425	0.174	2.443	0.015
Means				
JI	7.207	1.119	6.441	0.000
CONTRA	5.864	2.061	2.845	0.004
Intercepts				
FS	4.551	1.821	2.499	0.012
Variances				
JI	1.000	0.000	999.000	999.000
CONTRA	1.000	0.000	999.000	999.000
Residual Variances				
FS	0.820	0.148	5.547	0.000

R-SQUARE

Within Level

Observed Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
JI	0.103	0.019	5.403	0.000
FS	0.188	0.030	6.205	0.000
E	0.055	0.018	3.007	0.003
CHI	0.037	0.017	2.196	0.028
HS	0.135	0.016	8.264	0.000
W1	0.583	0.038	15.477	0.000
W2	0.646	0.031	20.811	0.000
W3	0.637	0.031	20.312	0.000
W4	0.520	0.032	16.371	0.000

W5	0.427	0.038	11.342	0.000
WLB	0.102	0.028	3.670	0.000
HRB	0.052	0.017	3.079	0.002
WRS	0.151	0.028	5.322	0.000
JD1	0.331	0.031	10.692	0.000
JD2	0.179	0.040	4.446	0.000
JD3	0.378	0.032	11.751	0.000
JD4	0.392	0.045	8.715	0.000
CON1	0.401	0.022	18.127	0.000
CON2	0.622	0.059	10.619	0.000
CON3	0.338	0.023	14.607	0.000
CON4	0.341	0.035	9.750	0.000
CON5	0.455	0.034	13.245	0.000
S1	0.481	0.032	15.239	0.000
S2	0.556	0.046	12.100	0.000
S3	0.470	0.036	13.088	0.000
S4	0.132	0.021	6.217	0.000
ELD	0.030	0.008	3.542	0.000

Latent Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
CON	0.374	0.035	10.794	0.000
JD	0.242	0.039	6.261	0.000
W	0.279	0.025	10.979	0.000

Between Level

Observed Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
FS	0.180	0.148	1.221	0.222

Appendix B: Qualitative Study

B1. Letter of approval from the University of Nottingham

14th April 2015

Dear Kelly,

Ethics Reference No: OVS13032015 SoM PAP RHA EPPHEA – please always quote
Study Title: The impact of employment protection policies on employees' health and wellbeing.
Short Title: EPPHEA- Employment protection and health
Chief Researcher/Academic Supervisor: Professor Stavroula Leka, Dr Shirley Thomas, Centre for Organizational Health and Development, Psychiatry and Applied Psychology/Rehabilitation & Ageing, School of Medicine.
Lead Researcher/Student: Kelly Kalliopi Sivri, PhD Student
Duration of Study: 01/2015-12/2015
No of Subjects: 15-20 UK 15-20 Greece (+18 years)

Thank you for submitting the above application which has been considered and the following documents were received:

EPPHEA - Employment protection and health:

- Research Ethics Checklist dated 15/11/14
- Research Protocol Version 1.0, 01.09.14
- Appendix 1: Information Sheet, Final version 1.0: 01/09/2014
- Appendix 2: Leaflet, Final version 1.0: 01/09/14
- Appendix 3: Advert Version 1, 01/09/14
- Appendix 4: Consent Form Final Version 1.0: 01/09/2014
- Appendix 5: Interview Schedule Final Version 1.0: 01/09/2014

These have been reviewed and are satisfactory and the study is approved.

The Committee's only comment is that you need to outline what the ethical and regulatory processes and requirements for research involving people are in Greece in your research protocol to show that you have thought about this.

Please can you submit a Debrief which was missing from your application documents.

Approval is given on the understanding that the Conditions of Approval set out below are followed.

1. Please submit copies of letters of permission to conduct your study via the organisation from the person in charge of the cardiac rehabilitation charities both in the UK and Greece when these are available please for our records.

2. A Favourable opinion is given on the understanding that all appropriate ethical and regulatory permissions are respected and followed in accordance with all local

laws of the country in which the study is being conducted and those required by the host organisation/s involved.

3. You must follow the protocol agreed and inform the Committee of any changes using a notification of amendment form (please request a form).

4. You must notify the Chair of any serious or unexpected event.

5. An End of Project Progress Report is completed and returned when the study has finished (Please request a form).

Yours sincerely,
Dr Clodagh Dugdale
Chair, Faculty of Medicine & Health Sciences Research Ethics Committee

B2. Letter of approval from the East Midlands- Leicester South Research Ethics Committee

21 January 2016

Dear Professor Leka,

Study title:	**The benefit of job security on health and wellbeing after a heart attack.**
REC reference:	**15/EM/0484**
Protocol number:	**15089**
IRAS project ID:	**173254**

Thank you for your letter of 18 January 2016, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair.

We plan to publish your research summary wording for the above study on the HRA website, together with your contact details. Publication will be no earlier than three months from the date of this opinion letter. Should you wish to provide a substitute contact point, require further information, or wish to make a request to postpone publication, please contact the REC Manager, Rebecca Morledge, NRESCommittee.EastMidlands-LeicesterSouth@nhs.net.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Conditions of the favourable opinion

The REC favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements. Each NHS organisation must confirm through the signing of agreements and/or other documents that it has given permission for the research to proceed (except where explicitly specified otherwise).

Guidance on applying for NHS permission for research is available in the Integrated Research Application System, www.hra.nhs.uk or at http://www.rdforum.nhs.uk.

Where an NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of management permissions from host organisations

Registration of Clinical Trials

All clinical trials (defined as the first four categories on the IRAS filter page) must be registered on a publicly accessible database within 6 weeks of recruitment of the first participant (for medical device studies, within the timeline determined by the current registration and publication trees).

There is no requirement to separately notify the REC, but you should do so at the earliest opportunity e.g. when submitting an amendment. We will audit the registration details as part of the annual progress reporting process.

To ensure transparency in research, we strongly recommend that all research is registered but for non-clinical trials this is not currently mandatory.

If a sponsor wishes to contest the need for registration they should contact Catherine Blewett (catherineblewett@nhs.net), the HRA does not, however, expect exceptions to be made. Guidance on where to register is provided within IRAS.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Ethical review of research sites

NHS sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	*Version*	*Date*
Copies of advertisement materials for research participants [Leaflet & Advert]	2	18 January 2016
Covering letter on headed paper		01 September 2015
Covering letter on headed paper [Covering Letter]	2	18 January 2016
Evidence of Sponsor insurance or indemnity (non-NHS Sponsors only) [Evidence of Sponsor Insurance]		
GP/consultant information sheets or letters [GP INFORMATION SHEET]	1	18 January 2016
Interview schedules or topic guides for participants [Interview Schedule/Guide]	2	18 January 2016
IRAS Checklist XML [Checklist_18012016]		18 January 2016
Letter from sponsor [15089 Sponsor Signed Letter]	1	18 January 2016
Other [Previous UFO letter]		29 May 2015
Other [Debriefing Form]	1	18 January 2016
Other [Highlighted changes on Final REC Form]	2	18 January 2016
Participant consent form [Consent Form]	2	18 January 2016
Participant information sheet (PIS) [Participant Information Sheet]	2	18 January 2016
REC Application Form [REC_Form_18012016]		18 January 2016
Research protocol or project proposal [Research Protocol]	2	18 January 2016
Summary CV for Chief Investigator (CI) [IRAS_CV_Prof Stavroula Leka]	1	18 January 2016
Summary CV for student [IRAS_CV_Kalliopi Sivri]	1	18 January 2016
Summary CV for supervisor (student research) [IRAS_CV_Dr Shirley Thomas]	1	18 January 2016

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review
Reporting requirements

The attached document *"After ethical review – guidance for researchers"* gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The HRA website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

User Feedback
The Health Research Authority is continually striving to provide a high-quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website: http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/

HRA Training
We are pleased to welcome researchers and R&D staff at our training days – see details at http://www.hra.nhs.uk/hra-training/

15/EM/0484
Please quote this number on all correspondence

With the Committee's best wishes for

the success of this project. Yours

sincerely,

Mr John Aldridge Chair

Email: NRESCommittee.EastMidlands-LeicesterSouth@nhs.net

B3. Participant Information sheet

Participant Information Sheet
Version 2.0: 18/01/2016

Title of Study: The benefit of job security on health and wellbeing after a heart attack.
Study ID: EPPHEA

Name of Researcher: Kelly Kalliopi Sivri

We would like to invite you to take part in our research study, which is part of a project towards an educational qualification.

Before you decide if you would like to take part, we would like you to understand why the research is being done and what it would involve for you. One of our team will go through the information sheet with you and answer any questions you have. Talk to others about the study if you wish. Ask us if there is anything that is not clear.

What is the purpose of the study?

The purpose of this study is to explore the benefit of job security on employees' health and wellbeing. The focus is on employees who had a heart attack in the past and returned to work. The goal is to understand how and the extent to which job security and employment protection help employees to have a balanced and healthy working life and protect them from being at risk of heart attack recurrence. This will help inform current employment policies and tackle the impact of job insecurity.

Why have I been invited?

You are being invited to take part because you: i) are currently employed, ii) had a heart attack in the past, iii) returned to work. We are inviting 15-20 participants like you to take part.

Do I have to take part?

No, you do not have to take part. It is up to you to decide whether to take part or not. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part, you are still free to withdraw at any time and without giving a reason. This would not affect your legal rights.

What will happen to me if I take part?

After reading the information sheet and agreeing to participate in the study, we will mutually agree on a convenient date and venue for the interview. An information sheet will be sent and/or emailed to you prior to the interview. Before the interview, you will be fully informed and debriefed about the process and expectations. A consent form will be given to you to sign on the day of the interview. The researcher will be available to answer questions and address

concerns. The interview will be audio recorded and last about one hour. It will be a one-time interview without a follow-up. You will be able to stop the interview at any time. At the end of the interview, you will be debriefed about the goals of the study and confidentiality; you will be given the opportunity to ask further questions.

Expenses and inconvenience allowance

Travel expenses will not be covered on this occasion, but participants will receive a £10 gift voucher as an inconvenience allowance to thank them for participating in the study.

What are the possible disadvantages and risks of taking part?

The interview process will not entail any physical or mental discomfort.

What are the possible benefits of taking part?

There are no direct benefits. The information we get from your participation in this study will gives us information on the benefit of job security on employees' health and wellbeing, especially for people who had a heart attack in the past. Knowledge on this topic may help inform relevant employment protection policies.

What if there is a problem?

If you have concerns about the conduct of this research, you may contact the Patient Advice and Liaison Service (PALS) on **0800 18 30 204**.

If you have a concern about any aspect of this study, you should ask to speak to the researchers who will do their best to answer your questions. The researchers' contact details are given at the end of this information sheet. If you remain unhappy and wish to complain formally, you should then contact the Deputy Director of Research and Innovation (maria.koufali@nuh.nhs.uk), Research & Innovation Department of Nottingham University Hospitals NHS Trust.

Will my taking part in the study be kept confidential?

Your employer will not be informed of your participation and there is no intention of them being informed. All information will be kept strictly confidential.

The interview will be recorded and anonymous direct quotes from the interview will be used in the analysis and the study reports.

We will follow ethical and legal practice and all information about you will be handled in confidence. Procedures for handling, processing, storage and destruction of data will meet the requirements of the Data Protection Act 1998.

If you join the study, some parts of the data collected for the study will be looked at by authorised persons from the University of Nottingham who are organising the research. They may also be looked at by authorised people to check that the study is being carried out correctly. All will have a duty of confidentiality to you as a research participant and we will do our best to meet this duty.

All information that is collected about you during the interview and the course of the research will be kept **strictly confidential**, stored in a secure and locked office, and on a password protected database. Any information about you which leaves the institution will have your name and address removed (anonymised) and a unique code will be used so that you cannot be recognised from it.

Your personal data (address, telephone number) will be kept for a year after the end of the study so that we are able to contact you about the findings of the study (unless you advise us that you do not wish to be contacted). All other data (research data) will be kept securely for 7 years. After this time your data will be disposed of securely based on the University's Code of Research Conduct. During this time all precautions will be taken by all those involved to maintain your confidentiality. Only members of the research team will have access to your personal data.

If you mention something that may be life threatening such as expressing intentions to harm yourself or others, the researcher will contact your GP about that after the interview.

The interviews will take place in pre-booked rooms to ensure privacy.

What will happen if I don't want to carry on with the study?

Your participation is voluntary, and you are free to withdraw at any time, without giving any reason. Collected data up to the point of withdrawal will be securely kept according to the Data Protection Act 1998 for the purposes of the study.

Involvement of the General Practitioner/Family doctor (GP)

With your permission we will contact your GP if necessary. If you mention something that may be life threatening such as expressing intentions to harm yourself or others, the researcher will contact your GP about that after the interview.

What will happen to the results of the research study?

The results are likely to be published within a year after the end of the study and be available to the public. You will be able to request a copy of the study results as soon as the report is ready. No participant will be identified in any report/publication. This study is to be written up as part of doctoral studies.

Who is organising and funding the research?

This research is being organised by the Centre for Organizational Health and Development and is being funded by the Economic and Social Research Council and the University of Nottingham.

Who has reviewed the study?

All research conducted through NHS is looked at by an independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by the Leicester South Research Ethics Committee.

Further information and contact details

Researcher/ PhD Student:
Ms Kelly Kalliopi Sivri
E: Kelly.Sivris@nottingham.ac.uk
Work mobile number: +44 7719737375

Chief Investigators:
Prof Stavroula Leka
E: stavroula.leka@nottingham.ac.uk
Tel: +44 115 846 6662

Dr Shirley Thomas
E: shirley.thomas@nottingham.ac.uk
Tel: +44 115 846 7484

Centre for Organizational Health and Development
School of Medicine, University of Nottingham
B Floor, Yang Fujia Building
Jubilee Campus
Wollaton Road
Nottingham NG8 1BB, UK

B4. Leaflet

Working Life after a Heart Attack

Research Study

Version 2 [18/01/2016]

We are looking for volunteers to participate in an interview of about 45 minutes to one hour.

In order to participate in this study, you must be:

- **Employed**
- **Have returned to work after a heart attack**

Your participation will play a significant role in our research and help us understand the benefits of job security on employees' health and wellbeing. We will provide a £10 gift voucher as a thank you for your time. We are flexible to accommodate your availability.

For more information please call/text:

07719737375

(work number)

or email:

Kelly.Sivris@nottingham.ac.uk

B5. Consent form

CONSENT FORM
Version 2.0: 18/01/2016

Title of Study: The benefit of job security on health and wellbeing after a heart attack.
REC ref: *15/EM/0484*
Name of Researcher: Kelly Kalliopi Sivri

Name of Participant: **Please initial box**

1. I confirm that I have read and understand the information sheet version number 02…dated.....18/01/2016.....for the above study, which is part of a project towards an educational qualification and have had the opportunity to ask questions. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, and without my medical care or legal rights being affected. I understand that should I withdraw then the information collected so far cannot be erased and that this information may still be used in the project analysis. ☐

3. I understand that relevant sections of my data collected in the study may be looked at by the research group and regulatory authorities where it is relevant to my taking part in this study. I give permission for these individuals to have access to these records and to collect, store, analyse and publish information obtained from my participation in this study. I understand that my personal details will be kept confidential and that my employer will not be informed of my participation. ☐

4. I understand that the interview will be recorded and that anonymous direct quotes from the interview may be used in the study reports. ☐

5. I agree to my GP being informed of my participation if necessary. If I mention something that may be life threatening such as expressing intentions to harm myself or others, the researcher will contact my GP about this after the interview. ☐

6. I would like to receive the final report of the results via email. ☐

7. I would like to receive the final report of the results via post. ☐

8. I agree to take part in the above study. ☐

Name of Participant	Date	Signature
Name of Person taking consent	Date	Signature

2 copies: 1 for participant, 1 for the project notes.

B6. Debriefing form

Debriefing Form
Version 1.0 date 18.01.2016

Title of Study: The benefit of job security on health and wellbeing after a heart attack.
Study ID: EPPHEA

Name of Researcher: Kelly Kalliopi Sivri

The purpose of this study was to explore the benefit of job security on employees' health and wellbeing. The focus was on employees who have had a heart attack in the past and returned to work. The goal is to understand how and the extent to which job security and employment protection help employees to have a balanced working life and protect them from being at risk of heart attack recurrence. This will help inform current employment protection policies and tackle the impact of job insecurity.

You were invited to take part because you: i) are currently employed, ii) had a heart attack in the past, iii) returned to work. We invited 20 participants like you to take part.

After reading the information sheet and agreeing to participate in the study, we mutually agreed on a convenient date and venue for the interview. Before the interview, you were fully informed about the expectations. Your participation was voluntary, and you were free to withdraw at any time, without giving any reason. A consent form was given to you to sign on the day of the interview. The researcher was available to address concerns. The interview was audio recorded and lasted about one hour. It was a one-time interview without a follow-up. You were able to stop the interview at any time. A £10 gift voucher was offered as an inconvenience allowance and a "thank you" to participate in the study.

Procedures for handling, processing, storage and destruction of data meet the requirements of the Data Protection Act 1998. All information that was collected about you during the interview and the course of the research will be kept **strictly confidential**, stored in a secure and locked office, and on a password protected database. Any information about you which leaves the institution will have your name and address removed (anonymised) and a unique code will be used so that you cannot be recognised from it.

Please contact the researcher (kelly.sivris@nottingham.ac.uk) if you have any questions regarding this study.

THANK YOU AGAIN FOR YOUR CO-OPERATION

Further information and contact details

Researcher/ PhD Student:
Ms Kelly Kalliopi Sivri
E: Kelly.Sivris@nottingham.ac.uk
Work mobile number: +44 7719737375

Chief Investigators:
Prof Stavroula Leka
E: stavroula.leka@nottingham.ac.uk
Tel: +44 115 846 6662

Dr Shirley Thomas
E: shirley.thomas@nottingham.ac.uk
Tel: +44 115 846 7484

Centre for Organizational Health and Development
School of Medicine, University of Nottingham
B Floor, Yang Fujia Building
Jubilee Campus
Wollaton Road
Nottingham NG8 1BB, UK