

**Investigating the Relationship between Determinants of
Employee Wellbeing and Innovation:
A Policy and Practice Perspective**

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

April 2021

Acknowledgments

During almost four and a half years of work on this thesis I have been lucky enough to work with and be surrounded by kind, patient, and very knowledgeable people, who have offered me guidance both formally and informally. I would first like to thank my supervisors, Stavroula Leka and Nigel Hunt, for their unwavering support and advice, both professionally and personally. This PhD would not have been possible without them. I would also like to thank the academic staff in the Division and my PhD colleagues, who have been there for me in more ways than I can mention.

I would also like to thank my family for their support and encouragement during times when things seemed impossible. Especially my wife, who is my partner and companion, and whose support continues to be invaluable. My parents, who have always encouraged me. And my gratitude and thanks to my grandparents, who have always believed in me no matter what, as I would not be the person I am today without them.

I would also like to thank my managers and colleagues, for being understanding and encouraging, and for having enabled me to balance writing up and working at the same time.

Abstract

The European Union (EU) 2020 Strategy was the broad EU agenda for growth and jobs, aimed at promoting socio-economic development and productivity. An important consideration within this was the negative impact that the 2008 crisis had, which was compounded by the less than optimal response observed in many organisations. It became clear that the path to a competitive economy was achievable only through sustainable practices that do not overlook the health and wellbeing (WB) of the workforce. The concept of innovation has received increased attention, as it promised to offer a potential way forward. Within the area of employment and work, two concepts emerged that were of relevance to the broader idea of innovation: workplace innovation (WI) and innovative work behaviours (IWB). However, much more work was needed to clearly understand how to develop truly holistic frameworks for innovation and WB.

Bearing this in mind, the main research question that this thesis aims to answer is whether it is possible to develop such an integrated framework at the policy and practice levels. It aims to do so using a mixed methods approach including both quantitative and qualitative studies. It was first important to reach conceptual clarity regarding these constructs and their precursors. This is addressed in the first two chapters of the thesis through an extensive literature review, and it becomes clear that from a theoretical point of view, IWB can be understood as an outcome of WI, and furthermore that there is potential overlap between IWB and WB. This overlap happens at the level of the psychosocial work environment, and by using the Job Demands-Resources theory as a framework, it is proposed that the same demands and resources which have been shown to predict WB, are also associated with IWB. Chapter 3 then outlines the mixed methods approach used in this research.

The first study in chapter 4 uses a quantitative approach to test which elements of the psychosocial work environment influence IWB. A secondary analysis of the 2010 European Working Conditions Survey (n=12924) was conducted, and a generalised multilevel structural equation model was used to test the study hypotheses. The relationship between work demands, resources, additional work factors and IWB was investigated. It was also investigated if individual IWB, at the country level, is associated with country innovative performance. Autonomy, manager encouragement and dealing with unforeseen problems showed the highest positive relationship with IWB. Conversely, monotonous tasks and working at high speed were

found to be negatively associated with IWB. Furthermore, strong indications were found that country-level IWB positively relates to the odds of a country scoring higher on macro level innovation indicators.

In chapter 5, through a structured search guided by a combination of framework analysis and policy scorecard analysis, 76 relevant EU hard and soft policies in the areas of occupational health and safety, employment and workplace innovation are identified and evaluated. The aim is to uncover potential gaps in existing policies and to understand which areas need to be further addressed to achieve comprehensive policy frameworks. By relying on a theory driven approach and by leveraging existing frameworks in WI, a total of 5 scorecard criteria were developed and policies were analysed against these. The findings of this study suggest that soft law is much more comprehensive than hard law, as the top 10 scoring policies were all nonbinding documents. However, most of the policies were limited in their coverage across all the identified dimensions. It emerged that more work is needed to achieve clear definitions of key terms (e.g. work organisation, work environment, quality of work). It was also evident that in order to align perspectives across WI and psychosocial risk management at a policy level, it is key to focus on improving collaboration across the different EU Directorates and institutions and to promote a more unified framework at the EU level. Furthermore, the role of European Structural Funds as a key delivery mechanism of WI and psychosocial risk management policy was recognised.

The third study, presented in chapter 6, focuses on providing a further understanding of why it has been difficult to develop these unified policy frameworks. Thirteen key stakeholders were interviewed, covering a range of employee and employer organisations, governmental organisations, NGOs and academic institutions. Semi-structured interviews were conducted and thematic analysis was used for data analysis with six themes emerging. Barriers included complexity of concepts, diversity of EU member states, fragmentation, and credibility; while enablers included awareness and resources, communication, collaboration and ensuring WI and WB remain relevant on the policy agenda.

Finally, chapter 7 considers the findings from all the studies holistically and discusses them in relation to each other and to relevant literature. An integrated perspective is proposed, that can be used to further the research, practice and policy agendas in this area. Strengths and limitations are acknowledged, as are opportunities for future research.

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1 Introduction

The uncertainty that is prevalent throughout the European Union (EU) as a result of the last economic crisis still has had a severe effect on organisations. This has led companies to drastically rethink working practices. Higher workloads and decreasing salaries have been the strategies implemented many times in order to cut down costs. Increased job insecurity and a decrease in wellbeing have followed as a result (James, 2014). Indeed, some of the responses implemented by companies, such as mass lay-offs and drastic pay cuts, have worsened the situation further (Totterdill & Exton, 2014). Considering the role of the workplace in the European economy and its competitiveness on a global level, it has never been more important to understand the complexities that govern the relationships between individual and organisational performance.

Academics, practitioners and policy makers agree that the approaches used so far have been unsuccessful, and advocate for new methods of revitalising the economic system and the increasingly overworked workforce (Eurofound, 2012). The most recent crisis has left behind increased job insecurity, poor wellbeing (Chraif & Aniței, 2011), more demands placed on employees, time pressure, and less autonomy and control at work (Sinclair et al., 2010). The results have been poorer mental health, cardiovascular problems and even increased suicide rates (Deaton, 2012; Karanikolos et al., 2013). In this landscape, a call has been made for creating conditions that will allow individuals, organisations and the wider society to move forward and overcome the crisis, and innovation has emerged as a possible solution (Totterdill & Exton, 2014). Innovation is receiving increasing attention, as it promotes business performance and productivity, saves resources, improves employee job satisfaction and reduces absenteeism (European Economic and Social Committee, 2011), while at the same time bringing improvements in the quality of life (Pot, 2011). More recently, academics, practitioners and policy makers have been increasingly advocating for a more comprehensive framework, both at the policy and practice levels, in support of health, safety, wellbeing and innovation (Jain, Leka, & Zwetsloot, 2018; Oeij, Rus, & Pot, 2017b).

Bearing this in mind, the key aim of this thesis is to argue that the same factors that influence health, safety and wellbeing also can be used to predict employee innovative behaviours. After testing the implications of this assumption throughout three studies, it is

proposed that an integrative, multi-level framework can be created to promote both these aspects at the EU level. The scope of this first chapter is to define the key concepts of innovation and wellbeing as they relate to the thesis. The value case and need for promoting health, wellbeing and innovation at the EU level are then presented. Furthermore, an overview of the high-level structure of the overall thesis is presented, so as to set the context for the work to be discussed throughout the following chapters.

1.1 Concepts and definitions

The following sections will present all the key concepts referred to throughout this thesis, breaking them down conceptually and methodologically, in order to have a clear set of definitions.

1.1.1 Types of innovation

As previously mentioned, innovation promotion has been proposed as a means to address some of the most pressing societal issues. Innovation is however a complex concept and the approaches used to understand it offer varied perspectives for its conceptualization. In terms of work-related innovation, the discourse has been focused on two main areas: workplace innovation (WI) and innovative work behaviour (IWB). Although interrelated, they are concerned with practices and outcomes at different levels in the organisation. While the first one has to do with managing economic and business variables and practices, the second one concentrates on individual level factors. Understanding the differences between the two is important, thus in the following sections the definition, focus and underlying principles of both will be presented.

1.1.1.1 Workplace innovation

Much attention has been given to what is called WI, by academics, practitioners and policy makers alike. This is reflected by the amount of definitions that one can find when doing a search of this term. Both international and national entities, as well as several scholars have put forth their own conceptualizations. A selection of proposed definitions can be found in Table 1.1.

Table 1.1 Definitions of workplace innovation

Authors	Definition
Dortmund Brussels position paper on WI (2012)	“Workplace Innovation is defined as a social process which shapes work organisation and working life, combining their human, organisational and technological dimensions. Examples include participative job design, self-organised teams, continuous improvement, high involvement innovation and employee involvement in corporate decision making. Such interventions are highly participatory, integrating the knowledge, experience and creativity of management and employees at all levels of the organisation in a process of co-creation and co-design. This simultaneously results in improved organisational performance and enhanced quality of working life. It is important to see Workplace Innovation not as an end state but as a dynamic, reflexive process in which all stakeholders are continually engaged in reflecting on, learning about and transforming work processes and employment practices in response to both internal and external drivers.” (p.2)
Netherlands Centre for Social Innovation (2009)	“A renewal in work organisation and labour relations leading to improved performance by the organisation by which we mean enhanced productivity, economic growth, the capacity to innovate and better use and develop human talents through improvements in the quality of working life, safe and healthy working conditions, enhanced job satisfaction, worker participation, social dialogue and sustainable employment” (p. 1)
Pot (2011)	“Innovation is defined as the implementation of new and combined interventions in the fields of work organisation, human resource management and supportive technologies. Workplace innovation is considered to be complementary to technological innovation. Some people use the broader concept of non-technological innovation, in which also dynamic management, new marketing practices and external collaboration are included.” (p. 404 – 415)
Pot, Dhondt, and Oeij (2012)	“Workplace innovations are strategically induced and participatory adopted changes in an organisation’s practice of managing, organising and deploying human and non-human resources that lead to simultaneously improved organisational performance and improved quality of working life.” (p. 262)

If one thing is clear from all the definitions, it is the fact that WI is a complex, multi-faceted idea that requires close attention if its structure is to be understood. Looking at a report from the European Commission on WI (Kesselring et al., 2014) which presents a detailed breakdown of this concept reveals several dimensions:

The human, organisational and technological dimension: in which the technological aspect (e.g. the use of ICT) and its effect on WI is conceptualised according to such theories as the Actor Network Theory, where interactions between humans, humans and non-humans as well as non-human and non-humans is believed to shape the process and outcome of WI (Degelsegger & Kesselring, 2012; Franz et al., 2012).

The scope of workplace innovation: here it is acknowledged that WI concerns not only the factors affecting the processes and organisation of the environment in which workers operate (for example the office), but more widely speaking of the organisation as a whole, how it relates to other companies, and strategies employed to respond to market and societal needs (Pot, Dhondt, & Oeij, 2012).

The processes of workplace innovation: the literature refers to the idea of inclusive practices, where collaboration, communication and knowledge exchange between the workers, managers, and partnerships with trade unions and other employee representative bodies is considered essential to successful WI (Gold et al., 2012).

Outcome criteria of workplace innovation: it is believed that resulting from WI are outcomes such as performance, new and improved work practices, processes and products as well as increased wellbeing; however care must be taken when making these types of inferences, as many times these results have been observed in studies employing different conceptualizations of variables, and in many cases the cross-sectional nature of research done does not permit clear causal links to be inferred (Pot, Kraan, Oeij, & Dhondt, 2012).

Workplace innovation as a continuous, adaptive process: this dimension underlines the idea that WI practices are under constant development, and they need to be adapted in order to respond to constantly changing demands, both internal (the changing work organisation) as well as external ones (social and market requirements) (Kesselring et al., 2014).

Looking at these dimensions, an attempt can be made to develop conceptual guidelines for measuring WI. The phases of the proposed process of WI should not be viewed linearly, as they affect and are affected by each other. The framework adapted from Kesselring et al., (2014) includes enablers, processes, results, outcomes and impacts.

Enablers – what is provided and required to facilitate WI:

- at the individual level: the ability (social and work skills) and readiness (engagement and satisfaction) of both managers and employees to engage in WI;

- at the task level: how the work environment is designed in terms of doing tasks, time constraints and the environment;
- at the organisational level: here the management style, incentives for involvement in WI, dialogue between the actors involved, organisational learning, organisational structure and the type of contract and job requirements for innovation all play a role;
- at the societal level: developing WI practices in collaboration with social partners in response to wider societal needs and challenges.

Process – the methods through which both employees and managers participate in WI practices:

- such methods include: learning, participative decision making, internal cooperation (across hierarchies for example), external cooperation (e.g. with other organisations, between professionals through communities of practice), involvement (in strategy development, continuous improvement, implementing new practices to generate innovations).

Results – the immediate resulting benefits:

- for example new and improved work processes, services, roles, structures and tasks.

Outcomes and impact – they can be both intended and unintended consequences of WI:

- improvements in performance, quality, working life, wellbeing as well as new products and services;
- better financial performance and enhanced organisational flexibility and resilience to new and changing demands, markets and clients.

The complexity of WI, as well as its importance and numerous benefits can be easily observed, and this has been acknowledged by not only practitioners but also governing bodies tasked with developing the necessary policy frameworks required for revitalising the socio-economic environment. A comprehensive analysis of such a broad concept that has social, political and psychological implications and determinants would require an inter-disciplinary approach, considering the aforementioned areas, if an integrative theoretical model were to be developed and tested. At the meso and micro level, WI is believed to have an influence on individual and organisational health and wellbeing, innovativeness, quality of work and performance (Oeij et al., 2017b). Focusing on the psychosocial perspective, it would be therefore suitable to proceed and discuss employee health, wellbeing and innovative work behaviour (IWB).

1.1.1.2 Innovative work behaviour

Innovative work behaviour is increasingly being recognized as a way to address many of the challenges facing the socio-economic environment that resulted, in no small part, due to the 2008 economic crisis. As far back as the late 80s, the importance of fostering and encouraging workers to achieve their maximum innovative potential has been recognised, and attempts to create theoretical models that could provide a framework for analysis can be traced back in the literature (Amabile, 1988; Wolfe, 1994). Now, more than ever, the world of work is changing, and it is increasingly characterised by more competition, restructurings, autonomous jobs and flatter hierarchies. This has increased awareness to the fact that in order for organisations to achieve success and survive in the long run, innovation must be encouraged amongst employees as it is a very important source of competitive advantage (Abstein & Spieth, 2014; Anderson et al., 2004, 2014; Shalley et al., 2009).

As important as IWB is, there are still a lot of conceptual ambiguities that come with it (Potočnik & Anderson, 2016). Many definitions have been proposed for it, and in research just as many approaches to its conceptualization have been used when developing studies (Anderson et al., 2014). In Table 1.2 a selection of definitions of IWB is presented.

Table 1.2 Definitions of innovative work behaviour

Authors	Definition
Anderson, Potocnik & Zhou (2014)	“Creativity and innovation at work are the process, outcomes, and products of attempts to develop and introduce new and improved ways of doing things. The creativity stage of this process refers to idea generation, and innovation refers to the subsequent stage of implementing ideas toward better procedures, practices, or products. Creativity and innovation can occur at the level of the individual, work team, organisation, or at more than one of these levels combined but will invariably result in identifiable benefits at one or more of these levels of analysis.” (p.2)
West & Farr (1989)	“... the intentional introduction and application within a role, group or organisation of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, the organisation or wider society” (p.9)

Parker, Williams, & Turner (2006)	“Proactive idea implementation, involves an individual taking charge of an idea for improving the workplace, either by voicing the idea to others or by self-implementing the idea.” (p. 637)
Unsworth & Parker (2003)	“Innovation is the process of engaging in behaviours designed to generate and implement new ideas, processes, products and services, regardless of the ultimate success of these new phenomena.” (p. 181)

From the examples above, several points can be inferred. First of all, it can be observed that IWB is a multi-stage process, and equally important is the assertion that those stages are not sequential; rather it is believed that the process is discontinuous, such that at any one point the individual will be engaged in one or more phases (Anderson et al., 2004; de Jong & den Hartog, 2010; Janssen, 2004). In the literature there are still disagreements as to the number of stages required when conceptualising IWB. In an effort to shed light on this issue, de Jong and den Hartog (2010) set out to investigate the possible structure of IWB. The authors gathered data using a proprietary tool previously tested in a pilot study, and have found, after performing a second order confirmatory factor analysis, that a model with four factors emerged as having the best fit. The factors that emerged were conceptualised as: idea exploration, idea generation, idea championing, and idea implementation. However, as the authors also acknowledge, the inter-correlations between the four factors were quite high, suggesting that in actuality IWB might be best studied as a one dimensional construct, as others before proposed (Janssen, 2000; Kleysen & Street, 2001; Lukes & Stephan, 2017), where different aspects (measured through their proposed items) combine into one general construct.

Others that have tried breaking down IWB have proposed a two-factor structure. For example, Dorenbosch, Engen, and Verhagen (2005) propose that IWB can be best understood by conceptualising it as resulting from two processes: idea generation (which requires creativity), and idea implementation. Their analysis indeed supported their original proposition, with appropriate factor loadings to reflect their conceptualization. Support for the two factor model was also found in another study by Krause (2004). Furthermore, it appears that the general consensus in the literature is that indeed IWB should be looked at from an idea generation – idea implementation perspective, as was proposed in a number of reviews on the topic (Anderson et al., 2004, 2014; Hülshager et al., 2009; Potočnik & Anderson, 2016).

Beyond the process stages referred to above, it is also important to understand the inherent characteristics of IWB. Here it is proposed that IWB can be at times a type of proactive behaviour. This line of reasoning appears to have been considered by others as well. First of all, proactive behaviour (PB) is defined as “Taking initiative in improving current circumstances or creating new ones; it involves challenging the status quo rather than passively adapting to present conditions” (Crant, 2000, p. 436); it is “... aimed at modifying the situation or oneself to achieve greater personal or organisational effectiveness.” (Unsworth & Parker, 2003). Similarities between IWB and PB become immediately apparent, but at the same time it needs to be acknowledged that PBs are much broader than IWB, and it is important to note that this is the view taken here as well. Indeed, it is encountered in research that issue selling, proactive problem solving, voice, job crafting, and taking charge are all different PBs (Grant & Ashford, 2008; Parker & Collins, 2010; Potočnik & Anderson, 2012). The point here is not that all proactive behaviour is IWB, but rather that IWB can be considered as a being part of the PB spectrum. Unsworth and Parker (2003) try to link the two concepts, and suggest that proactivity is an important driver of IWB, such that individuals need to be self-starting in order to engage in idea generation, and persistence is paramount in the idea implementation phase, where individuals need to garner support from colleagues and supervisors. Further provision for the PB – IWB link comes from Parker and Collins (2010), who conducted a study in which they gathered data on a number of PBs and conducted a factor analysis to look at emerging structures, and hypothesised that individual innovation, or IWB, will emerge as a construct. As expected, the analysis supported their initial proposition, and indeed the items measuring IWB all loaded on a single factor, distinct from other PBs.

Although a number of studies have looked at IWB as a PB, there are some considerations that need to be taken into account. The notion that the two differ on some levels has also been proposed, and each of the concerns put forth in support of this will be addressed in turn. First of all, Potočnik and Anderson (2016) characterise IWB and PB according to specific aspects: they regard them as being both in-role and extra-role behaviours, and discretionary. However, they propose that they diverge on two points: IWB can be both compulsory (formally required by the work) and requires novelty, whereas PBs do not. In terms of the compulsory nature of IWB it is useful to discuss the findings of a study conducted by Unsworth and Clegg (2010). They sampled 65 individuals from two aerospace organisations

whose role was highly dependent on being creative and novel in their approach to the problems they were faced with. Furthermore, both companies valued creativity highly (as evident in their mission statements and strategy), and required their employees to be creative. Therefore, it is clear that novelty was a formal requirement as part of their jobs. During the interviews however, it became apparent that engaging in creative action was considered to be “above and beyond the call of duty”. Going back to the assertion that IWB can be formally required by the job, as opposed to PBs, considering the findings of the aforementioned study a point should be made that although this may be the case, it will not automatically mean that individuals will engage in innovative behaviour, even though so required. This comes in support of the case that a degree of individual proactivity is always required if IWB is to take place.

It is now time to look at a second point of divergence, namely the requirement of novelty by default when discussing IWB, but not PB. The issue here is somewhat more complex, and before moving forward, the differences between creativity and IWB need to be addressed. Many argue that creativity can be considered to be the first step needed in order for IWB to appear (Axtell et al., 2000; Dorenbosch et al., 2005; Potočnik & Anderson, 2012). However, others argue that an important conceptual difference must be made, namely that while creativity might be an important part in the innovation process, “true” creativity (i.e. truly novel ideas) might not always be necessary requirements of IWB. For example, what might be considered routine practice in one organisation or department might be new for another one. Therefore, if those practices are adopted in a different work setting, it can be reasoned that IWB has taken place, but without creativity in the true sense of the word (Anderson et al., 2004, 2014; West, 2002).

Interestingly, more recently research into creativity has started to acknowledge that there might be more than one way of looking at this concept. For example, the notions of radical and incremental creativity have appeared in the literature (Madjar et al., 2011). Whereas the first refers to what is considered a more classical perspective on creativity – something completely new and different from established practices and processes, the latter recognizes that creativity might also arise from smaller, incremental adjustments to existing practices and processes (Gilson & Madjar, 2011). This differentiation seems to mirror to a certain extent what is proposed in the IWB literature, where adapting existing ways of doing work, as opposed to coming up with completely new ones, has also been considered as an innovative process.

All this leads back to the initial starting point, the proposed differentiation based on novelty between IWB and PB. While it is acknowledged that IWB can and will be inherently more novel at times than other PBs, novelty might be a relative term in many cases when it comes to IWB. As was presented above, both IWB and creativity can appear with and require different levels of originality. Moreover, it was never the case that PBs are not ever novel, but that they might at times not require it (Potočnik & Anderson, 2016). That is why it is appropriate to consider IWB as a proactive behaviour and based on the reviewed literature this method of conceptualization appears to be supported. It was important to present these arguments and to frame IWB in this context here, as this will help later on when discussing how it is linked to and affected by certain variables and concepts of interest that will be presented in the following sections.

1.1.2 Health and wellbeing

The importance of employee wellbeing (WB) for both worker and organisational outcomes has been extensively discussed in the literature, and the vast majority of scholars and practitioners agree that it is indispensable (Costanza et al., 2014; Judge & Kammeyer-Mueller, 2011). More than one decade ago, Sparks, Faragher, and Cooper (2001) proposed that the factors that influence the workplace are changing, and due to restructuring and downsizing new forms of employment are emerging, characterised by more autonomy and decentralization, with practices such as teleworking, short term contracts and outsourcing becoming more prevalent. At the same time, it was proposed that these factors will influence the wellbeing of employees (Sparks et al., 2001). Considering the recent economic events, and the drastic effect they had on the reorganisation of the workplace, now more than ever it is important to investigate and understand the antecedents of WB.

Although extensively studied, WB has been theorized in various ways, and therefore it is important to try and offer a clear conceptualization before moving forward. Generally, WB is defined as the individuals' subjective appraisal of their lives, and more specifically refers to "optimal psychological functioning and experience" (Ryan & Deci, 2001, p.142). From a philosophical perspective, two views have emerged, the hedonic (or the subjective evaluation of feeling good, considered as increased levels of positive affect and low levels of negative affect) and the eudaimonic perspective (focused more on WB as the result of pursuing

meaningfulness, growth and self-realization in one's life) (Diener, 2000; Ryff, 1995; Waterman, 1993). However, more recently there are those that propose that the two might not be as distinct as was first thought (Ryan, Huta, & Deci, 2008), and that is why some argue it is probably best to think about wellbeing as the state in which individuals feel good, find meaning and strive for growth (Sonnentag, 2015).

On the hedonic side, much research has focused on subjective WB (Fisher, 2014), which is conceptualised as cognitive evaluations of life satisfaction, and the frequency/infrequency of positive and respectively negative affect over time (Diener, 1984), with several scales being developed to measure the two dimensions of affect (Diener et al., 2010). Further to this, the circumplex model expands on positive and negative affect, and combines it with the concept of arousal. Therefore, in this approach, WB is thought to exist as a constellation of high arousal pleasant feelings (e.g. active, enthusiastic), low arousal pleasant feelings (e.g. relaxed), high arousal negative feelings (e.g. hostile, distressed) and low arousal negative feelings (e.g. sluggish, dull) (Watson & Tellegen, 1985).

Eudaimonic conceptualisations of WB relate to ideas such as individual flourishing (Keyes, 2002, 2005), and striving for needs such as virtue, relatedness, competence and growth (Fisher, 2014). Some argue that every aspect of WB which does not fall within the hedonic (i.e. affective) side can be thought of as eudaimonic. A further expansion of this domain of WB proposes that the use of one's personal strengths, autonomy, positive relationships, self-acceptance, purpose in life and seeking mastery are all eudaimonic constructs, and research has led to the development of several validated scales for their measurement (Ryff, 1989; Ryff & Singer, 2008; Seligman et al., 2005). Finally, it is important to mention that while conceptually different, eudaimonic and hedonic WB are very much equally important, and strong and significant relationships have been identified between the two. For example, acting in eudaimonic ways has been shown to predict reported levels of hedonic WB, while positive affect (a hedonic construct) has been linked with experienced meaning in life through a self-reinforcing, cyclical relationship (Kashdan et al., 2008; L. A. King et al., 2006; Steger et al., 2008; Waterman, 2008).

This section, so far, has discussed the general concept of wellbeing. While arguably WB is a broader concept, in this thesis the focus will be on employee (or work-related) wellbeing, and more specifically how it has been measured and studied in relation to the psychosocial work

environment. Research suggest that hedonic/circumplex indicators such as engagement, job satisfaction and burnout can be meaningfully studied as indicators of work WB, and further that hedonic and eudaimonic processes can interact to predict other psychological WB indicators such as depression, anxiety and stress (Bhullar et al., 2013; Harter et al., 2003; Mäkikangas et al., 2016; Sonnentag, 2015; Willis et al., 2019).

Finally, it is also important to mention the importance of physical health. Here again, the concept of physical health is just as broad as that covering wellbeing, and therefore the focus was again guided by past research in the work/organisational area. The choice of what to include in the present review was based on several systematic reviews and meta-analyses that have looked at the impact of psychosocial factors on specific physical health outcomes, such as ischemic heart disease or coronary heart disease and musculoskeletal disorders (Fransson et al., 2015; Kivimäki et al., 2012; Vargas-Prada & Coggon, 2015).

The following sections will position each of the factors mentioned above along a positive/negative employee health and well-being spectrum, while offering more context and clarity around each construct, thus outlining the holistic work-related health and wellbeing framework used in this thesis.

1.1.3 The positive facets of employee health and wellbeing

In the organisational arena, the focus has mostly been on the hedonic perspective looking at affective and psycho-somatic aspects of WB (Fisher, 2010; Nixon et al., 2011). Further, one of the most widely used models of work-related WB is the two factor circumplex model, which posits that affect can be understood through pleasure and activation (Russell, 1980). In recent years more and more attention has been given to the positive aspects of affect, leading researchers recently to define employee WB, on the positive side, mainly as job engagement, job satisfaction and happiness (it is also important to note that the latter two have at times been interchangeably used, although they can differ) (Bakker & Oerlemans, 2011; Sonnentag, 2015).

Work engagement is an idea that first appeared in the 1990s (Buckingham & Coffman, 2005), and since then it has been attracting increasing attention both in the academic as well as in the practitioner areas (Bakker & Leiter, 2010; Schaufeli & Bakker, 2010). Within the circumplex model, it is defined as a state in which both levels of pleasure and activation are

high. Although there are a number of different conceptual perspectives in the literature, presently the definition put for by Schaufeli, Salanova, González-Romá, and Bakker (2002), is referenced, who state that work engagement is “... a positive, fulfilling, work-related state of mind, characterised by vigour, dedication, and absorption” (p. 74). Three main factors emerge from this definition: vigour - where high energy levels and mental resilience enable individuals to invest effort into one’s job and persist in the face of adversity; dedication – a combination between a sense of significance, inspiration, enthusiasm, challenge and pride; and finally absorption – when one is fully engrossed in his or her work, such that time seems to pass quickly, and concomitantly it is difficult to detach from one’s work (Schaufeli et al., 2002). The engaged employee is considered to be a highly energetic and efficacious person, exercising control over the events in their work and personal lives, who perceives feedback in a positive, growth-oriented way, and who even when tired after work feels good because the effort expended gives a sentiment of accomplishment. They are not workaholics, as they are motivated not by an uncontrollable inner drive, but rather because they truly enjoy what they are doing (Bakker & Oerlemans, 2011; Schaufeli, 2006).

While widely used, it is important to mention that the idea of engagement has also been criticised. For example, Guest, (2014) outlines how the concept of organisational or employee engagement gained traction in industry and policy circles, but points out that in many cases the way it had been defined in those arenas differ greatly from how academics and psychometricians have approached the concept. This has led to ambiguity surrounding this concept, which has detracted from its perceived reliability and usefulness as a concept, especially amongst the research-oriented practitioners in the community. Similar concerns have also been echoed by Purcell (2014) who notes that there is a difference between the well-defined psychological approach to engagement, made up of the sub-dimensions of vigour, dedication and absorption, and the concept of engagement as presented in many industry settings and by consultancies (referred to as employee or organisational engagement), which attempts to subsume concepts of leadership, involvement, voice trust or job design into one measure and score. This latter approach to “defining engagement” has also been discussed by Briner, (2014), who goes on to outline a comprehensive criticism of this haphazard method of thinking about engagement and argues that this conceptualization is not only unsupported by evidence, but also muddies the notion of work engagement. It is also worth mentioning that while work

engagement, as used in this present work, has shown good reliability when measured across different populations with a validated instrument (the Utrecht Work Engagement Scale), there is still much to be investigated, and research does point out that the relationships between demands and resources with engagement is still not fully understood (Guest, 2014; Purcell, 2014). Moving forward, engagement, employee engagement or work engagement will refer to the psychological construct, as opposed to the less robust conceptualisations sometimes encountered in the industry or practitioner/consultancy circles.

Job satisfaction, one of the most widely studied dimensions of work-related wellbeing, is characterised within the circumplex model as a state of high pleasure and low activation (Bakker & Oerlemans, 2011). Defined as a “pleasurable emotional state resulting from the appraisal of one’s job” (Locke, 1969, p. 317), it relates to aspects of both job design as well as relationships at work (Abdulla et al., 2011; Belias & Koustelios, 2014). Historically, it is a concept that can be traced back to Herzberg, Mausner, & Snyderman (1959), and the Motivation-Hygiene theory, and it relates to how the employees feel about their job. In this framework, satisfaction is believed to be influenced by motivators (that help achieve a state of fulfilment and lead to personal growth – and include aspects such as the meaningfulness of the work, achievements, perceived recognition), and hygiene factors (that need to be properly managed in order for the motivators to take effect – including here features of working conditions, relationships, institutional policy and job security). Herzberg’s theory offers a model which helps in understanding how general job characteristics (i.e. job design and relationships at work) influence how individuals will behave, and whether they will take advantage of the existing resources and opportunities that are offered to them in order to feel and perform better on the job, and be satisfied as a result. As a construct, measures of both overall job satisfaction, as well as facet-specific measures have been employed in prior studies. Single items, as well as batteries of questions (assessing extrinsic and intrinsic satisfaction, for example) are prevalent in the literature (Bakker & Oerlemans, 2011).

1.1.4 The negative facets of employee health and wellbeing

1.1.4.1 Psychological dimensions

Stress, and more specifically occupational stress, has evolved as a concept, with researchers engaging in a series of debates over time in an attempt to define it (Cooper, Dewe,

& O’Driscoll, 2001). Initially defined as a stimulus and a response, and then as the interaction of the two, definitions have since evolve to include the concept of imbalance between an individual and the environment they find themselves in (Cooper et al., 2001; Dewe, O’Driscoll, & Cooper, 2010, 2012). This more recent approach allows for a more nuanced conceptualisation – one in which the role of psychological processes such as cognition, perception and emotion is acknowledged, as is the continuous exchange that happens between the individual and their environment, and their attempts to deal with potential imbalances (Cox, 1993; Cox & Griffiths, 2010). As a result, a number of occupational stress models have been developed, which have tried to provide a theoretical framework to uncover the most important work organisational factors and their interactions, that lead to stress (Houdmont & Leka, 2010).

Burnout is a second concept which has received increased attention in the academic literature. First coined in 1975 by Maslach, it was first conceptualised as a tri-dimensional set of factors, which included depersonalisation, emotional exhaustion and reduced personal accomplishment. Since then more elements have been proposed to be integrated, including but not limited to fatigue, work-directed focus and concentration, and to a certain extent engagement (or lack thereof) (Maslach et al., 2001; McGeary & McGeary, 2012). Looking at the three original dimensions offered by Maslach, emotional exhaustion happens when there is work conflict and overload, and results in a lack of energy, bot to complete tasks as well as to successfully interact with colleagues; depersonalisation refers to having an excessively distant, even negative response to other individuals, which can happen at first as a coping and protective mechanism, but which can lead to low quality of work and even to dehumanisation of those around; finally, reduced personal accomplishment equates to feelings of inadequacy, inability and lack of competence to carry out one’s role and duties, which has a direct impact on productivity and quality of work (McGeary & McGeary, 2012).

The link between psychosocial factors and depression and anxiety is a well-researched relationship, as the latter mentioned factors have been recognised as some of the leading causes of absenteeism and long-term sick leave, in the majority of the developed countries (Joyce et al., 2016). While some still debate whether depression should be understood as a unidimensional or two-dimensional construct (Elhai et al., 2012), it is generally defined as a combination of symptoms, of which at least two need to be present. These include anhedonia, a depressed mood, sleep difficulties, feelings of worthlessness or excessive guilt, suicidality,

diminished ability to think or concentrate, appetite or weight loss, psychomotor agitation/retardation and fatigue (Tolentino & Schmidt, 2018). Anxiety disorders are defined as a combination of several criteria, including an inability to control one's level of worry, restlessness, becoming easily fatigued, irritability, muscle tension, sleep disturbance and problems with concentrating. These symptoms impair an individual's normal social functioning (G. Andrews et al., 2010). It is important to note that Anxiety and depression are believed to be highly co-morbid, and at a genetic level they are believed to be basically identical (Watson, 2005), and recent reviews have also show how stress (Fan et al., 2015), burnout (Koutsimani et al., 2019) and depression (Cohen et al., 2015) are associated with both.

1.1.4.2 Physical dimensions

Musculoskeletal disorders (MSDs) are a group of physical health symptoms that appear at the level of spinal disks, joints, nerves, bones, tendons, ligaments, muscles and cartilages. These manifest as sprains, tears, pain, hernias, soreness, strains, hernias and carpal tunnel syndrome. Due to the increased prevalence of desk-band jobs, and the increasing time works now spend in front of the computer, the incidence of self-reported MSDS has been on the increase in the last decade. In particular, pain in the neck, upper and lower back, wrist and hands is most prevalent (Eatough et al., 2012; Janwantanakul et al., 2008; Piranveyseh et al., 2016). All these disorders have been linked with several psychosocial factors, including perceived workload, social support, control, job-related resources, mental demands and job strain (a combination of high demands and low resource), as made evident by a large number of primary studies, systematic reviews and meta-analyses (Bernal et al., 2015; da Costa & Vieira, 2009; Freimann et al., 2016; Lang et al., 2012; Soyler & Ozer, 2018; Vargas-Prada & Coggon, 2015).

A further physical health related set of conditions that have been extensively studied are those that fall within the cardiovascular disease category. Mostly referred to as ischemic heart disease or coronary heart disease, these conditions encompass all ailments which come as a result of narrowed or blocked arteries, which can lead to myocardial infarction or stroke (Kivimäki & Kawachi, 2015). Similarly to MSDs, risk factors such as poor job resources, high demands, long working hours, levels of social support, job strain, stress, work-life balance and job insecurity, all have been indicated to have direct, indirect and compounding/additive effects

on the prevalence of a range of CVDs and related outcomes (Fransson et al., 2015; Kivimäki et al., 2012; Kivimäki & Steptoe, 2018; Lagraauw et al., 2015; Theorell et al., 2016).

1.2.1 The economic value case for health and wellbeing

If the benefits of having innovative employees are somewhat self-evident, perhaps the economic value case for having healthy employees is less obvious. Nevertheless, a considerable amount of research has been done on this topic, and it has long been recognised that employee health is quintessential to organisational success, with concepts such as knowledge capital (i.e. enabling the *ability to be productive*) and health capital (i.e. enabling being able to *spend time being productive*) being discussed over forty years ago. There are several different methodologies for calculating the cost of ill health (physical and mental). Cost of illness (COI) analysis attempts to quantify the total costs of illness at the different stakeholder levels within an society (Larg & Moss, 2011), and have been generally grouped as either top-down, bottom-up or deductive (Hassard et al., 2018). At the organisational level, there is cost-benefit analysis, cost-effectiveness and cost-utility analysis (Tompa et al., 2010). While each have their benefits and drawbacks, the vast number of studies that have been carried out thus far, estimating the costs of health and wellbeing, converge on the conclusion that these costs are real, complex to estimate, and because of that likely high, or higher than most estimates (Jain et al., 2018).

In the EU, an estimated €145 billion is spent yearly on work-related disease (*The Prevention of Occupational Diseases*, 2013), and worker health has been indicated to account for up to 13% of EU countries GDPs. It is acknowledged that the economic case for the prevention of mental ill health is strong (McDaid et al., 2019), and mental health related costs in Europe have been approximated at €240 billion per year (EU-OSHA, 2014). A review analysis by Hassard et al. (2018) has found that the costs of work-related stress varied anywhere between \$221.3 million to \$187 billion around the world, across their reviewed studies. Studies on the economic and humanistic costs of anxiety disorders indicate that sufferers report lower health-related quality of life, work productivity, role functioning, higher number of sick days, and direct and indirect median costs in the US reaching \$2375 (vs \$1448 for healthy individuals) (Revicki et al., 2012), while in the EU another study found that total annual costs for anxiety disorders was around €74.4 billion (Olesen et al., 2012). Furthermore, the direct healthcare, direct non-medical and indirect costs for depression have been indicated to range

around €24.1, €13.7 and €54 billion respectively, in Europe (Olesen et al., 2012), while in Australia work-related depression was shown to bring with it decreased performance and increased sickness absence, with the costs of lost productivity estimated as high as \$AUD 3870, which would equate to a national cost of \$AUD 8 billion (McTernan et al., 2013). The economic strain of CVD and MSDs have also been estimated. Leal, Luengo-Fernández, Gray, Petersen, and Rayner (2006), in their study have looked at aggregated data on morbidity, mortality and healthcare costs, finding that in the EU €169 billion, while a more recent report has put the CVD economic burden in the EU at €210 billion (Wilkins et al., 2017). In the case of MSDs, a review report by Bevan (2015) outlines that many adults do not report or take measures against MSD related pain (up to 42% of cases undiagnosed) due to perceived stigma, which makes estimating the direct, indirect and intangible costs more difficult. However, figures cited range between €2.1 billion euro/year in Finland \$2 billion/year in Spain and, for lower back pain only, an approximate £12.3 billion is spent in Europe.

Not only is the potential socio-economic impact of ill-health well recognised, but so are the benefits of having healthy employees that enjoy high levels of wellbeing and this has been agreed upon by all key actors, be they academics, practitioners or policy makers. There is a plethora of studies reflecting this, and several organisational programmes and policy frameworks that have been developed based on this idea. However, apart from the benefits for the individual that come from increased WB, research suggests that there is a business case that can be made for the importance of promoting and adopting said programmes in organisations. A review of Gallup studies on employee wellbeing (conceptualised as job satisfaction and engagement) and its relationship with several business outcomes points to several relations. Following a meta-analysis, the authors found that engagement was positively related to customer satisfaction, productivity, profits, and negatively related to turnover intentions. Furthermore, the levels of engagement within a business unit predicted its success rate both within and across companies (Harter, Schmidt, & Keyes, 2003). In another study conducted with a sample of firefighters, in which a manager rated their job performance, job engagement was shown to be the strongest mediator of the relationship between several antecedents (value congruence, perceived organisational support and core self-evaluations), and job performance (in terms of task performance and organisational citizenship behaviour) (Rich et al., 2010).

A number of studies have also looked at how job satisfaction relates to several business outcomes. For example, Wright, Cropanzano and Bonett (2007) collected data from 109 managers of large organisations in the United States and in one of their models investigated the direct effect of job satisfaction on job performance (measured by their immediate manager). Their analysis indicated that indeed job satisfaction had a significant effect on job performance, as hypothesised. The authors go on to propose that the satisfied employee is more likely to take advantage of the resources being offered, they become better problem solvers and take better decisions as they become more involved in their work (Wright et al., 2007). Another study investigated the relationship between employee job satisfaction and financial performance, labour productivity, absenteeism and the quality of work (outcomes which were rated by managers). A secondary analysis of the Workplace Employment Relations Survey 2004 was conducted to test the proposed associations. The results supported the initial hypothesis, with satisfaction having a positive relation with financial performance, labour productivity, and quality of work, while for absenteeism a negative relation was observed (Wood, Van Veldhoven, Croon, & de Menezes, 2012). The authors also investigated the mediating role of satisfaction in the relationship between enriched job design (a concept referring to designing workplaces that allow employees to benefit from greater autonomy, higher discretion and functional flexibility) and the four dimensions of organisational performance. Following a multilevel modelling analysis, job satisfaction indeed emerged as a significant mediator between the aforementioned factors, with the exception of absenteeism, where the relationship was non-significant (Wood et al., 2012). These findings again suggest that satisfied employees are more likely to be aware and take advantage of the resources that are offered to them in their work, which will in turn have a positive effect on a number of organisational performance indicators (Millán et al., 2013).

1.2 Context of the thesis: focusing on innovation, health and wellbeing as drivers of productivity and growth

Having now made clear all the key concepts, it is time to focus on understanding why it is important to study these factors. Ever since 2010, when the Europe 2020 strategy was conceived, competitiveness and innovation have been at the forefront of the EU productivity agenda (European Commission, 2010a). This strategy, driven in no small part due to the need

to address the challenges brought by the last financial crisis, acknowledges the importance of coordination across a number of fields, from employment to economic and innovation policy. Furthermore, this 10-year programme had also a goal of making the EU a global socio-economic power, on par with the US and China. Nevertheless, questions still remain as to how to achieve this, and some still argue that in the area of innovation a lot of emphasis was placed on the traditional economic and technological dimensions, with relatively less attention given to the human side of the equation (Pot, Totterdill, & Dhondt, 2017). However, research has repeatedly shown that to focus on the technological side of innovation and productivity only is not enough. This has been noted several times, and is known as the productivity paradox – namely that with increased investments in technology, generally there has not been a proportional observed increase in productivity (OECD, 2016).

This is where innovation comes into play, and a recent meta-analysis indicated that labour productivity gains from technological investments are mediated by the organisational capability for innovation (Kijek & Kijek, 2019). This capability for innovation, at a company level, has been linked with HRM practices which impact employee behaviour through several mechanisms, including motivational pathways (Chowhan, 2016; Jiang et al., 2012; Kehoe & Wright, 2013). This is not surprising, as past research supports the idea that HRM practices focusing on job design, autonomy, task rotation, discretion and increasing engagement are important precursors of organisational level innovation and innovative work behaviour (Abstein & Spieth, 2014; Seeck & Diehl, 2016). At this point the links between the work environment (also known as the psychosocial environment – more on this in Chapter 2) and productivity and innovation start to become apparent.

All these aforementioned factors are also key elements of the Workplace Innovation framework, as discussed in the previous sections. Furthermore, recent work in this area has supported the idea that when studying WI at the organisational level, focusing on work organisational factors as conceptualised in theories like the Job Demand Control-Support (JDC-S) and the Job Demand Resources (JDR) model are valid research approaches (Oeij & Dhondt, 2017). Now, the theoretical overlap between WI, health, wellbeing should become evident (Pot, 2017). Moreover, the JDR model has been one of the most heavily researched organisational design theories and, in Chapter 2, a detailed review of relevant studies looking at how it can be employed to explain a range of outcomes, from IWB to OSH-related effects will be presented.

On the health, safety and wellbeing side, it has long been known that several psychosocial factors influence many of the important outcomes outlined in the previous sections. While the body of research is more mature in this area, there are still challenges to overcome, especially as far as EU policy is concerned (Leka, Jain, et al., 2015). Although more developed, the level of adoption of OSH policy is still not ideal, and Jain et al. (2018), in their book, also argue for the value of integrated, holistic OSH approaches, acknowledging that there is still much more work to be done when it comes to standardising the development and implementation of policy.

Overall, the arguments in this section lead to the main propositions of this thesis, namely that innovation, at the organisational and individual levels, should be influenced by the same underlying factors as those governing health and wellbeing. The chapters are all driven by this assertion, with the quantitative study testing which key factors drive IWB at the individual level; building on this, the two qualitative studies are investigating the gaps in the current policies, and what are some of the key challenges stakeholders at all levels face when aiming to developing more comprehensive health, wellbeing and innovation frameworks.

1.3 The structure of this thesis

The content of the following six chapters, which make up this thesis, is briefly outlined below:

- Chapter 2: the literature review is presented, and the theoretical foundations of the three studies are introduced. The concepts which guide the integrative framework proposed in this thesis are discussed.
- Chapter 3: the epistemological and methodological considerations which have guided the design of the studies are presented.
- Chapter 4: the first quantitative study is presented, which uses a Generalised Multilevel Structural Equation model to test the predictive relationships between key organisational level factors and employee level innovative work behaviour.
- Chapter 5: the existing research that has investigated the current policy efforts in the areas of OSH, WB and WI is reviewed, as are the frameworks which have been used to conceptualise and explain the process of policy development across the EU, and the second qualitative study is presented which investigates the comprehensiveness,

strengths and limitations of existing policies which sit at the intersection of occupational safety and health, psychosocial factors, employee wellbeing and workplace innovation.

- Chapter 6: the third qualitative study is presented, looking at the key factors and mechanisms that influence the policy development and implementation processes in the areas of occupational safety and health, psychosocial factors, employee wellbeing and workplace innovation.
- Chapter 7: the results of the three studies are holistically discussed, bringing together the key insights of this research and providing recommendations on the way forward in these areas.

2 The psychosocial work environment, wellbeing and innovative work behaviour

2.1 The psychosocial work environment

In the first chapter, several key concepts were presented and discussed conceptually. Workplace innovation, innovative work behaviour as well as employee health and wellbeing are important and need to be taken into consideration at all levels. However, the question as to what are the most important organisational level antecedents that will have the biggest impact on these factors still remains. In order to understand how to design the most optimal workplace, it is important to first understand the inherent psychosocial factors that define the workplace.

Much of the research on the factors affecting the psychosocial work environment has been focusing on what is known as psychosocial hazards. Psychosocial hazards are defined in terms of the complex interactions that take place between the job content, work organisation and management and other additional environmental and organisational conditions on one hand, and the individual's needs and competencies on the other (Rugulies, 2019). These factors then interact in such a way that they exert a negative influence on the employee's health, as well as on organisational outcomes such as sickness absence, reduced productivity or human error (Leka & Cox, 2008). One of the most recent and integrative frameworks that was developed in order to create a taxonomy of psychosocial hazards, their outcomes and determinants, and that also brought into consideration the management of these work-related factors, is the Psychosocial Risk Management – Excellence Framework (PRIMA-EF) (Leka et al., 2008). The framework cites a number of factors that originated from the OSH literature: job content, workload, work schedule, autonomy, organisational culture, interpersonal relationships, work role, career development and home-work interface; these factors are proposed to directly influence the experience of work-related stress and to impact employee health and wellbeing as a result. It must be noted however that it is often evident that there is no clear understanding in either scientific publications, policy documents or practical guidelines of the exact dimensions of the psychosocial work environment, which often leads to confusion for both legal and organisational entities, as well as for stakeholders. However, efforts are being made towards more conceptual clarity, and (Leka et al., 2017) propose what is perhaps the most comprehensive taxonomy of psychosocial factors (presented in Table 2.1).

Table 2.1 Psychosocial work environment dimensions according to Leka, Jain and Lerouge (2017)

Dimensions	Negative psychosocial work environment	Positive psychosocial work environment
Organisational culture & function	Poor psychosocial safety climate, Poor communication, low levels of support for problem solving and personal development, lack of definition of, or agreement on, organisational objectives	Good psychosocial safety climate, clear organisational objectives, appropriate support for problem solving and personal development, good communication processes
Job content	Lack of variety or short work cycles, fragmented or meaningless work, under use of skills, high uncertainty, continuous exposure to people through work	Meaningful work, appropriate use of skills, work retaining employee interest and engagement, appropriate support
Workload & work pace	Work overload or under load, machine pacing, high levels of time pressure, continually subject to deadlines	Appropriate level of workload, appropriate work pace, sensible and achievable deadlines
Work schedule	Shift working (especially irregular), night shifts, inflexible work schedules, unpredictable hours, long or unsociable hours	Sensible shifts and reasonable working hours to maintain work-life balance, flexible working practices
Control	Low participation in decision making, lack of control over workload, pacing, shift working	Participation in decision making, control at work
Environment & equipment	Inadequate equipment availability, suitability or maintenance; poor environmental conditions such as lack of space, poor lighting, excessive noise	Good physical working conditions according to good practice guidance
Interpersonal relationships at work	Social or physical isolation, poor relationships with superiors, interpersonal conflict, lack of social support, harassment, violence	Good relationships at work, teamwork, social support, appropriate policies and procedures to deal with conflicts
Role in organisation	Role ambiguity, role conflict, responsibility for people	Clear roles and responsibilities, appropriate support to meet objectives
Career development	Career stagnation and uncertainty, under promotion or over promotion, poor pay, job	Appropriate career prospects & development matching skills & performance, effort reward

	insecurity, low social value to work	balance, valuable/meaningful work, job security
Home-work interface	Conflicting demands of work and home, low support at home, dual career problems	Work-life balance, supportive organisational policies and practices to achieve 'life balance'

Leka and Cox (2010) define a “hazard” as the capability of specific work factors (be they materials, the work environment, work organisation, practices, etc.) to cause damage or harm. Looking at the rationale provided by transactional theories of stress (Lazarus & Folkman, 1984), it can be argued that when the balance between an individual’s ability to cope and the demands of the job is broken, work-related stress appears. However, if it were to be said that psychosocial hazards influence employee wellbeing solely through work-related stress it would be a limited way of thinking (Cox, 1993). It has been acknowledged that indeed the paths through which hazards affect health are numerous, and that is why a more comprehensive definition was proposed, namely that psychosocial hazards might be those aspects of the design and management of work, and its social and organisational contexts, that have the potential for causing psychological or physical harm (Cox & Griffiths, 2005). Finally, psychosocial risks refer to the potential of psychosocial hazards to cause harm (disease, damage or injury) to the employee (*Guidance on the Management of Psychosocial Risks in the Workplace*, 2011; Leka & Cox, 2010).

One important consideration needs to be taken into account before moving forward. Especially in the OSH literature, much of the narrative so far when discussing psychosocial hazards has focused on the negative consequences of these factors. Even the term hazard has an inherent negative connotation to it. However, these factors should not be perceived only as something that will always have an undesirable outcome. How an organisation manages these factors will dictate the quality of the broader psychosocial work environment (Leka et al., 2017; Leka & Cox, 2010) For example, in the PRIMA-EF framework, it is acknowledged that several positive outcomes do emerge if the psychosocial work environment is managed successfully. Some of the proposed benefits are increased innovation, quality of work and productivity (Leka et al., 2008; Leka, Van Wassenhove, et al., 2015).

2.2 A review of theoretical models and related research

Having introduced the concepts of psychosocial hazards, risks and the general psychosocial work environment, and acknowledging that there are several general factors that influence a number of employee and organisational outcomes, the focus must now shift towards looking at the interactions between the aforementioned factors. It would be a mistake to haphazardly look at all these variables without any theoretical principle, and that is why a number of frameworks have been proposed. The Job Demand Resources (JDR) model (Bakker & Demerouti, 2007) is one such model that in recent years has provided guidance when researching how the design of one's job influences both individual and organisational level outcomes. Furthermore, more recently, the JDR model was proposed to be an appropriate tool for investigating WI related aspects as well (Oeij & Dhondt, 2017). A later section will introduce this model, and also several studies showing how it has been used to investigate the precursors of both employee health and wellbeing and innovation. However, first it is important to also briefly review alternative models which have been used in the literature, and to outline why the JDR model was ultimately chosen in favour of others.

2.2.1 *Transactional model of stress*

Transactional theories of stress have been used to explain the interactive effects of the individual's cognitive and emotional reactions when faced with environmental stimuli. According to this view, stress is a negative psychological state that arises when there are discrepancies between environmental cues and a person's cognitive and emotional appraisal of their ability to cope with a particular situation (Cox et al., 2000; Cox & Griffiths, 2010). This appraisal process is a key factor of the model and has been further broken down in primary and secondary appraisals (Folkman & Lazarus, 1986; Lazarus & Folkman, 1984). Primary appraisal refers to the monitoring of the transactions between a person and their environment, while secondary appraisal refers to analysing strategies which could be employed to cope with the given situation. Again, stress is said to appear when an individual believes they cannot find successful coping strategies. Cox and Griffiths (2005) further expand and define five dimensions of the process through which these transactions are proposed to happen: antecedent factors (exposure to psychosocial hazards); cognitive processes that lead to emotional

responses; physiological, psychological and behavioural associations stemming from coping with the emotional responses; the broader effects of stress (including social, ill health or organisational outcomes); and the environmental feedback as a result of successful or unsuccessful coping attempts. The cyclical, unstable and highly inter-connected nature of the model is recognised for being highly complex, and this is also why it has been criticised for being convoluted and particularly challenging to accurately measure (Cox & Griffiths, 2010; Mark & Smith, 2008). Furthermore, conceptually this model heavily relies on individual differences and the individual's appraisal of a particular set of environmental circumstances. While this level of analysis would unlock some interesting insights, it must be said that in the present work the intent was not to focus on individual level differences in beliefs, attitudes, and cognitions. Rather it was to conduct analysis at the level of the psychosocial work environment, in order to uncover which factors would have an impact on innovative employee behaviour across different people, countries, sectors and organisations, in order to draw conclusions about potential broad-based programmes and frameworks that could inform practices at the EU level. This, taken together with the near impossibility of measuring all the relevant factors and interactions from the available level of data, informed the decision of not using a transactional theoretical lens as the basis of this research.

2.2.2 The Person-Environment Fit theory

The Person-Environment Fit (PE Fit) theory proposes that the interaction between a personal attributes (e.g. needs, values abilities) and the environment (e.g. supplies, values, demands) will influence how they respond to work situations, the impact on experienced physical and psychological, as well as organisational outcomes. Furthermore, the theory emphasizes the importance of individual perceptions of themselves as well as of the environment. Stress is thought to arise when there is an imbalance (fit or mis-fit) between the ability/attitudes of an employee and the demands placed on them on one hand, and the degree to which the individual's needs are met by the environment on the other (Cox & Griffiths, 2010).

Since its initial development, researchers have expanded on the theory in several ways (van Vianen, 2018):

- *Person-Vocation fit* proposes that workers will see work where they can express their interests, and that several personality characteristics (realistic, investigative, artistic, social, enterprising and conventional) will modulate the amount of perceived fit, or congruence (Holland, 1997; Spokane et al., 2000).
- *Person-Job fit* is closely related to the interactions taking place between the employees' abilities and job demands on one hand, and the fit between personal needs, desires and preferences and the attributes supplied by the job (e.g. workload, support, autonomy, security, promotion opportunities) (Rounds et al., 1987).
- *Person-Organisation fit* relates to the amount of alignment between a person's values and those of the organisations in which they find themselves in. It is believed that values are fundamental to core individual self-concepts and drive attitudes and behaviours over time (Schneider et al., 1998).
- *Person-Team fit* relates to how an employee fits within their immediate team, along characteristics such as goals, skills, personality, demographics and values.
- *Person-Supervisor fit* refers to the alignment between the supervisor's and the employee's characteristics (van Vianen et al., 2011). This relationship is important as it is expected that supervisors will influence the amount of experienced inclusion, career opportunities and rewards, and are expected to instil and transmit the organisation's values to their subordinates.

It becomes evident that the concept of fit is complex, as are the various pathways through which it can be achieved and investigated. Furthermore, much of the research with the various PE Fit models indicates that in order to obtain a fit index, a key part of the equations is taking into consideration employee attributes such as job attitudes, personality, beliefs, culture, norms, values and cognitions. This is not surprising when looking at the different conceptualisations of fit above, as all have elements of individual characteristics or perceptions associated with them, in addition to environmental factors. Furthermore, there are those that propose that in order to truly measure fit, one must try and measure not just one type of fit, but several together (Andela & van der Doef, 2019). While undoubtedly useful, the focus of the PE Fit Theory is generally at a different level than the one employed in this study. In the present work, the psychosocial work environment is investigated, and therefore a theory such as the JDR model, specifically designed to evaluate it, would be more suitable. Interestingly, even in

the PE Fit literature, there is research that suggests that there are several core environmental attributes which are akin to the ones used in the JDR model, which seem to be universally important, more or less regardless of personal characteristics (van Vianen, 2018). This suggests that, in some cases, significant explanatory power can be retained, even without considering more granular individual differences in personal characteristics.

2.2.3 The Job Demand Control and Job Demand Control (Support) models

Before discussing the Job Demand Resources model, it is important to mention an earlier, similar model of job design, the Job Demand Control model (Karasek, 1979, 1990). It proposes that the interaction between two job dimensions, demands and control, will influence levels of enjoyment, learning and personal growth. A short number of years after the JDC model was introduced, social support was added as an additional characteristic, being integrated into the model, which became known as the Job Demand Control-(Support) model (JDCS) (Häusser et al., 2010). There are several core elements on which the JDC/JDCS models are built. First, they propose that negative outcomes at work are governed by the additive effects (“additive effects hypothesis”) of two primary dimensions: job demands and job control (and support). The relationship between these elements then gives rise to certain job types. Specifically, according to the “active-learning jobs” hypothesis, work that is characterised by high levels of control and high levels of demands is the most stimulating, jobs that are high in demands but low in control are stressful (“high-strain jobs” hypothesis), while jobs low in demands but high in control are “low strain jobs” (Karasek & Theorell, 1990). Furthermore, the models also propose that there are multiplicative or interactive effects, whereby job control (and support) would act as a buffer (“the buffer hypothesis”) against the negative impact on wellbeing brought on by high demands (Johnson & Hall, 1988; Van der Doef & Maes, 1999).

While the JDC/JDCS models have acquired a prominent position in the literature, they have been criticised. Several reviews have pointed out that there are some limitations to the success of the JDC/JDCS as models for predicting employee wellbeing. Specifically, when it comes to the multiplicative or interactive effects, the strength of the relationships appears to be weaker overall, and the weakest for social support (Häusser et al., 2010). A potential reason proposed for this has been that the effect size of the interactive effects might be significantly

smaller than for direct effects, and therefore large sample sizes would be needed in order to identify these types of relationships. This is an element which has been directly addressed in the current work, as the sample size should be sufficiently large as to identify these types of effects. Furthermore, another major criticism and one of the main reasons for why the JDR was chosen as a theoretical framework for the quantitative study, is that the JDC/JDCS models can be too narrow at times, conceptually and methodologically limiting what can be categorised as “demands” or “resources” (Bakker & Demerouti, 2014). In contrast, the JDR model assumes that any resource or demand can affect an employee, allowing for greater flexibility, and thus making the JDR model more a framework for thinking about job characteristics, and less of a traditional “model” (Schaufeli & Taris, 2014). Therefore, it can be thought that the JDR model integrates both the JDC and JDCS models that preceded it, losing nothing of the valuable thinking and research that have gone into them. On a final note, acknowledging that a large number of studies have been conducted based on these two preceding theories, it would be remiss to dismiss the vast literature that has come as a result of this. That is why, even though these are not the central models of the present work, where appropriate, research that employed the JDC/JDCS models and that is relevant will be discussed.

2.2.4 The Job Demand Resources model

The Job Demand Resources model builds and expands on the JDC/JDCS models and, at its core, tries to integrate two areas of research which have been relatively independent thus far, namely the stress research domain and the motivation research domain. The basic premise of the JDR model is that job demands and job resources act as initiators of processes that lead to health impairment, and motivation respectively (Demerouti & Bakker, 2011). Furthermore, the model goes on to explain how these demands and resources interact, and how they predict a range of individual and organisational outcomes. Self-reported and objective data has been used to test predictions stemming from the model, with good support having been found in both cases. Outcomes such as burnout (Bakker et al., 2008), work enjoyment (Bakker et al., 2010), connectedness (Lewig et al., 2007), work engagement (Bakker et al., 2007) and job satisfaction (Birtch et al., 2016) have all been predicted by using the JDR model. Moreover, absenteeism (Clausen et al., 2012; Schaufeli et al., 2009) and job performance (Bakker et al., 2008) are just a few of the consequences of these outcomes that have also been investigated through the JDR model.

This particular theoretical framework has had an increase in popularity since its inception, and one of the reasons for this is its flexibility and wide applicability. Regardless of the setting, the model proposes that all work environments can be understood by looking at two broad sets of dimensions, job demands and job resources (Bakker & Demerouti, 2014). Job demands are “those physical, psychological, social or organisational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort or skills and are therefore associated with certain physiological and or psychological costs” (Demerouti & Bakker, 2011, p. 2). Some examples of demands are high work pressure, sub-par physical environments and poor working hours, and while their effects must not always necessarily be negative, they might become stressors when workers do not get the chance to recover once effort has been expended to deal with them (Meijman & Mulder, 2013). Job resources are “those physical, psychological, social, or organisational aspects of the job that are: (a) functional in achieving work goals; (b) reduce demands and the associated physiological and psychological costs; or (c) stimulate personal growth, learning and development” (Bakker & Demerouti, 2014, p. 9). From this definition it can be understood that resources play a dual role: they buffer the effects of the demands, but they are also important in and of themselves. They act as promoters of motivation and as means of gaining other resources; and they are found at all levels: macro organisational level (salary, job opportunities and job security); interpersonal level (manager and co-worker support); job-specific (role clarity, participatory decision making); and task-specific (task identity, skill variety, task significance, autonomy and feedback) (Demerouti & Bakker, 2011).

Perhaps one of the most recent conceptual additions to the idea of demands has been the proposed differentiation between challenging and hindering demands. Lepine, Podsakoff and Lepine (2005) and Podsakoff, LePine and LePine (2007) propose that there are two types of stressors, namely challenge and hindrance stressors. Hindrance stressors are defined as those demands that have a negative effect and that prevent individuals from achieving their goals. Examples include role conflict, role overload and role ambiguity. Challenge stressors, conversely, are those that promote achievement and personal growth. They include time pressures, workload and responsibility (Demerouti & Bakker, 2011). A more recent study conducted by Van den Broeck, De Cuyper, De Witte and Vansteenkiste (2010) set out, using the JDR, to examine whether there is empirical evidence to support these claims. After

gathering data from two samples (call centre agents and police officers), a factor analysis was performed to investigate if challenge and hindrance demands will emerge as separate constructs. The results supported the original propositions, and indeed work-home interface and emotional demands loaded on one factor (hindrances), while workload and cognitive demands loaded on a separate dimension (challenges). Equally important, both challenges and hindrances were different from resources, suggesting that challenging demands are indeed conceptually different from resources. The authors went further and conducted a Structural Equation Modelling (SEM) analysis, findings from which suggest that hindrances have a negative effect on vigour and a positive effect on exhaustion (a main component of burnout), while resources show the opposite relationships, and challenge demands are positively related to vigour but have no effect on exhaustion. Their results are interesting and point to a more complex structure of demands. However, additional empirical evidence is scarce, and that is why more studies are needed to further explore this issue (Demerouti & Bakker, 2011).

A main assumption of the JDR model is that demands and resources will not only have a direct effect on a range of individual and organisational outcomes, but that they will also interact with joint effects. Two ways in which these variables will interact are proposed. First, job resources could have a buffering role on the effect of demands, reducing the strain. Social support, autonomy, feedback and opportunities for development can combat the effects of work pressure and emotional demands on burnout (Xanthopoulou et al., 2007). A second interaction is when job demands amplify the impact of job resources on motivation and engagement. For example, in a study by Hakanen, Bakker and Demerouti (2005), evidence was found for the hypothesis that resources were most important and had the greatest effects under high job demand conditions. Related findings are reported in another study conducted among teachers, where job resources were related to increased engagement, particularly when the teachers were faced with a demanding classroom (having to deal with pupil misconduct) (Bakker et al., 2007). Finally, Bakker et al. (2010) reached conceptually similar conclusions in their study, where they found that task enjoyment and commitment were highest when workers were faced with challenging jobs for which they had the necessary resources to deal with.

However useful the JDR appears to be, there are also several limitations that must be acknowledged. Because the JDR is a model that has traditionally focused on work

characteristics, there has not been a lot of emphasis on the differences between individual characteristics such as personality types, affect, ability or cognition. However, because the model allows for a broad definition of “resources” some studies have started integrating such element as self-efficacy, optimism, self-esteem, resilience and hope, under the name of “personal resources” with encouraging first results (Xanthopoulou et al., 2007, 2009). Nevertheless, conceptually the role of “personal resources” is still unclear (i.e. are they mediators, moderators, direct antecedents or a combination of all these). A second set of challenges has been outlined by Schaufeli and Taris (2014). The first one has been linked back to one of the strengths of the JDR model, its flexibility when defining demands and resources. It is proposed that when conducting research, it is important to clearly define the specific resources and demands that are used, and to argue why those precise ones have had an effect on a specific outcome or set of outcomes. Furthermore, the JDR only illustrates *what* relationships may appear, but not necessarily *why* they appear. Therefore, the researcher must be careful when interpreting the results qualitatively. Finally, there is also the issue of multi-level effects. Theory seems to indicate that the JDR can be applied in a multi-level setting, and while research has successfully focused on the team and organisational levels (Torrente et al., 2012; Xanthopoulou et al., 2009), there is still much to be uncovered when it comes to potential cross-level effects. This is something which the current research aims to address.

2.2.5 The psychosocial environment and work-related health and wellbeing

When discussing wellbeing in the workplace, much of the literature makes reference to two general concepts, job engagement and job satisfaction on the positive side, while in the negative spectrum stress, depression burnout, musculoskeletal disorders and a range of heart diseases are cited. In the following sections several studies will be discussed in more detail to offer a more comprehensive picture of the underlying relationships between these outcomes and several demands and resources.

2.2.5.1 The negative facets of wellbeing

A meta-analysis conducted by (Alarcon, 2011) has looked at studies investigating the relationship between demands, resources and burnout. Burnout is defined as a negative state in

which the employee suffers from increasing exhaustion, cynicism and reduced accomplishment (Alarcon, 2011). Demands are proposed to negatively influence the available resources (they get depleted more quickly), and over time these stressors which might include time constraints, increased workload and role and task conflict will lead to increased strain and burnout (Bakker & Demerouti, 2007). In turn, resources (control and autonomy) will alleviate the negative effects of these demands, because they allow employees more decision latitude and increased participation in the decision making process (Henry, 2005). As expected, the meta-analysis revealed that indeed all the demands were positively correlated with all the facets of burnout, while in the case of job resources a negative relationship was observed (Alarcon, 2011). Several other studies have looked at burnout through the JDR model. For example, Hansen, Sverke and Näswall (2009) investigate the prevalence of burnout amongst hospital nurses. They measured workload, role conflict and job insecurity (demands) and autonomy, goal clarity, supervisor and colleague support, job challenge and feedback (resources) and again found support for the idea that demands lead to burnout, while resources help in reducing it. The JDR – burnout relationship was observed in a longitudinal study as well. Researchers have developed a very comprehensive model, where they accounted for socio-economic status, cognitive ability and educational achievement at different points throughout life as additional variables. Their model allowed them to test for interesting interactions, and the findings suggest that socio economic status and cognitive ability in adolescence were positively related to educational achievement in early adulthood. In turn educational achievement was related to the working conditions, which 13 years later predicted job burnout (Hakanen et al., 2011). In another 3-year longitudinal study, the authors have looked at how the JDR model predicts burnout in dentists. Demands in terms of workload, work content stressors and the physical work environment, and resources were measured. The results offered support for the proposed hypotheses, as demands positively predicted burnout and negatively predicted engagement, while the opposite relationship (although weaker) was observed for job resources (Hakanen et al., 2008).

It is important to mention however that the negative effects of these psychosocial work characteristics extend beyond burnout, to other psychological health consequences as well. For example, several studies suggest that control, support and demands do influence both depression and anxiety (Griffin et al., 2007; Madsen et al., 2017; Netterstrom et al., 2008; Nieuwenhuijsen et al., 2010; Siegrist, 2008; Theorell et al., 2016; Weigl et al., 2016). A review

of the JDC/JDCS models and their explanatory power over WB (general WB – mental health, psychological distress, anxiety, depression, fatigue; and job specific WB – job satisfaction and emotional exhaustion) has found consistent results to support the idea that demands, control and support are all key determinants (Häusser et al., 2010). Interestingly, the additive effects of these factors were observed to hold up in both cross-sectional and longitudinal studies when looking at general WB indicators, but somewhat weaker relationships were observed for job specific WB. One possible explanation is that in reversed causation might play a role, so that when an individual is unhappy with the job – even if not because of specific job characteristics – he or she might report higher level of demands and lower control. In support of this idea comes a study in which the authors have evaluated the perceptions of demands and control of healthy and depressed workers (Rau et al., 2010). The level of job demands and control was assessed objectively (through job analysis by experts) and subjectively (employee self-reported measure). Objective as well as subjective ratings of job demands were linked with the incidence of major depression. However, individuals that were depressed reported lower levels of perceived job control than both individuals that were not depressed and the objective ratings. Therefore, the hypothesis of reciprocal causation seems to hold up. These findings offer a major insight into the importance of well-designed workplaces. If the psychosocial work environment is poor, not only will this lead to decreased WB, but it will also influence how employees perceive their workplace, so that they might not be able to take advantage of existing resources fully.

The effect of demands and resources on physical health was also investigated in the literature, as in specific circumstances (for example when demands are high and resources are low) experienced stress is believed to increase. Stress, through a number of psychological as well as physiological mechanism is proposed to have a negative impact on overall health (Neylon et al., 2013). Most of the research has focused on musculoskeletal disorders and heart disease (Fishta & Backé, 2015). Backé, Seidler, Latza, Rossnagel, and Schumann (2012) have conducted a review in which they have looked at how demands and control, as well as their interplay (as suggested in the JDC/JDCS framework) will influence cardiovascular disease, coronary heart disease, myocardial infarction, heart failure and stroke, amongst others. Their inclusion criteria limited the studies to those that were aetiological cohort studies and randomised control trials in an attempt to minimise reverse causality and recall bias. Of those

papers that were based on the JDC model, it was observed that in the case of high strain (conceptualised as high demands and low control) the risk to develop CVD was increased. Furthermore, two more studies also included social support as an additional variable (as in the JDCS model), and if “isostrain”, or high strain combined with low social support, was reported again the risk of cardiovascular disease was higher. Another meta-analysis investigated if, specifically jobs characterised by a high degree of strain will influence coronary heart disease. Job demands were measured as workload, conflicting demands and insufficient time, while job control referred to decision latitude and opportunity to learn new things. After controlling for age, sex and socio-economic status and other lifestyle factors (smoking, alcohol consumption and physical activity), consistent results were found supporting the idea that indeed job strain is positively related to coronary heart disease (Kivimäki et al., 2012). These findings seem to be also supported by earlier reviews (Hemingway & Marmot, 1999). Another longitudinal study has investigated if the JDCS model can be used to predict ischemic heart disease (IHD). Interestingly, the results did not find support for the idea that either control or demands by themselves directly influence IHD. However, in high strain work environments an increased prevalence of IHD was observed. For women only, social support from colleagues was also borderline significantly associated with IHD (Netterstrøm et al., 2010).

Work related musculoskeletal disorders (MSDs) constitute a range of problems that affect tendons, muscles, nerves and blood vessels, among other things. Reportedly, the costs of dealing with the range of issues that stem from these disorders (e.g. compensation, lost productivity, time off) is of over 50 billion dollars annually (Sobeih et al., 2006). It is therefore very important to underpin the factors that influence the onset MSDs at work. A range of psychosocial factors have been consistently linked to MSDs, as presented in a report from the EULAR Task Force (Macfarlane et al., 2009). These findings seem to be reflected in a number of studies and reviews. For example, in a 2 year longitudinal study, low skill discretion, low job control and poor support (supervisory support, co-worker relationships), amongst other factors, were found to statistically significantly influence the prevalence of musculoskeletal pain among female kitchen workers, even after adjusting at baseline for age, body mass index, smoking, physical exercise, perceived physical workload and existing musculoskeletal pain (Haukkal et al., 2011). The fact that these factors had a significant influence even after controlling for a vast range of confounding elements, lends support to the idea that the psychosocial work

environment indeed has a direct influence on MSDs. Hauke, Flintrop, Brun and Rugulies (2011) carried out a review and meta-analysis of longitudinal studies that have looked at work characteristics and MSDs. The authors have chosen to focus on longitudinal studies in an attempt to investigate not only the correlations between the factors, but also to look at causal links. They have looked at how, amongst other factors, low social support, high job demands, low job control, low decision making latitude, low skill discretion and high job strain influence MSDs. The results indicated that all of these factors had a significant effect, with the risk of developing MSDs being higher in populations reporting these conditions. Their findings are echoed in another similar review as well (Lang et al., 2012). In a previous section mental health was also mentioned, and it would also be interesting to see if it influences aspects of physical health as well. (Eatough et al., 2012) have conducted a study in which they have looked at how depression and anxiety might influence the link between psychosocial characteristics and MSDs. In their model they look at demands in terms of work role stressors, control and social characteristics (safety-specific leadership) and propose that their effects on MSDs will be mediated by strain responses (depression, anxiety, anger and frustration). Their findings indicate that more strain responses are reported when role conflict is high and control and safety specific leadership is low. In turn, higher strain was correlated with increased levels of MSD related complaints in the shoulder, wrist/hand and lower back regions. Studies like this are very important, as they offer a more comprehensive perspective, showing that mental and physical health are interlinked, and that correctly managing the psychosocial work environment is of paramount importance in promoting employee WB.

2.2.5.2 The positive facets of wellbeing

Two main concepts are prevalent in the literature when discussing the positive aspects of WB, namely job engagement and job satisfaction. Therefore, this section will present some of the existing research on the associations between job characteristics as defined in the JDR and JDC/JDCS models and these two constructs.

Work engagement is defined as a positive state, in which individuals feel a sense of fulfilment, vigour, dedication and absorption with their work (Bakker et al., 2014). Several studies have looked at the relationship between the JDR variables and engagement. Mauno,

Kinnunen and Ruokolainen (2007) in their longitudinal study have found that job demands (job insecurity and time demands) and resources (control, organisation-based self-esteem and management quality) influence engagement at baseline, and over time control was found to be the best predictor of engagement. Similarly, in a different longitudinal study job resources at time 1 both significantly predicted engagement at time 2 (positively, and negatively respectively) (Hakanen et al., 2008). The importance of job characteristics has also emerged in a review of antecedents of engagement, with autonomy, task variety, task significance, feedback and social support emerging as some of the most important precursors of engagement and, furthermore for autonomy and social support a lagged (or over time) effect was observed as well (Christian et al., 2011). The lesser effect of job demands on engagement has spurred researchers to consider that perhaps there is a differentiation to be made according to the type of demand.

Accordingly, in a meta-analysis the authors set out to investigate the effect of resources and demands on engagement, but differentiated between challenge and hindrance demands, proposing that challenge demands will have a positive effect on engagement, as they will have an energetic, motivational effect, while hindrance demands will have a negative effect. The final analysis included 55 studies, and as hypothesised challenges had a positive influence on engagement, while hindrances had a negative effect. Furthermore, in accordance with previous research, job resources were again positively related to engagement (Crawford et al., 2010). A review of studies employing the JDCA framework also reveals that generally, support is found for the additive effects of social support, control and demands on employee wellbeing if sample size is sufficient, but at the same time stronger effects are observed in cross-sectional rather than longitudinal studies. Additionally, interactive effects of the JDCA variables on engagement were relatively weak. However, the authors propose that this is not due to small sample sizes, weak effect sizes, or because of a lack of theoretical foundation, but rather because many times in the same study demands and resources measured qualitatively different concepts, and therefore there was no match between intra-study dimensions (Häusser et al., 2010).

The other facet of positive WB that will be discussed is job satisfaction. It is a state characterised by high levels of pleasure and low levels of activation. Perhaps one of the earliest definitions of job satisfaction is that given by Locke, who described it as a “pleasurable

emotional state resulting from the appraisal of one's job" (Locke, 1969, p. 317), and in the literature it has been measured both as a general as well as a multi-dimensional concept (Bakker & Oerlemans, 2011). To evaluate how the psychosocial work environment influences job satisfaction several studies employing both the JDR and the JDC/JDCS models will be discussed. Birtch et al. (2016) developed a study based on the JDR model and measured job autonomy, support, and demands (working fast, working long hours, working under time pressure and high workload) and investigated their relationship on job satisfaction and in on organisational commitment as well. As expected, both control and support had a positive effect on the outcome measures, while demands had a negative influence. A different study using the same theoretical model employing a lagged design measured two types of resources (structural – autonomy, task variety, opportunities for development; and social – social support feedback and coaching) and demands (separated into challenges and hindrances) and looked at their effect on satisfaction and engagement. Following a SEM analysis, all of the resources emerged as significant predictors of both job satisfaction and engagement, but none of the demands had a significant effect on either of the two outcome variables (Tims et al., 2013).

Evidence in support of the correlation between the psychosocial environment and satisfaction also come from de de Jonge, van Vegchel, Shimazu, Schaufeli and Dormann (2010), who developed a longitudinal study based on the JDC model. The effects of mental, emotional and physical demands and control were measured at baseline and job satisfaction was measured two years later. Their results are interesting and indicate (like in the previously mentioned study) that none of the three types of demands measured had a direct significant effect on job satisfaction, while for control a strong a positive relationship was observed. However, in accordance with the JDC framework, the authors have looked at the interaction between the demands and control and found that all three interactions (one for each type of demand) were statistically significant. In all cases, as demands increased and control decreased a strong and negative effect was observed on job satisfaction. Finally, similar results were observed in an earlier cross-sectional study employing the JDCS model, where the authors have found that both job control and social support had a positive effect on employee satisfaction while, while job demands had a negative effect (Taris & Schreurs, 2009).

2.2.6 The psychosocial environment and innovative work behaviour

As is apparent from the previous section, much of the research that has been conducted using the JDR model has focused on predicting factors such as health and WB related factors. The body of literature that has accumulated over the years leaves little doubt that the psychosocial environment, as theorised through the JDR (and related models), has a quintessential role in these two areas. However, much less research has been done when looking at how these factors influence innovation at the individual level. Therefore, in the following paragraphs, the attention will be shifted towards research that has tried to look at how innovative work behaviour can be predicted by this theoretical framework. This will then serve as a starting point for the first quantitative study, which will look at key factors determining employee innovation at the EU level.

The possibility to build a model of IWB based on the JDR has appeared in the literature before. For example, Huhtala and Parzefall (2007), in their conceptual paper, propose that job demands and resources will influence innovative work behaviour both directly and indirectly. Demands and resources will interact, to predict burnout and job engagement, which will in turn have a negative, and positive effect respectively on IWB. They go further, to propose that IWB will then act as a resource or demand on its own. The requirement to innovate might be perceived as too demanding by some employees, while others will innovate in order to better manage other existing demands in their jobs. The authors conclude by stating that achieving IWB, in all likelihood, is dependent on a number of job design variables, and that the JDR provides a good framework for conducting future research. At the same time, they acknowledge that employee innovation can be considered both a resource and a demand, and that more research is needed to fully understand the duality of this concept.

Martin, Salanova and Peiro (2007) conducted a study in which, based on the JDR model, they propose that job demands, and job resources will have a direct, as well as an interactive joint effect on IWB. 327 employees from a human resource department were surveyed, and a hierarchical multiple linear regression analysis was performed to test the hypotheses. The results supported the original claims, and indeed job demands had a negative effect on IWB, while the opposite was true for job resources. Furthermore, a significant interaction effect was found between resources and demands, such that IWB was higher if both variables were high.

A proposed explanation for this was that resources either buffer the negative effects of demands on IWB, or that employees that have high demands, but also high resources increase their innovative behaviour to help them deal better with said demands.

Another study was conducted by Daniels, Wimalasiri, Cheyne and Story (2011). They used the JDC-S model (an extension of the JDC model, where social support is added as an additional resource), to investigate how control, support (split into discussing solutions to problems and talking to express affect) and cognitive demands predict IWB (in terms of idea generation and implementation). The sample consisted of 89 participants from UK organisations, and personal initiative was proposed as a moderator between control, support and idea generation/implementation. The results indicated that for people high in personal initiative, changing aspects of their work (control dimension) was linked with higher idea generation, and discussing problems to find solution (support dimension) was linked with higher idea implementation. These results also point to a link between IWB and proactive behaviour (Binnewies et al., 2007), as the effects of control and support were observed for people with a proactive predisposition.

Finally, in another study the JDC model was again used a framework, and the link between job control, job demands (time and emotional pressure) and work engagement was investigated. The sample consisted of 952 employees, and their model managed to predict around 40% of variation in IWB. The regression analysis points to interesting results. While job engagement was indeed an important and positive predictor of IWB (findings echoed in another study by De Spiegelaere, Van Gyes, De Witte, Niesen and Van Hoote gem (2014)), looking at the interactions between the demands and resources led to the conclusion that IWB is best fostered in low-strain (high control, low demands) jobs, and not in active jobs, as expected from one of the assumptions of the JDC model. This is all the more surprising, as work engagement was highest in active jobs (high demands, high resources) (De Spiegelaere et al., 2012). To better understand these results the authors suggest that in future studies it might be best for demands to be split into challenging and hindering demands, as proposed by others before in the literature. This might shed light on exactly which types of demands can be conducive to both IWB as well as engagement, and which must be avoided.

Having now set the context for this overall work in Chapter 1 and having reviewed the extant literature surrounding the psychosocial work environment and the relevant outcomes (wellbeing and innovation) in this chapter, the following general research questions have been proposed. These have guided the work done throughout the rest of this thesis.

Question 1: Can the same psychosocial factors that have been shown to influence employee wellbeing also drive employee innovative work behaviour in a representative EU employee population?

Question 2: How comprehensive and holistic are the EU policies which sit at the intersection of psychosocial risk management, OSH and Workplace Innovation?

Question 3: What can be done to promote the creation of a more unified policy framework, as a key driver of OSH, psychosocial risk and Workplace Innovation promotion, at the EU level?

2.3 Summary

This chapter started by defining and discussing the importance of the psychosocial work environment and the different psychosocial dimensions that comprise it. Then, within the framework of the JDR model, this chapter has presented how different factors can have on a multitude of effects on the organisation and employees – underlining interactions with positive and negative elements of health and wellbeing and innovation. It is crucial that these relationships be understood and recognised, as research needs to be the starting point when aiming to develop, evaluate and test comprehensive frameworks for health, wellbeing and innovation. The next chapters will use the evidence presented above as guidelines – first when looking at what drives employee innovation at the EU level (Chapter 4), and then by looking at whether those factors are indeed promoted by existing policies, both hard and soft, and where the gaps lie (Chapter 5). Having uncovered these elements, the attention will then be shifted toward understanding the enablers and barriers towards creating comprehensive policy frameworks for innovation, health and wellbeing (Chapter 6). Finally, a discussion will then be presented, where the findings from all the studies will be discussed comprehensively, and, based on the results, possible ways forward will be suggested (Chapter 7).

3 Methodology

3.1 Overview of methodology used in the studies

The research conducted in this PhD, which will be presented in the following three chapters, has been designed and implemented using a mixed method, multilevel approach. Chapter 4 presents a study designed to investigate the organisational level factors that influence employee innovative work behaviour and whether innovative behaviour can be predicted by the same factors that have been traditionally linked to employee wellbeing. Chapter 5 analyses the comprehensiveness (coverage of key factors) of European policy in the areas of occupational safety and health, psychosocial factors and workplace innovation. Finally, Chapter 6 focuses on the challenges, enablers and barriers faced by policy makers and key stakeholders when trying to develop and implement more comprehensive policy frameworks. Table 3.1 presents an overview of all the studies, their main aim and type of methods employed.

Table 3.1 Methodological overview of studies

Study	Aim	Method
Study 1	To investigate the relationship between work organisation and psychosocial factors and employee innovative behaviour at the European Union level.	Quantitative
Study 2	To investigate the comprehensiveness, strengths and limitations of existing policies in the areas of occupational safety and health, psychosocial factors, employee wellbeing and workplace innovation.	Qualitative
Study 3	To investigate the key factors and mechanisms that influence the policy development and implementation processes in the areas of occupational safety and health, psychosocial factors, employee wellbeing and workplace innovation.	Qualitative

The findings of each of the studies will be discussed individually but also in relation to each other. Study 1 informs the data collection and analysis of Study 2 and complements and enhances the discussion of the findings. Study 2, in turn, will guide the development of the interviews in Study 3 and will enable further elaboration and discussion following the analysis performed in Study 3. This approach was led by a belief that it is paramount to investigate and understand the multi-level factors and conditions that influence the aforementioned dimensions,

as this is the only way in which it is possible to make practical recommendations when it comes to comprehensive, EU level policy frameworks. The following sections will discuss in detail all the methodological considerations which have guided the development and analysis of the 3 studies.

3.2 Mixed methods design

The research design employed in the thesis is guided by a mixed methods approach. This is because the studies conducted use both qualitative (interviews, policy documents) and quantitative (questionnaires) data and methods of analysis (thematic analysis, framework analysis, a policy scorecard and structural equation modelling, respectively). Tashakkori and Creswell (2007) define mixed methods as “research in which the investigator collects and analyses data, integrates the findings and draws inferences using both qualitative and quantitative approaches or methods in a single study” (p. 4). It is important to note that in a true mixed method design not only is there a combination of qualitative and quantitative studies, but the findings must be discussed comprehensively as they relate to each other.

Mixed method designs involve collecting data from multiple sources and using it to investigate a single phenomenon (Onwuegbuzie & Collins, 2007). A theoretical principle is used when conducting this type of research (Creswell & Creswell, 2017), which researchers use as guidance when analysing their data and interpreting results (Doyle et al., 2009). The use of mixed methodology, although it marries two relatively distinct methodologies (quantitative and qualitative designs), has been proposed as a better way of investigating the complex relationships that characterise real-world situations (Mack et al., 2005), and that is why for this research this methodology will be used.

As mixed methods involve working with both qualitative and quantitative data, the researcher can choose how and when to collect them. Onwuegbuzie and Collins (2007) make reference to two criteria that need to be taken into consideration: time orientation and the relationship between the qualitative and quantitative samples. Time orientation regards when in time, relative to each other, the two phases (qualitative and quantitative) will occur. They can be concurrent or sequential. The relationship between samples refers to where the data originates from, with four possibilities: the same samples for both phases, different samples but

from the same population, members of one sample are a subset of the other sample, and finally two completely different sample sets.

Choosing among the aforementioned criteria has a profound impact on a study's design. For example, with regards to time criteria, five guiding reasons emerge, each suited for a specific research purpose: triangulation, complementarity, development, initiation and expansion (Gray, 2017). Using triangulation involves concurrent time criteria, with the purpose of validating, looking for correspondence and convergence of results (Doyle et al., 2009). Complementary approaches can use both concurrent and sequential time orientation to build upon, enhance, clarify and illustrate results from the two methods. Development employs only a sequential time orientation and uses results from one method to augment or guide the other method. Initiation again can use both concurrent and sequential time orientation to look for contradictions, new avenues and frameworks, or to make changes in one method based on results from the other. Lastly, expansion uses a sequential time orientation to extend the scope and range of examination by using both methods (Caracelli & Greene, 1993; Onwuegbuzie & Collins, 2007; Onwuegbuzie & Leech, 2006).

The present research will follow a complementary approach, with a sequential time orientation and this is because the main aim of this thesis is to contribute to the development of an integrative framework for WI and WB. Therefore, when discussing ways to align perspectives across levels in the final chapter, the findings from the first study enable a broader interpretation of the results of the second and third studies, and vice-versa. Figure 4.1 below illustrates the overall research design.

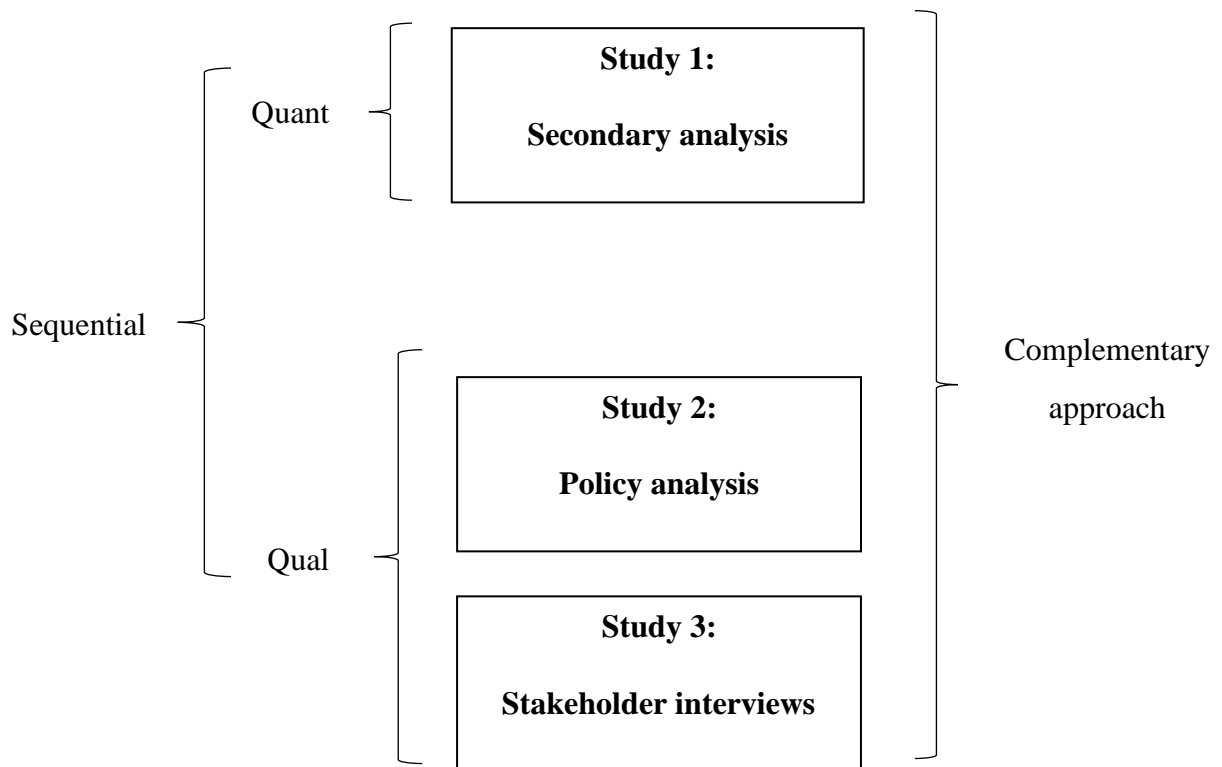


Figure 3.1 Overall research design

3.3 Data sources: primary and secondary data

The analyses in two of the studies in the PhD are based on secondary data. The quantitative study draws on data obtained from the 5th European Working Conditions Survey (Eurofound, 2012). The first qualitative study also makes use of secondary data in the form of policy documents from the European Union’s EurLex repository of official documents. Therefore, it is important to understand the characteristics inherent from adopting this methodological approach.

3.3.1 Considerations when working with secondary data

Secondary data is a type of data that has not been recorded or gathered by the researcher employing it (Andrews, Higgins, Andrews, & Lalor, 2012; Frankfort-Nachmias, Nachimas, & De Waard, 2015; Smith et al., 2011; Smith, 2008; Stewart & Kamins, 1993). Rather, it has been produced by somebody else. This means that the data collection, as well as the instruments used, were not purpose designed for the secondary research in which it could be employed.

Matthews and Ross (2010) do however state that secondary data can be used by other researchers, as long as it is relevant for their purposes. Additionally, they identify several characteristics and types of secondary data:

- It is gathered by other researchers by means of questionnaires (for quantitative data) or interviews and official documents (for qualitative data).
- It can be gathered by individuals, organisations or governments, as for example hospital patient data or census data.
- Some data is the result of a specific activity within an organisation, such as legal documents, social workers' or doctors' notes, policy documents; in these cases, data serves a specific purpose and may or may not be made publicly available freely.
- Secondary data can also be produced by individual people or groups to use as communication media. Diaries, artwork, poems, letters and videos are some examples, which again could be in the public or private domain.

In order to assess whether data is relevant for other purposes than those for which it was officially collected, there are several considerations which need to be made. Johnston (2014) proposes several key questions that need to be answered when developing research centred around secondary data:

- Defining the purpose of the study; this informs the choice of the secondary data source.
- Understanding who was responsible and involved in the data collection process; qualified and trained individuals following a well-defined process is an important quality criterion.
- The type of information that was collected and when the information was gathered; this speaks to the relevance and validity of the data.
- The data collection methodology that was employed (e.g. stratified sampling, random sampling).
- For quantitative and qualitative interview data, the management, recording and coding procedures should all be well established and available in a technical report.

Secondary data can present disadvantages, mainly because it is rare that the instruments and techniques used are specifically designed for the purpose of the research that is employing

it (Cowton, 1998). It can be argued that this can have an impact on the reliability and validity of observed results. Nevertheless, by bearing in mind the quality criteria mentioned above, secondary data can provide major advantages, including reduced costs, reasonable timeframes, more opportunities for exploring complex hypotheses, access to a much broader and inclusive sample of participants (especially when considering cross-national research), the ability to investigate broad cross-cutting trends and gather “bird’s eye view” insights (Cowton, 1998; Magee, Lee, Giuliano, & Munro, 2006; Smith et al., 2011) which can inform national interventions and policies.

3.3.2 Quantitative data: working with the 5th EWCS

The quantitative study draws on data collected as part of the 2010 5th European Working Conditions Survey. It was chosen because it is one of the only representative surveys carried out at EU level, and which offers sufficient information for the present purposes. Data collection was done by trained individuals, by using a structured questionnaire assessing different aspects of people’s employment and working environment. The selection was based on a random, stratified sample. The rate of response was 44%. The survey covered the 27 EU member states, and only people who were at that time employed were surveyed (if they did paid work for at least one hour per week). In most countries the targeted number of respondents was 1000. Exceptions to this were Belgium (3000 people), Germany (2000 people), Spain (1500 people), France (1500 people), Italy (1500 people), Poland (1500 people), Slovenia (1400 people) and the UK (1500 people). It is important to note that the EWCS sample is representative of the working situation in the general population at the time of data collection.

It is important to note that there is a more recent version of the questionnaire, with data which was collected in 2015. While the 2015 EWCS dataset was available, the choice to look at the 2010 data was motivated by two main reasons. Firstly, the 2010 data was collected very close after the 2008 economic crisis, when the world of work throughout Europe was in a state of disarray. It is proposed that the insights to be gained by investigating the effect of working conditions on innovative work behaviour at such a crucial and volatile moment brings unique contributions and value. Secondly, some items were altered or removed in the 2015 version of the questionnaire, and in this case an important question used to measure one of the factors of

interest was completely removed. The removal of one question would not usually be considered such a major draw-back, but in this case this factor has emerged as one of the most important in the model, both for direct and indirect (interaction) effects on the outcomes.

3.3.3 Qualitative data: official policy documents

The first qualitative study concerns an evaluation of the policy initiatives related to workplace innovation, working conditions and the management of the psychosocial work environment. The focus of the review was specifically aimed at identifying and analysing European Union policy, and therefore the first step was identifying a relevant repository of such documents. EurLex is the EU database of official documents, and all the relevant policies, both hard and soft, that are developed and published at the EU level are archived here. Their legitimacy as institutionalized traces (Wolff, 2004) allows potential interested parties to analyse and infer the agendas, intentions and priorities of those individuals, and European organisations and stakeholders that have collaboratively worked on developing them.

There are several advantages in using secondary sources of knowledge to investigate the questions explored in the first qualitative study. First, as Calantone and Vickery (2009) suggest, official documents may provide a more objective and comprehensive picture, when compared with interviews or surveys. This is because by the nature of its development official policy is less likely to be biased towards a specific viewpoint of a person. Furthermore, it is more likely to not be limited by the knowledge and expertise of a single person or group of people, as generally many stakeholders are involved and consulted when it is developed. Moreover, the issue of “social desirability” response bias is also minimized, as official documents should be “unobtrusive” and “non-reactive”, meaning that the information they contain is factually accurate and non-partisan (Webb et al., 1966; Webb & Weick, 1979).

Nevertheless, it is important to also acknowledge potential limitations when working with document data. Cowton (1998) suggests that the process of identifying, collating and understanding the relevant materials when working with vast archival sources can be time and resource intensive. Furthermore, while the expectation is that official documents are reliable sources of information, the reality is that the researcher conducting the analysis was not part of

their development. Therefore, their validity, to some extent, cannot be validated first-hand (Sørensen, Sabroe, & Olsen, 1996).

3.3.4 *Qualitative data: semi-structured interviews*

The second qualitative chapter of this PhD analyses the knowledge and perceptions of actors and stakeholders involved in the policy making process. A series of semi-structured interviews were conducted with experts in the field. The following paragraphs will detail the methodological considerations that guided this particular choice of data collection strategy, as well as the rationale when developing the interview protocol.

3.3.4.1 Considerations when conducting interviews

The interview is widely considered to be one of the most important tools when collecting qualitative data. It is most suited in instances where the aim of the research conducted is to uncover opinions, values, attitudes, experiences and complex processes, where there is little research and creating a questionnaire would not be possible or suitable, and where potential participants are considered to be more receptive of an interview than other means of data collection (Rowley, 2012).

Researchers making use of interviews have been traditionally guided by a variety of epistemological and ontological principles (Alvesson, 2003; Bowden & Galindo-Gonzalez, 2015; Cassell et al., 2006; Dearnley, 2005). The romanticist view, neopositivist view or the localist perspective are generally employed when one is focusing on meaning, focusing on facts or focusing on interpreting reality as a social construct, respectively. Structured interviews are most suited when approaching reality from a neopositivist view, while semi-structured interviews or unstructured interviews are usually used with localist perspectives or romanticist views. However, these different variations are not mutually exclusive or isolated from one another. Rather, they should be viewed as on a continuum, and the boundaries between the three are fluid and overlap (Qu & Dumay, 2011). Table 3.2 below presents the three categories discussed above in more detail.

Table 3.2 Overview of interview categories; adapted from Alvesson (2003)

Position	Interview	Interviewer	Interviewee	Accounts	Interview type
Romanticism	As a human encounter between interviewer and interviewee	As an empathetic listener to explore the inner world of the interviewee	As a participant to reveal real life experiences and complex social reality	As a pipeline of knowledge mirroring interior and exterior reality leading to in-depth shared understanding	U, SS
Neopositivism	As a tool for collecting data	As a capable researcher to trigger honest response	As a truth teller	As objective data and knowledge transfer	S, SS
Localist	As an empirical situation that can be studied	As people who are involved in the production of answers to complex interpersonal interactions	As people who are not reporting external events but producing situated accounts	As situated accounts that must be understood in their own social context	U, S, SS

Note: S – structured interviews; SS – semi-structured interviews; U – unstructured interviews

In the table above three interview types are mentioned, unstructured, semi-structured and structured. Each have their own advantages and disadvantages as underlined by Qu and Dumay (2011).

At one end of the continuum, structured interviews are akin to questionnaires in that they are rigid, with a well-defined set of questions to be asked, in the same order, to all participants, to elicit a brief response before moving to the next topic (Corbetta, 2003). The interviewers must follow a script and not deviate from it in the slightest. The main advantage of this approach relates to the assumption that the findings will be more reliable and unbiased. However, the drawback is that an implicit assumption is made that the questions are accurate and will illicit all the necessary information, as probing further or encouraging a broader discussion around emerging topics is not allowed. It becomes obvious that this can be restrictive

when dealing with topics that are not well understood to begin with, or when dealing with complex, inter-related phenomena.

Unstructured interviews are at the other end of the spectrum, when one assumes that very little is known about the subject matter and that questions will arise from ongoing conversations (Doody, 2013). This technique has been extensively used in ethnographic research, where the main purpose was to try and understand complex world views, built on participants' inner social realities. The interviewer acts here as a reflective listener, continuously adapting and changing the questions as more information emerges. However, the lack of structure of this type of interviews has led to some critique in terms of being less reliable because the views, interpretations and perceptions of the interviewee become entangled with those of the interviewer, which increases bias.

Semi-structured interviews sit in between structured and unstructured interviews and allow for a flexible but comprehensive exploration of key issues (Coolican, 2014; Holloway & Wheeler, 2010; Whiting, 2008). Generally, it is advised that between six and twelve questions can be used during the interview process. In addition, for each question, three to four probing or prompting sub-questions can also be used, as needed. Having a set of questions that underlie the major topics of interest will allow the interviewer to ensure that key issues will be covered; at the same time the loose format of semi-structured interviews allows for new topics and themes to be explored as they arise during the interview, as the interviewer has the freedom to vary the wording and ask additional questions (Corbetta, 2003; Doody, 2013; Gray, 2017).

3.3.4.2 Interviewing experts

It is a point of debate as to what defines an expert, but for the present purposes the comprehensive definition offered by (Meuser & Nagel, 2009, pp. 54-55) has been used:

“An expert has technical, process and interpretative knowledge that refers to a specific field of action, by virtue of the fact that the expert acts in a relevant way (for example, in a particular organisational field or the expert’s own professional area). In this respect, expert knowledge consists not only of systematized, reflexively accessible knowledge relating to a specialized subject or field, but also has to a considerable extent the character of practical or

action knowledge, which incorporates a range of quite disparate maxims for action, individual rules of decision, collective orientations and patterns of social interpretation”.

Conducting interviews with experts provides several advantages, amongst which gaining access to specialist knowledge related to policy development and implementation and knowledge about organisational practices and decision-making processes which can otherwise be hard to access (Bogner et al., 2009). Furthermore, expert interviews are appropriate when exploring Mode 1 (academic, scientific) and Mode 2 (applied, cross-disciplinary) problems in complex knowledge systems:

“Mode 1 problems are set and solved in a context governed by the, largely academic, interests of a specific community. By contrast, Mode 2 knowledge is carried out in a context of application. Mode 1 is disciplinary while Mode 2 is transdisciplinary. Mode 1 is characterised by homogeneity, Mode 2 by heterogeneity. Originally, Mode 1 is hierarchical and tends to preserve its form, while Mode 2 is more heterarchical and transient. In comparison with Mode 1, Mode 2 is more socially accountable and reflexive. It includes a wider, more temporary and heterogeneous set of practitioners, collaborating on a problem defined in a specific and localized context” (Gibbons et al., 1994, p. 3)

This is particularly relevant for this research where there is interest in uncovering not only what makes developing comprehensive, unified policies across several areas (innovation, psychosocial risks, wellbeing) difficult, but also how and if academic knowledge is translated, absorbed and is made integral in the policy development process. Furthermore, the aim of the study is to answer a complex question – whether a policy framework covering occupational safety and health, wellbeing and workplace innovation can be created at the EU level. Because research is still in its incipient stages when it comes to these issues, creating a comprehensive set of questions and a strict script to adhere to is not possible, as would be required for a structured interview. However, there is some existing literature around the topics explored, which points to some gaps and areas that need to be further explored. Therefore, there is sufficient knowledge in order to be able to create a set of initial questions and relevant prompts.

Furthermore, the epistemological perspective taken in the study is situated at the border between the neopositivist and localist perspectives. According to the former, it is acknowledged that the interview process is a data collection exercise that, if conducted well, can provide accurate and truthful information. The latter is relevant because each interviewee comes from a specific institution, culture, organisation or country and therefore their perspectives will be influenced to some extent by the socio-economic context from where they originate. Considering all these factors, semi-structured expert interviews were used for data collection in the second qualitative study.

3.4 Analysis strategies

As the research in the current PhD makes use of both quantitative and qualitative data, it was important to identify the most appropriate analysis strategies in order to answer the research questions. The following sections detail the rationale and choice of analytical techniques employed throughout the following chapters.

3.4.1 *Qualitative analysis*

Two chapters of this PhD employ qualitative analysis techniques. Thematic analysis is used to analyse the interviews, while a policy scorecard informed by a framework analysis was chosen when reviewing and discussing policy. Each of these techniques and the rationale for why they were chosen will be discussed in the following sections.

3.4.1.1 Thematic analysis

Before defining thematic analysis and reviewing the reasons and merits for why it was chosen, it is important to first understand some underlying ontological considerations. From an epistemological perspective, qualitative methods are situated on a continuum between constructionism (supposing that meaning is built from external experiences, interactions and events) and essentialism (supposing that the individual independently builds meaning based on their own values and beliefs). For this research, the epistemological approach taken will be one characterized by a combination of the two, acknowledging that each individuals' experiences

are subjective to a point (shaped by their own views on reality), but at the same time acknowledging that the broader social context plays a role. Thematic Analysis (TA), is particularly suited for such a hybrid approach (Braun & Clarke, 2006), and can be applied within either of the two major currents. Therefore, because it is not bound, it offers the flexibility to be used as a competent instrument for extracting thorough and complex information from the data.

Although widely used as a technique, Thematic Analysis was not always a well-defined framework, only recently having been recognized as a fully-fledged research method (Boyatzis, 1998; Joffe, 2011; Roulston, 2001; Tuckett, 2005). Although some maintain that the process of extracting themes is inherent of many major techniques and should not be viewed as a stand-alone approach for interpreting data (Ryan & Bernard, 2000), others suggest that TA is a method in its own right (Braun & Clarke, 2006; Holloway & Todres, 2003).

TA is, in essence, a technique through which certain repeating patterns in the data (known as themes) are identified and extracted with the purposes of creating a succinct but detailed account of the events recorded (Willig, 2013). By doing this the researcher makes sense and understands what was recorded (Boyatzis, 1998). Because of the relative freedom of TA, what constitutes a theme and its conceptualisation is highly dependent on the researcher doing the analysis. As a result, theme development is guided by the research questions under investigation as well as the epistemological approach.

There are many qualitative analytical techniques, and it is up to the researcher to choose the most appropriate one for their purposes. TA was chosen in this case because it offers the advantage of not being bound by specific theoretical constraints. Additionally, it is straightforward enough to allow a structured and detailed analysis to be conducted (Braun & Clarke, 2006). TA offer the tools needed for a more accurate account of the events presented.

Before moving on, there are some more considerations to be made when conducting a TA, that will guide how the interviews will be interpreted. First of all, it is important to specify what constitutes a theme, because there is little guidance as to how to extract or what makes a theme (Braun & Clarke, 2006). It is more than a matter of occurrences (for example how frequently something is mentioned) or how extensively something is being discussed. Rather,

the researcher has to decide what, in each case, can be considered as a theme (Braun & Clarke, 2006). This should be guided by the research question that is being addressed.

Another issue that requires attention is whether in the process of identifying the themes an inductive (Frith & Gleeson, 2004) or deductive (Hayes, 1997) approach was used. The inductive methodology is considered to be data driven, because there is little theoretical background to guide the researcher in his examination. This allows for a more open interpretation and encourages finding more possible meanings of what was said. On the other hand, the deductive methodology is based in a solid pre-existing framework. This is used mostly when the researcher has specific questions he wants to answer, or they are looking at a particular issue that was previously identified from the literature. In this case the inductive approach will be used, as the research questions are open-ended, and the interviews themselves could be rich in possible themes that would be lost with a more targeted, theoretically driven approach.

Finally, it is also important to discuss the level of interpretation that will be employed: semantic or latent (Braun & Clarke, 2006). The former implies that the themes will be derived from what was said at a surface level, and after describing them, an interpretation will be made as to how the themes relate to one another and the overall picture this creates about the event described (Patton, 2014). The latter goes more in-depth and can be related to a constructionist approach (Galbin, 2014), where the underlying patterns and dogmas in a society are the ones that help formulate the themes. For the present study the themes will be semantically constructed and then their meaning will be further interpreted in relation to appropriate literature and theory.

To extract the themes from the interview Braun and Clarke's (2006) 6-step process was followed:

1. *Familiarizing with the data*: initial process where the researcher, through the process of transcription, reads and immerses themselves in the data in order to identify ideas that will feed into the next step of the analysis
2. *Generating initial codes*: codes that are either semantic (explicit) or latent (underlying, implicit) are inferred from the features of the data

3. *Searching for themes*: the process of organizing the initial codes identified; tables and thematic maps are used in order to group relevant codes into themes; this process can be theory or data driven (Fereday & Muir-Cochrane, 2006)
4. *Reviewing the themes*: at this point the initial themes are refined and reviewed, in order to uncover relationships between codes (level 1) and the entire data set (level 2)
5. *Defining and naming themes*: this stage involves finding true meaning, refining, clearly defining and giving themes appropriate names; the overall storyline of the analysis emerges at this time
6. *Producing the report*: the final step of the analysis, whereby using representative and descriptive extracts (i.e. quotes) the findings are discussed in relation to the research questions and relevant literature.

3.4.1.2 Framework analysis and policy scorecard development

Framework analysis (FA) is an analytical technique that was developed for applied policy research (Furber, 2010). It was designed as a transparent and structured method of analysing contextual (what already exists), diagnostic (what are the reasons for what exists), evaluative (the effectiveness of what exists) and strategic (guiding new plans, theories, policies and actions) questions, with the aim of informing better policy development. Framework analysis provides several advantages, such as shorter timescales that are crucial when evaluating and planning policy activities, it provides a comprehensive and systematic method for evaluating between and within relationships amongst dimensions of interest, as well as being a flexible and reflective approach in which the researcher is able to adapt to and re-evaluate information as it is gathered throughout the analysis process (Ritchie & Spencer, 1994).

When it comes to implementation, Srivastava and Thomson (2009) propose five steps that should guide researchers when employing FA:

1. *Familiarization*: at this stage the researcher reads and becomes familiarized with the data collected; it is here that key themes start emerging and taking shape
2. *Identifying a thematic framework*: through detailed note taking and a more comprehensive review of the data, the themes become more clearly defined; this process can be inductive (theory driven) and/or deductive (data driven), and it is important to

use a combination of the two approaches in order to pertinently address the research question

3. *Indexing*: the process of identifying and grouping segments from the data into the most appropriate and relevant themes; it is recommended that if available, statistical software such as NVivo be used at this stage
4. *Charting*: at this stage the researcher places the indexed data into theme-based or case-based tables; in the current research, this table will be further developed into a policy scorecard table. This is a method which draws on the balanced scorecard approach, which is a technique that allows scoring of dimensions and indicators of interest in a systematic way. This approach was adapted for policy research in a study by Leka et al. (2015), where the authors used this technique in order evaluate the comprehensiveness of psychosocial risk management policy at the EU level. An example is provided in Table 4.3

Table 3.3 Scorecard example

Key dimensions	0	1	2	3	4	5
Dimension 1	Not covered	Covered only implicitly	Limited, but explicit coverage	Partially covered	Sufficiently covered	Comprehensive coverage
Dimension 2						
Dimension 3						

5. *Mapping and interpretation*: the aims of this stage are “defining concepts, mapping range and nature of phenomena, creating typologies, finding associations, providing explanations, and developing strategies” (Ritchie & Spencer, 1994, p. 186).

3.4.2 Quantitative analysis: structural equation modelling

The quantitative study of this PhD employs Structural Equation Modelling (SEM), and more specifically a variation called Generalised Structural Equation Modelling (GSEM). Additionally, because of the multilevel structure of the data coming from the European Working Conditions Survey, the final model proposed was tested by employing a Generalised Multilevel

Structural Equation Model (GMSEM). Each of these needs to be fully understood and therefore the following sections will detail and discuss first the basic premise behind SEM, then GSEM and finally GMSEM.

3.4.2.1 Structural equation models

SEM was opted for and is preferred to other approaches such as multiple regression, as it not only allows the investigation of dependence relationships between constructs of interest, but it additionally also takes into consideration measurement error (Hair et al., 2006; Tarka, 2018). The first attempts at developing SEM as a methodology for investigating relationships between variables were started in the early 1900s, in response to the inadequacies of partial correlation analysis approaches (Wright, 1918, 1920, 1934, 1960). Scholars continued building on this methodology, noting its advantages over other procedures such as OLS regression, and praising it for allowing complex, relationships to be expressed in a single equation.

According to Byrne (2010) a SEM model could have two components (measurement model and structural model) and at least two variables of interest (which can be observed/measured or unobserved/latent). The measurement model, if employed, would describe the relationship between measured items and a proposed underlying construct (latent variable); the structural model describes hypothesized relationships between constructs, both latent and/or observed.

Graphical representation of SEM models follows a set of criteria, using rectangles for observed variables, or ovals for unobserved variables. To note here is that STATA, the software used for the present analysis, represents multilevel factors as double lined circles, although they are observed (i.e. group indicators, in this case the country from which a participant comes from). Additionally, a difference must be made between endogenous (dependent) and exogenous (independent) variables, although either can be latent or measured. Relationships in the model are described by arrows, the source of an arrow always being an exogenous variable, while the target is always endogenous.

3.4.2.2 Generalised structural equation models

Numeric data is generally considered as being either binomial (e.g. yes/no), categorical (e.g. country of origin), ordered categorical (e.g. Likert-type measurements) or continuous (e.g. height, weight). While it has been common in past research to see categorical (and ordinal) variables treated as continuous (or rather pseudo-continuous), there are several reasons why that is not advisable generally, but even more specifically when employing a SEM approach.

To understand why, it is important to mention that most traditional SEM functions assume that the data is normally distributed, and additionally that it is continuous. Furthermore, rather than relying on the raw data, the underlying mathematics rely on means and co-variance matrices (Lei & Wu, 2007; Şimşek & Noyan, 2012). However, when data is categorical, concepts such as means, variances and co-variances lose the meaning they have for continuous data (Jöreskog, 1993). To therefore solve the equation model by employing the traditional product moment correlations or polychoric correlations might introduce bias and into the model (Jöreskog & Dag, 1986; Lei, 2009; Olsson, 1979).

Other authors also warn specifically against the fallacy of employing analysis methods created for continuous data on Likert-scale measures. For example, Rhemtulla, Brosseau-Liard, and Savalei (2012) advise against using continuous SEM estimation methods for data that is measured on Likert scales with less than 7 categories. They cite reasons such as threshold variability as well as underlying normality as cause for concern if going below their recommended limit. Similarly, in a highly rigorous simulation study, issues of overdimensionalisation are underlined, but the authors are more stringent in their recommendations, suggesting that the problems realistically disappear only when going above 12-point Likert scales (van der Eijk & Rose, 2015). In order to specifically address these reasons as well as the others mentioned in the above paragraphs, generalized SEM models have been proposed as alternatives for ordered data, as they have fewer distributional assumptions, they are more resistant to extreme cases and perform better if relationships are non-linear (but monotonic) (Long et al., 2003).

3.4.2.3 Multilevel models and generalised multilevel structural equation models

Multilevel analysis is a type of analysis that is recommended and has been specifically developed for data that has been collected at multiple levels. Classical examples of this include individuals within organisations, children within classrooms, or, more specific to the current case, workers from different countries. A key assumption of multilevel data is that individuals within the same group would invariably be more similar between themselves than with those from different groups. This increased probability of similarity needs to be taken into consideration, or else the risk of misinterpreting relationships between the variables of interest is increased because the assumption of independence of observations is incorrect (Nezlek, 2008).

Furthermore, the importance of employing multilevel methods in cross-country research has been well-documented. The advantages of testing multilevel models include the possibility of assessing how much variance is due to individual (or level 1) factors, and how much is due to country (or level 2) factors (Nezlek, 2010). In the case of the present study, the aim is to investigate between country variance in the predictor variables. Moreover, considering that the measurements used in the model employ a mix of binomial and categorical data, it is appropriate to conclude that indeed the most suitable analysis option is a GSEM. Furthermore, because the data comes from employees from 27 different countries it makes sense to consider it to have a multilevel structure. Therefore, the final proposed model is a Multilevel Generalised Structural Equation Model, as this type of approach has been recommended when exploring complex relationships in multi-group data (Heck, 2001; Rabe-Hesketh et al., 2003, 2004).

In practice, analysis started from a simple intercept only model, which helped to understand if indeed the data has a multilevel structure. Once that was confirmed, the full generalized structural model was iteratively built, and the final between-country variance score was compared to the original score, in order to assess to what extent the country had an effect on individuals' innovative work behaviour scores.

3.4.2.4 Additional considerations and limitations of this approach

Before moving to the next section, it is also important to acknowledge the limitations of the current approach. The statistical software used (Stata 14), allows the researcher to specify GMSEMs, and to define the variables accordingly (e.g. binomial, ordered categorical).

However, with GMSEMs Stata does not provide post-estimation commands, and therefore it was not possible to test for traditional Goodness of Fit indices (like for example RMSEA, CFI, TLI, RMSR).

However, another indicator was used in order to assess the goodness of fit and if indeed the models were improving. As the models were built, each new iteration was compared with the one before by conducting the Likelihood Ratio test. This goodness of fit test compares whether two statistical models are significantly different from each other, and whether the more complex one is a significant improvement over its predecessor (G. King, 1998).

3.5 Ethical considerations

All the research conducted in this PhD has considered and adhered to strict ethical considerations as laid out in the guidance of the University of Nottingham Faculty of Medicine and Health Sciences Research Ethics Committee. Specifically, the School of Medicine, Division of Psychiatry and Applied Psychology Research Ethics Subcommittee reviewed and approved the design and implementation of the interview study (see Appendix A-E). In conducting the interviews, the researcher considered issues such as informed consent, confidentiality, anonymity, data protection, and transparency. As it relates to these aspects, the research process was carried out following the guidelines included in the British Psychological Society's Code of Ethics and Conduct (BPS, 2009), Ethics Guidelines for Internet-mediated Research (BPS, 2014), Code of Human Research Ethics (BPS, 2010), and the Data Protection Act 1998. Practically, this meant that participants in the interviews were free to withdraw from the study at any point during the data collection. Furthermore, within seven days of the interviews having been completed they also had the option to directly contact the researcher and request that their data be disregarded. However, after that point the transcription process started, point at which their data became anonymous and impossible to distinguish from the other participants'. All these considerations were shared with the participants both verbally at the beginning of the interviews, as well as in writing on the consent form which they were all required to sign before being able to participate.

For the policy review and quantitative studies no ethics approval was needed, as the researcher was not directly involved in the data collection process. The policy documents were

already publicly available, on the Eur-Lex website. As for the quantitative data, it was made available in an anonymized format, and the organisations overseeing data collection (Eurofound and Gallup Europe) have ensured that all ethical procedures were followed during that stage. Moreover, they made sure that all the individuals involved in the data collection process followed a comprehensive training session, and that they followed the same set of procedures, outlined for them in a data collection guidelines manual (Gallup Europe, 2010). Furthermore, to protect the privacy rights of the participants, when data was requested from the online repository for the present study, the researcher completed a thorough questionnaire on the purposes of this research, as well as signing an agreement to use it without intention to bring harm and only for the purposes outlined in the request.

Having now laid out the methodological considerations that have guided the research, the next chapter will present the first quantitative study. Based on the Job Demand Resources theory, a GMSEM model was developed to test how demands and resources impact, both directly and interactively, IWB. Furthermore, the link between individual level IWB and country-level reported innovation has also been investigated and discussed.

4 Job demands, job resources and innovative work behaviour: A European Union study

Uncertain economic conditions throughout the European Union (EU) have had a severe impact on organisations, with many being forced into foreclosure and others struggling to survive on the market. This has affected working practices. Employees are required to meet higher workloads for less pay in an attempt from employers to cut down on costs, or else face the possibility of losing their job (James, 2014), and often the response strategies implemented (e.g. mass lay-offs and drastic pay cuts) have done nothing but worsen the situation (Totterdill & Exton, 2014). Considering the role of the workplace in the European economy and its competitiveness on a global level, it is important to understand the complexities that govern the relationship between individual and business performance. The present study aims to address this pertinent issue by investigating the relationship between organisational key determinants and individual innovative behaviour in the workplace.

As a result of the last crisis, a decrease in employee wellbeing has been observed (Chraif & Anîtei, 2011) due to exposure to such factors as job insecurity, increased workload and time pressure, decreased control and less autonomy at work (Sinclair et al., 2010) which has resulted in harmful effects at the individual, organisational and societal level due to poorer mental health, cardiovascular problems, even increased suicide rates (Deaton, 2012; Karanikolos et al., 2013). Academics, practitioners and policymakers agree that a new approach is needed in order to revitalize both the financial system and the increasingly overworked workforce (Eurofound, 2012). In this landscape, a call has been made for the promotion of conditions that will allow individuals, organisations and countries to move forward and overcome the crisis through innovation (Totterdill & Exton, 2014).

Innovation has received increasing attention since it enhances business performance and profitability, saves resources, improves employee job satisfaction, reduces absenteeism (European Economic and Social Committee, 2011), and brings improvements in quality of life (Pot, 2011). Before moving forward, it is important to differentiate between innovation and creativity (Potočnik & Anderson, 2016). Researchers argue that although creativity and

innovation have been interchangeably used (Axtell et al., 2000), creativity is now agreed to refer more specifically to the generation of new ideas. While innovation at work may require creativity, it can just as easily be argued that innovative work behaviour (IWB) can appear even without the need to create something completely novel. More specifically, if an employee were to implement a work practice observed in another unit, but that would be new for his or her department, it could be argued that IWB has been observed, but not necessarily creativity in the true sense of the word (Anderson et al., 2004; De Spiegelaere et al., 2014). However, many still argue that creativity and innovation many times overlap, and that often IWB includes creativity (De Spiegelaere et al., 2014). Considering all this, a good definition of IWB is that of West and Farr (1990): "... the intentional introduction and application within a role, group or organisation of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, the organisation or wider society" (p.9).

Innovative work behaviour is therefore a complex concept and some theorists identify as many as four distinct sub-factors which comprise it (e.g. opportunity exploration, idea generation, coalition building, idea implementation) (de Jong & den Hartog, 2010). However, the general consensus is that IWB can be characterized by referring to just two dimensions: idea generation and idea implementation (Axtell et al., 2000; De Spiegelaere et al., 2014; Potočnik & Anderson, 2016). Idea generation is the stage in which the employee recognizes a new potential problem and tries to come up with solutions to address it. Idea implementation requires that the employee enunciates and follows through with putting his idea into practice (Yuan & Woodman, 2010). It is also important to note that although many times these processes are linked, by no means must they also follow one another (Scott & Bruce, 1994; Tuominen & Toivonen, 2011). This means that, for example, an employee might not go as far as implementing his idea because often the road to innovation has several challenges. This is something well recognized in the literature (Fay et al., 2015; Goepel et al., 2012), and in order to overcome these problems the innovator will seek support from both his peers and his managers (De Spiegelaere et al., 2014). Moreover, many times job design factors such as autonomy (or control) and demands will have an impact on IWB (Anderson et al., 2014; Wu et al., 2014). Furthermore, to address one of the most recent criticisms of past research, namely the fact that in most cases the focus has been on idea generation (or the creative) process, and

less so on implementation (Anderson et al., 2014), in this study both aspects of IWB will be individually examined.

The decision to look at idea generation and idea implementation behaviours separately was in part guided by past literature. Several authors have suggested that managerial and organisational factors may indeed impact differently on these two IWB facets. Amongst the first to do so were (de Jong & Den Hartog, 2007), who identified in their qualitative study a number of 13 different leader behaviours, and proposed that while most are necessary for both stages in the innovative process, some are more important for idea generation (e.g. intellectual stimulation) while others take precedence for idea implementation (e.g. providing resources, monitoring). This could be because the different phases of the IWB process are characterized by different features (Rekonen & Björklund, 2016). While the idea generation phase can be more unstructured and fuzzy, the idea implementation phase generally is more predictable and structured. While some have acknowledged these differences, there is much criticism even in recent publications which state that the vast majority of research “lumps together” these innovation phases, and as a result there is still a big gap in existing research (Rekonen & Björklund, 2016; Seeck & Diehl, 2016). As a result, this could cause oversights with regards to how different antecedents impact on IWB. Where studies were designed as to pay special attention to how, for example, autonomy, colleague support, encouragement and working hours relate to these stages of innovation, several differences were observed. Encouragement, autonomy and flexible working hours were deemed more important for the idea generation phase, whereas colleague support (in the form of evaluation and feedback) were helpful in the idea implementation phase (Beugelsdijk, 2008; Seeck & Diehl, 2016). Therefore, the aforementioned reasons have supported the decision to separately look at the constituent dimensions that make up IWB, rather than create a unitary construct, as much prior research has done.

Apart from the aforementioned job design variables, previous studies also point to several others that might play a role in the IWB equation. To strengthen the theoretical framework of the current model, three additional (related) variables were considered: task monotony, task complexity and dealing with unforeseen problems.

Task complexity (and its reverse monotony) has been linked with creativity and IWB in several studies. However, the findings to date have been inconclusive, with some research having found positive relationships (Axtell et al., 2000; Baer & Oldham, 2006), others suggesting its effects disappear when considering additional factors (Binnewies et al., 2007; Shalley et al., 2009), while some even finding that it might hinder individuals' innovative potential in some circumstances (Urbach et al., 2010). Similarly, dealing with unforeseen challenges has been recognized as a hallmark of the innovative process, whether it be at the idea generation stage or during the implementation process (Baer & Frese, 2003; Bledow et al., 2009; Mumford et al., 2002).

Overall, it is clear that the link between job design and innovation is far from being completely understood. Considering available evidence, the current research employs a secondary analysis of the European Working Conditions Survey (EWCS) (Eurofound, 2012), an EU-wide survey with representative (EU and member state level) population samples, to test the study hypotheses. However, before moving forward, it was acknowledged that there are major differences between EU member states in their innovation scores, as evident from the European Innovation Scoreboard (Hollanders & Es-Sadki, 2017). Possible reasons for this range from cultural to wider institutional and economic motives (Hofstede, 2011; Kesselring et al., 2014; Rank et al., 2004). To this end, an indicator of the overall level of organisational innovativeness in each country was incorporated in the theoretical model. It could be argued that many factors could make up such a measure: degree of organisational learning, training and education in organisations and the type of hierarchical structures, to name a few. However, there was an interest in assessing the possible influence innovative employee behaviour can have on organisational outcomes, and that is why a choice was made to focus on the overall level of process, product, marketing and organisational innovations reported by companies in the EU member states. This information was obtained from the Innovation Union Scoreboard. Process/product innovations are measured as the percentage of companies that have introduced new goods, services or processes, and generally refer to technological innovations. Marketing and organisational innovations are those non-technological forms of innovation that are mainly found in the services sectors, where the former are less common (Hollanders et al., 2017). It is believed that these aforementioned factors do well in encompassing the different types of outputs that can be observed at the company level. Moreover, these innovative outcomes could

reasonably be expected to be influenced by the amount of innovative work behaviour displayed by those companies' employees (Bos-Nehles et al., 2017; Chowhan et al., 2017; Jiménez-Jiménez & Sanz-Valle, 2008).

Based on the research presented above, as well as on the extensive literature review presented in Chapter 2, the following hypotheses were developed and tested in this study:

Hypothesis 1a: Job demands pertaining to working at high speed will be related to idea generation and idea implementation behaviours.

Hypothesis 1b: Job demands pertaining to working under tight deadlines will be related to idea generation and idea implementation behaviours.

Hypothesis 1c: Job demands pertaining to working long hours will be related to idea generation and idea implementation behaviours.

Hypothesis 2: Autonomy will be positively related to idea generation and idea implementation behaviours.

Hypothesis 3a: Social support pertaining to colleague support will be positively related to idea generation and idea implementation behaviours.

Hypothesis 3b: Social support pertaining to manager support will be positively related to idea generation and idea implementation behaviours.

Hypothesis 3c: Social support pertaining to empowerment from the manager will be positively related to idea generation and idea implementation behaviours.

Hypothesis 4a: Task complexity will be positively related to idea generation and idea implementation behaviours.

Hypothesis 4b: Task monotony will be negatively related to idea generation and idea implementation behaviours.

Hypothesis 4c: Dealing with unforeseen circumstances will be positively related to idea generation and idea implementation behaviours.

Hypothesis 5: Individual innovative work behaviour (at the country level) will be related with country innovation scores.

The current study has been published in the European Journal of Work & Organisational Psychology: Dediu, V., Leka, S., & Jain, A. (2018). Job demands, job resources and innovative work behaviour: A European Union study. *European Journal of Work and Organisational Psychology*, 27(3), 310–323

4.1 Method

4.1.1 Sample

For the purposes of the present study, a secondary analysis was conducted on data obtained from the 5th European Working Conditions Survey conducted in 2010. It was chosen because it is one of the only representative surveys carried out at EU level which offers sufficient information for the present purposes. The selection was based on a random, stratified sample. The response rate was 44%. The survey covered the 27 EU member states, and only people who were at that time employed were surveyed (if they did paid work for at least one hour per week). It is important to note that the EWCS sample is representative of the working situation in the general population at the time of data collection which was the time period of the last financial crisis.

In this study the focus was on the section of the sample represented by salaried individuals, meaning self-employed people and freelancers were excluded from the analyses. A second consideration was that the participants had to work in organisations with more than 10 employees. This was based on findings from previous studies which indicate that the relationship between organisational size and innovation is positive and therefore observing innovation in smaller firms might be more difficult (Camisón-Zornoza et al., 2004). Furthermore, as stated in other studies, self-employed individuals and freelancers have more control over their working conditions and are not so dependent on others (Dhondt et al., 2014). Conversely, it could be argued that some of the dimensions investigated in this study, like

colleague and manager support, do not really apply to them. In terms of country data, a decision was made to include the 27 EU member states at the time. After the initial data screening, from 43816 cases a total of 12924 valid responses were left.

4.1.2 Measures

All measures were based on questions taken from the 5th EWCS. Even though some questions might not be identical to some used in other, purpose-designed instruments, the items in this survey were tested and proved to have good face validity and many were adapted from validated instruments (Dhondt et al., 2014).

4.1.2.1 Demographic variables: age, gender and education

In an attempt to account for as many confounding factors as possible, age, gender and education were controlled for in the analyses. Age was measured on a continuous scale, gender was a dichotomous variable, with the values 1 (*male*) and 2 (*female*) and education was a categorical variable indicating the highest level an individual achieved (e.g. upper secondary, post-secondary), based on the International Standard Classification of Education (ISCED) norms.

4.1.2.2 Job demands

The first independent variable, job demands, was measured by using two questions which were adapted from the Job Content Questionnaire (JCQ) tool developed by Karasek et al. (1998). The items were: “And does your job involve”: “...working at very high speeds?” and “working to tight deadlines?”. Scoring was on a 7-point scale, between 1 (*Never*) and 7 (*Always*). Although it was a self-report measure of demands, which is affected by a degree of subjective appraisal, it can be argued that perceived demands are as important for the individual as are “actual” demands (Dhondt et al., 2014). Furthermore, there is support for the idea that a subjective measure of demands has the necessary validity (Karasek, Baker, Marxer, Ahlbom, & Theorell, 1981). A third item (long working hours) was also used to measure another aspect of job demands, namely the effect increased demands and long working hours have on work-

life balance. The phrasing of the item was: “Over the last 12 months how often has it happened to you that you have worked in your free time in order to meet work demands?”. The scoring was done on a 5-point scale, between 1 (*Never*) and 5 (*Nearly every day*). All three factors were measured using a single item per indicator.

4.1.2.3 Job resources: autonomy and social support

Resources were measured by evaluating two dimensions, autonomy and social support. The second independent variable, *job autonomy*, was measured with 3 items adapted from the JCQ (Dhondt et al., 2014). The following items were used: “Are you able to choose or change...”: “...your order of tasks”, “your methods of work” and “your speed or rate of work”. The items were scored on a dichotomous scale, with the values 1 (*No*) and 2 (*Yes*). In a previous paper by Dhondt et al. (2014) the authors have used the same 3-item scale to measure job autonomy, but have made the decision to exclude a variable which was originally used in the JCQ tool, arguing that in a principal component analysis (PCA) it loaded on 2 factors. Considering that the sample population used in this study is different, another PCA was run in order to confirm their factor loadings. The findings confirm what was previously observed, with the 3 items loading highly on the first factor, with the Kaiser-Meyer-Olkin test of sampling adequacy $KMO = .76$, $p < 0.001$, which is adequate (Field, 2012). Furthermore, the Cronbach’s alpha measure of internal consistency for this scale was adequate, with a value of .75. The final composite measure was created by summing the responses from the scales and using the arithmetic mean as an indicator of the overall autonomy level.

The third independent variable, *social support*, was measured using 2 items derived from the JCQ questionnaire (Dhondt et al., 2014). The questions were: “For each of the following statements, please select the response which best describes your work situation.” with the subcategories “Your colleagues help and support you” and “Your manager helps and supports you”. Both were measured on a 5-point Likert scale, between 1 (*Never*) and 5 (*Always*). A third item was also used to measure encouragement from the direct manager: “In general, your immediate manager encourages you to participate in important decisions”, scored on a dichotomous scale, with 1 (*No*) and 2 (*Yes*). This item was chosen in addition to the first one focusing on supervisor support because it offers a more direct insight into how managerial

support might influence employees, and research does agree with the idea that empowerment through encouragement has an impact on creativity (Özarallı, 2015), which is closely linked to innovation. The three factors are used independently in the analysis process, to better understand the specific effects of peer and managerial support on IWB. Therefore, the three indicators, colleague support, manager support and manager encouragement, are measured using a single item for each.

4.1.2.4 Other factors: task complexity, monotony and dealing with unforeseen circumstances

These three factors were assessed with one question each: “Generally does your main paid job involve: with the options “solving unforeseen problems on your own”, “monotonous tasks” and “complex tasks”. Scoring was done on a dichotomous scale, 1 (*No*) and 2 (*Yes*). The three factors are measured using a single item for each.

4.1.2.5 Innovative work behaviour

The dependent variable, innovative work behaviour, was assessed using two items designed to measure the two dimensions believed to comprise IWB: idea generation and idea implementation. The first item was “You are involved in improving the work organisation or work process of your department or organisation”, and the second item was “You are able to apply your own ideas in your work”. Both were measured on a 5-point Likert scale, between 1 (*Never*) and 5 (*Always*). Cronbach’s alpha was .64, which although small is acceptable. However, Cronbach’s alpha could easily be influenced by other factors such as item wording and the number of items included (more items increasing the value), therefore care must be taken when interpreting it. Therefore, to further test that indeed the items measure one factor, a PCA analysis was performed, which returned good results, the two items loading high on one factor only, and with the Kaiser-Meyer-Olkin test of sampling adequacy $KMO = .76, p < 0.001$, which is adequate (Field, 2012). As one aim of this study is to investigate how different workplace characteristics relate to both aspects of IWB, each of the two items measuring the proposed dimensions of the variable were used independently. These two dependent variables were each measured with a single item.

4.1.2.6 Country level innovative work behaviour

The two indicators used to measure individual IWB were also used to obtain the country-level innovative work behaviour score. A group-mean score was created for idea generation and one for idea implementation, and have used the arithmetic mean of the two as an overall indicator of country level IWB. This is how the composite measure for the country level IWB score has been derived. This was done because it is not a methodologically sound approach to create paths from indicators measured at an individual level to indicators at the group level. However, in line with other researchers (e.g. Neal & Griffin, 2006), by aggregating individual data to the group level it is possible investigate if peoples' behaviours influence the group characteristics of which they are part of. More specifically, in this case this allows to test if individual innovative work behaviour will be associated with country innovation scores.

4.1.2.7 Country innovation score

This score was obtained from data taken from the European Innovation Scoreboard (EIS), a survey designed by the European Commission as part of their efforts to monitor and evaluate innovative performance across Europe. The score used for each country was a rank. This was derived from the arithmetic mean obtained from the normalized values of two indicators: process/product and marketing/organisational innovation. A score of 1 was attributed to the country with the lowest mean score, and 27 to the highest, respectively.

4.2 Analysis

Generalised structural equation modelling (GSEM) was preferred to other approaches such as multiple regression, as it not only allows the investigation of dependence relationships between the constructs of interest, but it additionally takes into consideration measurement error (Hair et al., 2006). Furthermore, work done by others casts doubt on the appropriateness of employing GSEM techniques, designed for continuous response, with ordinal categorical data. Rather, techniques specifically developed for analysing Likert-type scales are recommended (van der Eijk & Rose, 2015). That is why a multilevel logistic structural equation model was

used. This type of analysis does not require data to be continuous, and accounts for possible non-normal distributions in the responses.

4.3 Results

Because all the data originates from a single source, the possibility of common-source bias was a concern. To investigate this, an EFA was conducted on all the variables to assess Harman's single factor score. According to the literature, this score should indicate that less than 50% of the variability in the data can be explained by one single factor (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In this case, 23.6% of variability was explained, well under the maximum threshold accepted. Before conducting the main analysis, a correlation analysis was performed (see Table 4.1); this allowed the researcher to investigate how the main variables in the dataset are related with each other. While no directionality can be inferred, this is helpful in that it gave an overview of the most relevant and interesting relationships between the factors.

Table 4.1 Bivariate correlations between all the individual-level dependent and independent variables in the study

<i>Variables</i>	<i>1.</i>	<i>2.</i>	<i>3.</i>	<i>4.</i>	<i>5.</i>	<i>6.</i>	<i>7.</i>	<i>8.</i>	<i>9.</i>	<i>10.</i>	<i>11.</i>	<i>12.</i>
<i>1. Overtime</i>	-											
<i>2. High speed</i>	.09*	-										
<i>3. Tight deadlines</i>	.16*	.60*	-									
<i>4. Autonomy</i>	.16*	-.14*	-.05*	-								
<i>5. Colleague support</i>	-.04*	-.05*	-.03*	.08*	-							
<i>6. Manager support</i>	-.03*	-.10*	-.07*	.13*	.54*	-						
<i>7. Manager encouragement</i>	.08*	-.08*	-.02*	.25*	.21*	.34*	-					
<i>8. Complex tasks</i>	.17*	.08*	.16*	.19*	.06*	.04*	.15*	-				
<i>9. Monotonous tasks</i>	-.10*	.14*	.09*	-.16*	-.07*	-.09*	-.14*	-.04*	-			
<i>10. Unforeseen circumstances</i>	.15*	.01	.07*	.28*	.06*	.06*	.16*	.27*	-.07*	-		
<i>11. Idea generation</i>	.15*	-.03*	.04*	.33*	.25*	.32*	.42*	.21*	-.16*	.25*	-	
<i>12. Idea implementation</i>	.19*	-.15*	-.06*	.46*	.18*	.24*	.36*	.18*	-.22*	.27*	.46*	-

N = 12924; * p<.005

The highest positive correlations were observed between working at high speed and working on tight deadlines ($r = .60$), manager support and colleague support ($r = .54$), manager support and manager encouragement ($r = .34$), manager support and idea generation ($r = .32$), autonomy with idea generation and idea implementation ($r = .33$ and $.46$, respectively), manager encouragement with idea generation and idea implementation ($r = .42$ and $.36$ respectively), and finally between idea generation and idea implementation behaviours ($r = .46$). The highest negative correlations were between monotonous tasks and idea generation and idea implementation ($r = -.16$ and $-.22$ respectively), monotonous tasks and autonomy ($r = -.16$) and between working on tight deadlines and idea implementation ($r = -.15$). All the correlations are significant at $p < .005$ level.

The multilevel nature of the data required a cautious approach. After checking for homogeneity/homoscedasticity it was investigated if there was a multilevel structure to the responses, and for this a random intercept model was ran (M1) with the two outcome variables, idea generation and idea implementation nested within countries. The between country variance observed was $.171$ (17.1%), a good indicator that a multilevel approach is recommended. In the following iterations of the model (M2-M7), the control variables, demands, resources, additional job characteristics (complexity, monotony, dealing with unforeseen circumstances), the interactions, and finally the higher-level relationships between country-level innovative work behaviour scores and country innovation scores were added, iteratively. With each step, the between country unexplained variance in idea generation and idea implementation decreased. By M7 a $.019$ (1.9%) variance was left unexplained. However, generalized structural equation models do not allow for goodness of fit statistics for each model to be reported. To address this to some extent, with each new, more complex version of the model, a likelihood ratio (LR) test was conducted, to evaluate if each new set of variables added brought significant improvements on the previous model. This was done for all the models, except for the last iteration from M6 to M7, because the LR test requires that the two models compared have the same number of dependent variables. As in M7 country innovation was added as an additional outcome, the LR test could not be performed. Table 4.2 presents information on all the models, in order. Figure 4.1 presents the full model (M7). Path values are unstandardized betas.

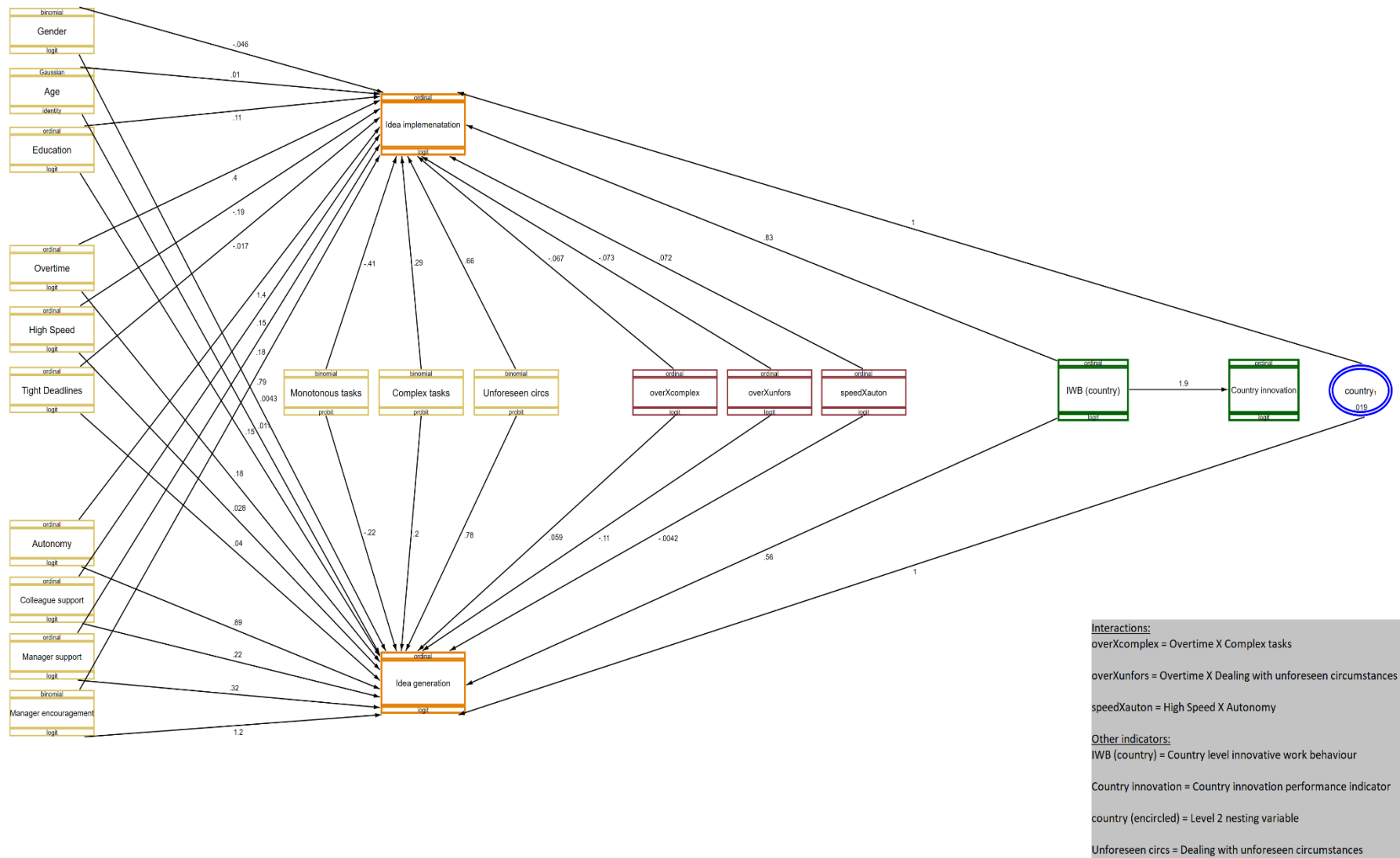


Figure 4.1 Final GMSEM model

Table 4.2 Structural equation model results (presented as odds-ratios for ease of interpretation) for each iteration of the model, from simplest (Model 1 - M1) to the final and most complex (Model 7 - M7)

<i>Idea generation (1) / idea implementation (2) / country level innovation (3) ¹</i>																
<i>- Odds-ratios (exponential beta)-</i>																
Variables	M1		M2		M3		M4		M5		M6		M7		3	
	<i>1</i>	<i>2</i>	<i>1</i>	<i>2</i>	<i>1</i>	<i>2</i>	<i>1</i>	<i>2</i>	<i>1</i>	<i>2</i>	<i>1</i>	<i>2</i>	<i>1</i>	<i>2</i>		
<i>Gender</i>			0.96*	0.91*	.98	.94	0.96	0.92*	1.00	0.95	1.00	0.95	1.00	0.96	-	
<i>Age</i>			1.01*	1.01*	1.01*	1.01*	1.01*	1.01*	1.01*	1.01*	1.01*	1.01*	1.01*	1.01*	-	
<i>Education</i>			1.43	1.49	1.37*	1.37*	1.20*	1.17*	1.15*	1.12*	1.16*	1.13*	1.16*	1.12*		
<i>Overtime</i>					1.12*	1.22*	1.10*	1.18*	1.08*	1.16*	1.20**	1.49*	1.20**	1.49*	-	
<i>High speed</i>					0.95*	0.87 *	1.01	0.92*	1.02	0.93*	1.02	0.82*	1.03	0.82*	-	
<i>Tight deadlines</i>					1.05*	0.99	1.06*	0.99	1.04*	0.98	1.04*	0.98	1.04*	0.98	-	
<i>Autonomy</i>							2.84*	6.14*	2.40*	5.31*	2.42*	4.11*	2.45*	3.99*	-	
<i>Colleague support</i>							1.26*	1.19*	1.24*	1.17*	1.24*	1.17*	1.24*	1.17*	-	
<i>Manager support</i>							1.37*	1.20*	1.37*	1.19*	1.37*	1.19*	1.37*	1.19*	-	
<i>Manager encouragement</i>							3.41*	2.37*	3.22*	2.22*	3.21*	2.21*	3.20*	2.21*	-	
<i>Complex tasks</i>									1.36*	1.18*	1.22**	1.33*	1.22**	1.34*	-	
<i>Monotonous tasks</i>									0.81*	0.66*	0.80*	0.66*	0.80*	0.66*	-	
<i>Unforeseen problems</i>									1.80*	1.73*	2.18*	1.95*	2.19*	1.94*	-	
<i>Overtime X Complex tasks</i>											1.06	0.94*	1.06	0.94**	-	
<i>Overtime X Unforeseen problems</i>											*	0.90**	0.93	0.90**	0.92	-

<i>High speed X Autonomy Innovative work behaviour (country level)</i>						1.00	1.07*	1.00	1.07*	-
								1.76*	2.30*	6.54*
Between- country variance	.171 (17.1%)	.147 (18.1%)	.156 (15.6%)	.075 (7.5%)	.064 (6.4%)	.065 (6.5%)				.019 (1.9%)
Likelihood ratio test (p value)		< 0.00	< 0.00	< 0.00	< 0.00	< 0.00				

* p<.005; ** p<.05

Notes

1: for M7 the odds-ratio for the effect of innovative work behaviour (country-level) on country innovation score is also presented (third OR).

The odds-ratios for all the variables are presented in Table 4.2. By far the most important positive relationships observed were between IWB and autonomy (OR *idea generation* = 2.45; OR *idea implementation* = 3.99), manager encouragement (OR *idea generation* = 3.20; OR *idea implementation* = 2.21) and country level innovative work behaviour (OR *idea generation* = 1.76; OR *idea implementation* = 2.30), as well as having to deal with unforeseen problems (OR *idea generation* = 2.19; OR *idea implementation* = 1.94). Put differently, people who enjoyed greater autonomy had twice as much, and four times as much chances of engaging in IWB. Similarly, those that enjoyed high levels of manager encouragement were 320% and 221% more likely to engage in idea generation and idea implementation behaviours, respectively. On the other hand, those that were doing monotonous tasks were the least likely to innovate (OR *idea generation* = 0.80; OR *idea implementation* = 0.66), having a 20% and 34% decreased likelihood of generating ideas and implementing ideas, respectively. From the demographic variables, the highest relationship was observed with education (OR *idea generation* = 1.16; OR *idea implementation* = 1.12). By far the strongest, and possibly most important relationship was observed between country level innovative work behaviour scores and country innovation scores (OR *country innovation* = 6.54). What this means in theory, is that countries in which individuals engage in more idea generation and idea implementation behaviours are over 6 and a half times (654%) more likely to score higher on innovation indicators (an aggregate of process/product and marketing/organisational innovation measures, more precisely).

4.4 Discussion

H1a and *H1b* were partly confirmed, meaning that job demands pertaining to working under tight deadlines and at high speed were associated with idea generation and idea implementation, respectively. It is important to note that the exact relationship between job demands and innovation was elusive in past studies, and some research has found that when demands and control are both high, innovation is lower than if demands were low and control high (De Spiegelaere et al., 2012), while others found the opposite effects (Martin et al., 2007). The unique strength of this study is its big sample size, which means that direct effects that are not easily observed in smaller samples due to reduced power can be observed here. Therefore, a more detailed investigation of job demands can be performed. As such, it was observed that

working at high speed was negatively associated with idea implementation, but was non-significant for idea generation. However, working on tight deadlines had a small but positive association with idea generation, but not with idea implementation. Considering these findings, it can be implied that different types of time constraints have different relationships with generating and implementing ideas. Working at high speeds seems to be detrimental to idea implementation, while working under tight deadlines might be slightly conducive to idea generation. These are interesting results, and a proposed explanation in past research was that the positive effect of job demands is attributed to their motivating effect. That is, employees are motivated to change their working environment, and therefore engage in coping behaviours, and in some cases one such behaviour is IWB (Martin et al., 2007; Ohly & Fritz, 2010). However, as the analysis shows, it appears that not all job demands have the same association with innovation. This is in line with the view that there are two different types of stressors, namely challenge and hindrance stressors. In a study conducted by Van den Broeck et al. (2010), the differentiation between these two types of demands was investigated, and results indicated that indeed, challenge demands had a positive effect on vigour and did not influence exhaustion, while job hindrances had a negative effect on vigour and positively predicted exhaustion. If this differentiation between demands is considered, it can be proposed that working under tight deadlines, although demanding, encourages employees to rethink their working habits and innovate, to increase their performance, as it is perceived as challenging rather than hindering. At the same time, working at high speed might be just a stressful working condition, which hinders IWB overall.

Another aspect of job demands explored in the study was long working hours. Long working hours were positively associated with both idea generation and idea implementation (*H1c* confirmed). These findings must be interpreted with caution. First, this sheds more light on findings from past studies, where it was shown that not all demands have the same effect, some leading to positive (challenges) and others to negative (hindering) effects on individuals (Van den Broeck et al., 2010). However, it should not be believed that employees that work overtime and become overworked are more likely to innovate. Rather, when innovating, employees may become more involved in their work as they refine and implement their ideas. This might mean that they are more likely to come to work outside normal working hours because they are very committed to their vision and idea. However, if this is the case, care must

be taken. Working long hours can lead to a state of stress and fatigue, which reduce individual resources, directly impacting productivity (Hunter & Thatcher, 2007) and the long-term capacity to innovate. It is no use having employees who innovate but who end up overspent and burnt out by the end. If anything, the present findings cast light on the importance of promoting good work-life balance during intense periods of innovation, when employees might not realize they may be overworking themselves.

Autonomy was found to have one of the highest associations with both idea generation and idea implementation (*H2* confirmed). It was observed to have a higher association with idea implementation than idea generation, leading to the idea that although important throughout the innovative process, autonomy is all the more vital when it comes to enacting proposed ideas. Looking at the interactions between the variables used to measure demands and autonomy in the idea implementation model the analysis indicates that a small but significant and positive relationship exists between autonomy and working at high speed. This lends support to the notion that having more autonomy in the job acts as a moderator, allowing individuals to better deal with some time constraints. The positive interaction with idea implementation suggests that as autonomy increases, the negative effects of working under high speed get buffered to a certain extent, allowing employees to be more creative and apply new working practices to achieve better results. This is interesting, and the findings suggest that the so called hindrance stressors might be well moderated by the appropriate resources. Striking a balance between offering the right amount of control to workers to balance demands is therefore a topic that needs to be further investigated in other studies. There are a number of reasons why the aforementioned relationships might have arisen. First of all, employees who experience more control in their working environment might be more willing to show initiative, as they feel more trusted and more capable (De Spiegelaere et al., 2014). Furthermore, if enough autonomy is provided to workers, the job becomes more pleasurable and rewarding in itself, and it is hypothesized that individuals will engage more freely in experimenting and trying out their ideas, even at the risk of failure (through the so called “trial and error” process) (Ramamoorthy et al., 2005). Moreover, as IWB is a change-oriented behaviour, a specific personality characteristic – the individual’s resistance to change – has been proposed to have a negative effect on the level of innovation observed (Oreg, 2003). Autonomy was shown to moderate this relationship, meaning that for employees who have a high resistance to change and might

otherwise not engage in IWB, high autonomy might buffer some of the unproductive effects this aspect of their personality might have on IWB because they feel more in control (Battistelli et al., 2013). High autonomy also makes employees feel secure enough to put their ideas under scrutiny (Paul et al., 2000), and thus they will more readily engage in idea generation and implementation. Furthermore, autonomy can increase the feeling of personal responsibility, making employees identify with their work, and therefore be more involved in improving their organisation or working practices (Wu et al., 2014). Finally, autonomy also facilitates learning, knowledge exchange, and the perceived control over the ability to initiate change (Axtell et al., 2000; Daniels et al., 2009), all crucial aspects of generating and executing ideas.

Social support was another job resource investigated in this study. Both social support from colleagues and from managers positively related to both aspects of IWB (*H3a* and *H3b* confirmed). Idea generation in both cases was more strongly associated with colleague support and manager support, as compared to idea implementation. This can mean that when trying to come up with something novel, it is essential to have support from colleagues and managers, possibly because they provide initial feedback, encouragement and advice. The findings do support the original proposition made by Karasek and Theorell (1990), who argued that communicating with others and discussing problems, as well as efficient ways of solving them, will increase problem solving and individual performance. Furthermore, De Dreu (2006) proposes that a supportive collective is a key factor for innovation in teams. In a qualitative study conducted by Daniels et al. (2013), the authors looked at how social support impacts problem solving defined as generating and implementing ideas (similarly to the measures used in this study). Their findings offer an interesting insight, namely that social support is essential for idea generation and implementation, which acts as a coping mechanism to deal with job demands. Social support plays two important roles; one is offering actual support when needed, and the other one is conferring peace of mind that support exists if needed, which can increase the control individuals feel over their work, and at the same time, IWB. Moreover, social support also helps refine existing ideas, as others can offer different perspectives on an issue (Daniels et al., 2013). An associated benefit of approaching and involving others in idea generation is that they become familiar with it and, as a result of direct participation, also take ownership of it to a certain degree. Therefore, when the time comes there will be less opposition to implement it (De Dreu & West, 2001). This might be especially important when considering

support from the supervisor, and a possible explanation for why the item measuring managerial support had a slightly higher predictive power than that measuring social support from colleagues.

Another aspect of social support, managerial empowering behaviour, significantly and strongly associated to both aspects of IWB (*H3c* confirmed). The association was slightly stronger for idea generation than for idea implementation. To better understand why these relationships appeared, it is important to note that supervisor behaviour has been indicated to be one of the most important factors affecting creativity and innovation (Anderson et al., 2014). More specifically, empowering behaviours from the supervisor have been linked to employees perceiving the whole organisation as being more supportive towards innovation (Scott & Bruce, 1994). Being an empowering manager means, amongst other things, encouraging decision-making (Arnold et al., 2000) and participation in the decision-making process (Özaralli, 2015) which are concepts that are crucial to generating ideas. Furthermore, empowering employees leads to greater perceived self-efficacy, motivation and autonomy, all key factors for the innovative process (Zhang & Bartol, 2010).

Task complexity and having to deal with unforeseen problems on one's own were both positively related with both idea generation and idea implementation behaviours, while task monotony had a negative association with both (*H4a, H4b, H4c* confirmed). The degree of complexity in a task is many times telling of a cognitively demanding job. It would therefore be expected, to some extent, that those individuals engaging daily with such work would be the most likely to innovate. In line with this are the findings from several other studies, which have suggested that individuals that need to display a myriad of skills at work in order to deal with complex tasks also enjoy more freedom to come up with and implement new ideas (Basadur et al., 2000). Furthermore, highly complex jobs are usually more engaging and are linked to higher employee satisfaction, which in turn leads to more innovative behaviours (Noefer et al., 2009). Task complexity and having to deal with unforeseen problems also interacted with working overtime, with interesting results. When working overtime on complex tasks, idea implementation levels went down, while when working overtime to deal with unforeseen problems, idea generation went down. While the magnitudes of the interactions were not massive (6% and 10% decreases in reported idea generation and idea implementation

behaviours, respectively), they are nevertheless important, especially considering that on their own both predictors had a positive influence on the two IWB dimensions. This brings to light the intricate nature and process of innovation. It becomes obvious that when multiple demands stack up (even if challenging and not hindering on their own), they will end up taking a toll on the individual, at the expense of innovation and possibly leading to decreased job satisfaction and engagement.

From the demographic variables, education played the most significant role, with people that have obtained a higher degree being more likely to innovate (16% and 12% more likely to engage in idea generation and idea implementation behaviours, respectively). This is not surprising, as several past papers have also found education to be a relevant predictor (Pieterse et al., 2009; Scott & Bruce, 1994). This might be because with a higher level of education potentially comes a higher position within organisations. These senior positions are characterized by more autonomy and decision latitude, which are both important for innovation. Furthermore, highly educated individuals get employed in more complex, cognitively demanding jobs (Martínez-Román & Romero, 2017), which exposes them having to deal with a variety of issues. This might in turn also lead to engaging in innovation.

Finally, it is time to discuss the relationships between country level innovative work behaviour and country innovation scores. As previously mentioned, the IWB scores were country-measured to create a level 2 IWB indicator that was then explored in relation to another level 2 indicator, the countries' innovation score (process/product and marketing organisational interventions). By creating a group-mean score of IWB, in effect, the between group effects were isolated from the within-group effect on IWB (Hofmann & Gavin, 1998; Paccagnella, 2006). In a similar vein, Neal and Griffin (2006) employed an analogous methodology to examine "bottom-up" effects, from individual safety behaviour to group accident rates. The approach here was something akin to that and it allowed the researcher to look at how IWB influences country innovation scores. First and foremost, a positive relationship between country level IWB and individual idea generation (81% more likely) and implementation (132% more likely) was observed. Second, and perhaps more interestingly, the results show a significant and strong relationship, where an increase in IWB at the country level relates to a 6 and a half times greater likelihood of the country performing better on innovation indicators

(H5 confirmed). These findings are very encouraging, and to the best of the researcher's knowledge it is the first time when a "bottom-up" relationship between individual innovative behaviour and country innovation performance has been investigated. Even though not many studies like this exist, there have been authors that have looked at HR practices within organisations, and how those practices influence both IWB as well as firm innovativeness and performance. For example, Jiménez-Jiménez and Sanz-Valle (2008) found a positive relationship between an HRM system characterized by autonomy, employee participation, teamwork and communication and firm product, process and administrative innovations. Similar findings are echoed in a study conducted by Messersmith and Guthrie (2010). As to why these factors correlate with firm innovativeness, one explanation would be because these factors are crucial for promoting IWB, as also proposed by Bos-Nehles, Renkema and Janssen (2017). They suggest that in HRM practices where the levels of autonomy are enhanced, individual and team support is provided, job demands are appropriately managed (with an emphasis on time pressures and work timeframes) and attention is paid to task composition (complexity/routinisation), employees engage in IWB much more readily. In this study, conceptually similar results were observed, on a cross-national, macro scale. While it is acknowledged that this is not a direct link, the possible impact and implications of the present findings must be acknowledged. If several factors that transcend cultural, sectoral and organisational boundaries and that can be used to further enhance employee driven innovation in companies across Europe could be identified, more concerted and effective efforts could be made in developing a set of standards and guidelines for the promotion on innovation at all levels, across the EU and possibly beyond. Furthermore, thinking more broadly of the model, an indirect link between the psychosocial work environment (in terms of job demands and resources), individual IWB and country innovative potential was revealed.

4.4.1 Limitations

Several limitations need to be addressed. First of all, this is a cross-sectional study, meaning that causality cannot be inferred. However, the model offers interesting findings and the analysis techniques employed allowed for several insightful conclusions to be reached. However, both multilevel models and generalized structural equation models (GSEMs) have

their limitations. The former only allows for one outcome to be investigated at a time. The latter is limited in that it does not provide traditional model evaluation techniques (i.e. goodness of fit statistics). However, an attempt was made to address these restrictions. First, by using a GSEM it was possible to add all the variables of interest in one cohesive and comprehensive model. Furthermore, although GOF statistics were not available, other model analysis techniques (LR tests, for example) were employed, and taken together with the fact that between-country variation in IWB went down with each model iteration, there is reason to be confident that the final model, and the results are reliable.

It can also be argued that this study does not provide cultural considerations, and as literature suggests, there surely are differences between welfare states in the EU (Sapir, 2006). However, it was not this study's aim to offer such information, but rather to investigate how well job characteristics relate to the two dimensions of IWB at a multi-national, but representative, EU-wide sample. Nevertheless, researchers might find it useful to conduct cultural investigation with such a model.

Another limitation is the fact that the analysis was based on secondary data, meaning that the researcher did not have direct control over the design of the survey. As a result, the measures used are not standardized, however many were adapted from well validated instruments, such as the JCQ (Karasek et al., 1998), and other studies that aimed to examine effects at the EU level also used some of these items (Dhondt et al., 2014).

Furthermore, some of the variables were assessed using a single item scale. This, it could be argued, is not as robust as having composite indicators, and therefore it presents an opportunity for future research to test the model by using composite scales for the indicators as well. The main challenge when using single item measures has to do with concerns surrounding psychometric properties such as sensitivity, reliability or validity. These will be defined in turn, and then a discussion on the research on the psychometric properties of single-item measures will be presented, in order to address some of the concerns. Reliability is a measure of internal consistency and most frequently measured through Cronbach's alpha. It speaks to the robustness of a measure, should it be used withing a different sample or study (Bryant et al., 2008; Osterlind, 2006). To calculate Cronbach's alpha, at least 2 items are needed, and therefore it is impossible to perform on single item measures. However, while two items were used

individually to assess idea generation and idea implementation, a Cronbach's alpha test was performed on them jointly, with the score suggesting an acceptable loading (.64), suggesting thus they the two items do indeed measure one construct, which is proposed to be IWB. While that does not mean that each item individually would measure idea generation and idea implementation specifically, it does offer some reliability to that claim. Sensitivity refers to the ability of a scale to detect actual differences in a construct (Christophersen & Konradt, 2011; Lewis, 2002). In this case, if the measures would be able to accurately identify levels of change in, for example, idea implementation. It is closely linked to the concept of reliability and validity.

Validity is a broader concept, encompassing both statistical (predictive validity) and non-statistical (external validity or construct validity) (Brewer & Crano, 2014; Bryant et al., 2008; Shedish et al., 2002). Predictive validity relates to how the measure would correlate with or predict other measures of the same construct. In this case, it translates to whether the current measures of IWB would correlate with another measure for the same construct if both would be applied in the same population. While presently this question cannot be answered specifically at the individual level, it is encouraging to see that when IWB scores were aggregated at the country level, they successfully and significantly predicted another independent indicator of country innovation, which was taken from a purpose designed measure (i.e. from the European Innovation Scoreboard). This tells us little about the predictive validity of idea generation or idea implementation as indicators at the individual level, and this would need to be tested independently in future studies. It is nevertheless an important observation and relationship to acknowledge.

External validity refers to the ability to generalise the findings of a particular study (Pearl & Bareinboim, 2014). For this study, this means that the interpretability of the results should be done primarily within the EU context, as that was where the population was drawn from. It must be said that although it is possible that job characteristics will have an impact on IWB across a variety of contexts, it can be argued that cultural aspects in countries outside of Europe and the EU (Asian countries, African or North/South American countries) could have an impact on the dynamics between individual expectations from the workplace, work characteristics and how they interact to influence IWB.

Construct validity is a type of non-statistical validity, and it is concerned with assessing if a measure is measuring what it says it is measuring (Borsboom et al., 2004; Koller et al., 2017). In the present case, it could ask if the items used for idea generation and idea implementation truly measure those constructs, and indeed IWB. First, it is important to note that the two items employed have been chosen following a rigorous literature review and analysis of other theoretical work that speaks about innovative work behaviour and what comprises it, as outlined in Chapter 2. Nevertheless, as these two items were not purpose built to explicitly measure either idea generation or idea implementation, one could argue that they might do so poorly, or not at all. To address these concerns, first it must be re-stated that when taken together their Cronbach's alpha score is sufficient to indicate that they indeed measure one construct. However, that overarching construct could be argued to instead measure something else, e.g. proactive behaviours or job crafting. To this, it must be said that this is a possibility, and indeed there is even theoretical alignment between proactive behaviours and IWB. As stated in Chapter 2, IWB is a type of proactive behaviour, and therefore the items might as well measure a type of proactivity, and this would not be conceptually very problematic. There is also an element of job crafting when it comes to innovating, especially as innovation can imply the introduction of new processes or methods of work, which would naturally bring with them an element of job crafting. Nevertheless, there is no absolute guarantee that the two items from the EWCS measure IWB, and importantly this needs to be acknowledged. It is proposed that a similar conceptual framework be used in other studies that should use tools specifically designed to measure IWB, in order to see if the relationships identified here would hold across.

It is clear that the issues of reliability and validity are important, especially when using single item measures. The paragraphs above attempt to discuss in more detail how these challenges may impact the current study. However, it is important to also mention that the use of single item measures in psychological research has been investigated and the results are somewhat encouraging. In the stress literature, some suggest that there might be a potential benefit to single item measures, as it allows participants to assess the factors that are most important to them, allowing them an overall stress rating that is more representative, rather than responding to sub-items, pre-determined by the researcher, believed to be measuring different elements of stress (Houdmont et al., 2019). This does not address the issues of validity or

reliability, but conceptually it is one important consideration. As it relates to reliability and validity comparisons, other research has suggested that single-item measures can be close to or almost as effective as more complex composite measures. This has been observed for constructs as complex as stress, burnout, depression, job satisfaction, quality of life or social identification (Cunney & Perri, 1991; Dolan et al., 2015; Postmes et al., 2013; Turon et al., 2019; Young et al., 2015). The fact that such complex concepts were successfully measured through single items, lends some validity to the idea the elements of IWB, an equally complex dimension, could also be measured through single items. However, it is important to note that in all cases the composite measures fared better than the single-item ones, therefore if available, the researcher should always use a set of items to measure these intricate concepts.

Overall, it is acknowledged that some of the measures used in this research can be potentially conceptually limited, which is in part due to the challenge of performing secondary analysis, and overall, the use of single item measures is one important limitation. However, the rationale for using the specific items to measure the proposed variables was based on a comprehensive literature review, and where appropriate and possible, several statistical checks were performed to examine their structure and appropriateness, such as reliability analysis and a principal component analysis, where composite measures were used.

4.4.2 Conclusions

The present study offers important implications, by presenting a clear picture of how job characteristics that have been historically examined in relation to wellbeing in the workplace fare in relation to IWB. The results of this study offer support to the idea that job design characteristics that have previously been indicated as being important to wellbeing also are important for other organisational aspects, such as employee innovation. This could shape the discourse used when introducing companies to the benefits of investing in effective psychosocial risk management practices, the effects of which extend beyond the health and wellbeing of the employee.

More specifically, looking back on the main results, it can be said that in order to have a productive and innovative workforce several factors seem to be crucial. First, the amount of decision latitude (autonomy), the levels of colleague and manager support and encouragement as well as one's level of education are all positively related with both idea generation and idea

implementation. Task complexity and having to deal with unforeseen circumstances are similarly positively related with the two facets of IWB. Things get more interesting when looking at job demands, as some positively relate to idea generation but not idea implementation (e.g. working at high speed and on tight deadlines). Equally important, monotonous tasks were negatively related to both factors. It therefore appears that the jobs most conducive to IWB are those that are flexible and can be adapted as the requirements of the innovative process change. At the same time, it is necessary to consistently offer employees sufficient challenges in the form of exciting and multifaceted jobs, as well as a combination between sufficient agency in how they conduct their tasks and responsibilities and adequate support and encouragement from managers and colleagues. Furthermore, the study also points to the fact that the countries that benefit from more innovative employees are those that also score higher in their output of products, process, marketing and organisational innovations. As these are some of the most important factors for economic and societal growth, it is crucial to understand their precursors. The present study takes these efforts one step further, in that it identifies some of the cross-sectoral, trans-national (i.e. not cultural or country specific) factors.

The findings could thus have implications at the macro level as well. Interested stakeholders and policy makers could use studies such as this to inform better policies, programmes and initiatives, especially considering the pro-innovation agenda (e.g. EU 2020 Action Plan; Innovation Union) promoted at the international level. At the same time, several practical suggestions can be made, so that those that wish to promote innovation in the workplace should try increasing specific resources, while at the same time carefully managing both hindering and challenging demands.

While bearing in mind its limitations, the present study confirmed that the same psychosocial factors that have traditionally been proposed to influence employee health and wellbeing are also key enablers of innovation. This is encouraging, and further supports the assertion that unified frameworks across these domains could be achieved. Therefore, the following study will turn to investigate the policy context on the psychosocial environment, as conceptualised through the lens of WI, a driver of both wellbeing and employee innovation.

5 The psychosocial work environment and workplace innovation: A European policy review

5.1 Introduction

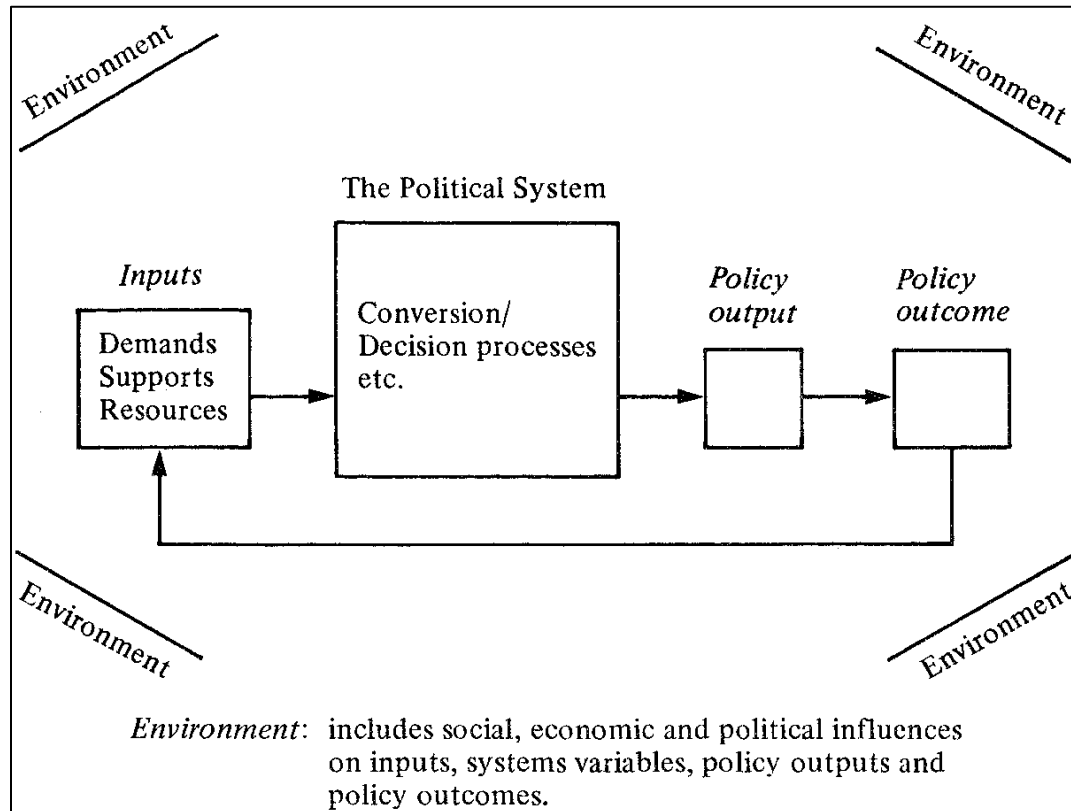
Policy development in the European Union is a complex process. Within the employment domain, it is driven by several broad frameworks amongst which the EU Strategic Framework for Health and Safety at Work, the European Employment Strategy, the Innovation Union Flagship Initiative, the Horizon programmes and the Agenda for new Skills and Jobs. Promoting innovation, quality of employment and health and safety at work are perhaps some of the most important aims of the EU. However, in order to do so the EU needs a comprehensive set of standards and laws. This chapter aims at reviewing the EU policy documents which sit at the intersection of the psychosocial work environment (traditionally the focus of occupational health and safety policies) and workplace innovation. Before presenting the analysis and discussion, it is important to first understand the research that has been done which has looked at the state of the WI and OSH policy landscape in the past, as well as to underline some characteristics of the European Policy Process and of European Governance, which make public policy development at the EU level particularly challenging.

5.1.1 The European policy process and European governance

Public policy has been defined, at a high level, as what a government does or does not do (Dye, 2010). It is generally believed that public policy is the totality of government actions, both direct and indirect, that has an influence on people's lives (Peters & Pierre, 2006). Another conceptualisation refers to it as "the set of interrelated decisions taken by a political actor or group of actors concerning the selection of goals and the means of achieving them within a specified situation where these decisions should, in principle, be within the powers of these actors to achieve" (Jenkins, 1978, p. 15). While not exhaustive, these definitions point to the fact that the process of policymaking is complex, involves multiple actors (state and non-state), choices, interests and motives (Hill, 1997).

Viewed within a systems model approach, the policy process has been proposed to be divided in four stages (Jenkins, 1978): inputs (demands for action from within or outside the system), the political system (the policy decisions made by different actors), policy outputs (what the systems does) and policy outcomes (the impact, planned or otherwise, of the political actions – or lack thereof). A visual representation of this can be seen in Figure 5.1.

Figure 5.1. Systems model of the policy process



Adapted from: Jenkins (1978)

Further to the systems-oriented model above, Dye (2010) proposes six steps in the policy process, which are presented in Figure 5.2. These steps map unto the four stages presented above. While the figure presents a linear process, it is important to mention that many times these steps are cyclical, with feed-back and feed-forward loops impacting decision-making at all stages.

Figure 5.2. The six steps of the policy process

Stage	Step	Activity	Stakeholders
Inputs - Policy demands	Problem Identification	Publicising societal problems Expressing demands for government action	Mass media, interest groups, citizen initiatives, public opinion
	↓	↓	↓
The political system - Policy decisions	Agenda Setting	Deciding what issues will be discussed, what problems will be addressed by government	Social partners, civil society, political and societal elites
	↓	↓	↓
Policy outputs	Policy Formulation	Developing policy proposals to resolve issues and ameliorate problems	Experts and think tanks Government agencies interest groups
	↓	↓	↓
Policy outcomes	Policy Legitimation	Selecting a proposal – Regulation impact assessment Developing political support Enacting it into law	Government agencies, courts, interest groups
	↓	↓	↓
Policy outcomes	Policy Implementation	Organising departments and agencies Providing payments or services Levying taxes	Government agencies and departments, social partners
	↓	↓	↓
Policy outcomes	Policy Evaluation	Reporting outputs of government programmes Evaluating impact of policies on target and non-target groups Proposing changes and 'reforms'	Executive department and agencies, mass media, experts and think tanks, social partners
	↓	↓	↓

Adapted from: Dye (2010)

Although models of the policy process such as the two presented above are a helpful starting point, the reality of policy making and governance in the EU is more complicated. This is even more so the case when dealing with complex policy areas, such as workplace innovation, psychosocial risks, health and wellbeing. It would therefore be useful to also introduce several

elements of the complex EU governance and political system. It is commonplace among academics and scholars of political sciences to refer to the European Union as operating a multilevel governance system (MLG), which has led, in time, to the development of several innovative decision-making mechanisms (Bartolini, 2011). This is in no small part due to the considerable number of actors and stakeholders who must interact and collaborate on the national and international stages, and because of the increased complexities and intricacies with which society nowadays needs to contend with (Ostrom, 2010). Before trying to approach a particular policy area therefore, it is important to try and understand the dynamics of this proposed multilevel framework of governance, where it has started and where it has led to.

While still under continuous development, the concept of multilevel governance is not new. Amongst the first to discuss this vis-à-vis the political ecosystem of the EU were Marks et al. (1996), and in their study the authors proposed three considerations when defining the multi-layered polity. The first was that stakeholders acting at different levels delegate some of the decision-making rights, traditionally held by states. Thus, European institutions such as the European Commission, the Court of Justice and the European Parliament enter into play and exert their influence and power. This leads naturally to the second considerations, namely that state actors lose much of their power and influence on the European stage. This can be both beneficial (i.e. by acting as a moderators and overseers ensuring equity and fairness in policies), as well as detrimental (i.e. by impeding specific state interest from dominating policy) to individual nations. This in turn contributes to the rise of complex cross-national, inter-state coalitions that collaborate (and compete) in order to promote their agendas, which is also the third and final consideration. Furthermore, these coalitions engage with European institutions, but also with other non-state actors (Marks, 1993) (e.g. NGOs, employer and employee organisations) in order to gain influence and achieve their goals.

The dynamics and causal loops of the emerging EU multi-level governance framework prove elusive to understand, underlining the inherent complexities of such as system. Scholars note that the EU is unlike a state in that, for example, it does not enjoy unanimous and undisputed legal or taxation rights over its members, while at the same time having more power than a traditional international institution since its laws (i.e. directives, regulations) have

priority over national ones, and its span of influence includes more than one policy area (Jachtenfuchs, 2010). This is captured well by a quote from (Rosenau, 1993):

“activity in the global community today is the result not only of nation-states striving for goals, but also of a number of varied transnational collectivities – from multinational corporations to professional societies to international organisations [. . .] – engaging in pursuits that are not confined by national boundaries. [. . .] Increasingly, it is clear that the breakdown of the old inter-state system is necessitating reformulation of how domestic and international processes sustain each other” (p. 5).

To further conceptualize and understand the complex jurisdictional and functional interactions within a multilevel governance paradigm, it is also useful to consider the concepts of Type I and Type II governance (Hooghe & Marks, 2003). Type I governance is characterised by jurisdictions that have clear responsibilities and levels of authority; at each layer of the multi-levelled system (e.g. regional, national, international) there is just one jurisdiction, and the different jurisdictions do not overlap in their membership and functional boundaries (for example: a legislature, a court system and an executive). Type II governance can be understood as comprised of functional, overlapping, competitive jurisdictions (‘FOCJ’s) (Frey & Eichenberger, 1996); these are formed around specific issues, such as regulating occupational health and safety standards or innovation, for example. It is important to note that these two types of governance are not mutually exclusive, but rather Type II systems exist within Type I governance.

As they relate to the EU, Type I level institutions can be equated to the European Parliament, the European Court of Justice and the European Commission. Member States are the lower level constituent units. Through their representation in the Council of the EU they exert strong decision-making rights and influence in the system. Nevertheless, because of the continuous expansion of the EU and its involvement in numerous policy areas, a strong need for collaboration between countries has emerged. As a result, a number of Type II governance jurisdictions have also emerged to allow for more flexibility (i.e. the Schengen zone, the Eurozone and the membership to the European Central Bank, all of those being adopted only by a subset of EU states, but not all) (Jachtenfuchs, 2010).

Therefore, when studying policy development and implementation in a MLG system, such as the EU, it is important to consider not only the vertical interactions (Type I level), but also horizontal ones (Type II level). Furthermore, it has been proposed that MLG can foster both output legitimacy and input legitimacy (Scharpf, 1994, 1997). The former refers to the effectiveness, responsiveness and level of adoption of policies and processes, while the latter refers to the participation and level of inclusiveness in the decision-making processes at all stages, that lead to said policies. This happens because non-traditional (non-state) actors can challenge the gate-keepers (nation states) and gain direct access into politics and the policy development process at all levels.

5.1.1.1 Balancing complexities in the policy making process

Scholars have noted that the status and balance in power, as well as the significant number of EU political actors gives rise to a high level of complexity, which can lead to less-than-optimal policy decisions and outcomes (Wonka, 2008). One of the first theories to try to explain the intricacies of this system was the Joint Decision Trap (JDT) (Scharpf, 1988). To illustrate this, it is important to understand how the process of decision making unfolds. The way competencies and power are spread across different EU institutions, directorates and member states gives rise to a system that dictates that in order for any policy decision to be reached, a lengthy negotiation is imposed in most all of the cases. Furthermore, because of the direct MS representation on the EU Council, the opinion and self-interests of each MS are presented and enter the negotiation fora in an unfiltered way, which can lead to an even more cumbersome negotiation process. Finally, it is also crucial to recognise that almost in all cases policy decisions need unanimous, or virtually unanimous agreement (Scharpf, 2006). These complexities add much potential conflict in the system, which impedes policy innovation (Tsebelis, 1995, 2002) and the level of agility in developing and implementing new programmes and initiatives. Even if a slight change is made, whereby a qualified majority vote (at least two-thirds of votes) would suffice, and even when in most instances all actors usually avoid options that would contravene with the core interests of a member state (Hayes-Renshaw et al., 2006), reaching decisions on salient policy issues has been difficult. It has been argued that a solution to this could be to move to a simple majority voting system, but political scientists have warned against a perceived lack of legitimacy of any policy resulted from such a process (Scharpf, 1999).

On the other hand, EU institutions (such as the Commission) have a moderating effect in the policy process. Therefore, in spite of the increased number of EU stakeholders at the sub-national, national and supra-national levels there never was a situation in which a complete deadlock on policy decisions would be reached, due to the flexibility that comes from what is a “loosely coupled system” of institutional and inter-institutional processes and settings which enable “exit mechanism” (Benz, 2009; Wallace, 2001). Examples of these exit mechanisms include: redefining issues, creating systems with majority voting (as opposed to unanimous voting), consulting experts and external actors that curtail the over-politicization of an issue and act as additional advocates or critics of proposed policy, using information strategically to shape public discourse at the national levels, which also puts pressure and influences national governments (Eising, 2002; Falkner, 2011).

The JDT was also the starting point for Benz (2011) who proposes that there are two types of linkages between inter- and intra-governmental systems, which dictate the type of strategies that the different actors will take when navigating complex decisions. Benz postulated 3 types of interactions: vertical inter-governmental (between the EU, sub-national and national levels), horizontal inter-governmental (between member state governments and subnational authorities) and intra-governmental (between the individuals involved in multi-level governance and their interest groups, constituencies and national parliaments). Benz (2011) proposed that streamlined and highly effective multilevel governance is difficult because of the interplay between intra-governmental decision making and intergovernmental vertical and horizontal interactions. With all these levels of interaction, as well as the continuously changing actor/ actor networks, it must also be considered whether a multilevel governance system can indeed produce legitimate policy decisions and processes (Piattoni, 2009).

Considering all these factors, it is easy to understand why policy making at the EU level has and will continue to be a challenge, especially in areas where traditional methods of policy making that rely on direct, enforce regulation are not suitable, such as in the case of many social policy areas – of which wellbeing, health and safety and WI are part of (Graser & Kuhnle, 2010). Within this complex policy landscape, the Open Method of Coordination has been proposed as a potential way forward.

5.1.2 *The Open Method of Coordination*

The Open Method of Coordination (OMC) has been formally proposed at the Lisbon Summit as a new deliberative governance approach that relies on “soft policy” to achieve social change, European integration and goal alignment amongst member states (Jacobsson, 2004a). It differentiates itself from the traditional “Community Method” in that the latter relies on “hard law” and imposes sanctions in case of non-compliance. By comparison, the OMC does not rely on justiciable measures to be implemented (Hatzopoulos, 2007). Instead, it focuses on collaboration and partnership between various social partners, regional and local stakeholders, as well as between member states and the civil society (Eberlein & Kerwer, 2002). This is done in an attempt to give more prominence to citizens’ voice in the policy process. Critics of this method often point to the fact that it might hinder the development of much needed hard law (Trubek & Trubek, 2005). However, there are several instances which will never be able to be completely legislated for, and as a result the OMC, imperfect as it might be, should be viewed as a complementary or alternative approach. At the EU level, employment law is one such instance. Before exploring efforts in this area, it is important to mention that the point is not to have an either/or perspective on these two modes of governance, but rather to consider how they may be used complementarily (Trubek & Trubek, 2005).

In order to do this, the OMC proposes in framework in which stakeholder engagement is key, member states find common goals, even though the ways in which these are achieved might not always be uniform, and policy itself is flexible so that it can be easily revised in the face of newly emerging issues and knowledge (Borrás & Jacobsson, 2004).

The OMC prerogatives can be succinctly surmised as Trubek and Trubek (2005) present in their article:

1. Joint definition by the member states of initial objectives (general and specific), indicators, and in some cases guidelines.
2. National reports or action plans that assess performance in light of the objectives and metrics and propose reforms accordingly.
3. Peer review of these plans, including mutual criticism and exchange of good practices, backed up by recommendations in some cases.

4. Re-elaboration of the individual plans and, at less frequent intervals, of the broader objectives and metrics in light of the experience gained in their implementation.

It is important to also understand what are the possible mechanisms through which it influences policy change. The OMC is believed to be an instrument for learning enabled by continuous benchmarking, comparison and reassessment (Armstrong, 2012; Curry, 2016). Subsequently, this has two effects: democratizing destabilization and cognitive effects on the stakeholders who are pushed to act. National characteristics also come into play, and many argue that these are instrumental in influencing the success of OMC methods. The welfare regime and political systems, as well as the interests of and power relations between different governmental and non-governmental actors all play a role (Aidukaite, 2011; Castles, 2010; Kautto, 2010; Palier, 2010; Weishaupt, 2014).

An example of the application of the OMC has been when it comes to the EU Employment Guidelines, and the wider European Employment Strategy (EES). The issues member states were facing when trying to tackle the challenge of developing a set of employment guidelines raised questions that no one country had comprehensive answers for. The differences in needs, priorities as well as the variation in power dynamics and industrial relations, both between and within countries and occupational sectors (Bechter et al., 2012) brought further complications. Nevertheless, a plan was developed and so, in 1997 under the Amsterdam Treaty, the Economic Employment Strategy was established. A series of broad goals were agreed upon: full employment, social cohesion and inclusion and increasing quality and productivity at work, and based on these, a series of guidelines were formulated (European Commission, 2003).

Jacobsson (2004b) indicates in her study that indeed the OMC has done much in terms of providing a framework for thinking about employment policy and ways to integrate it throughout the EU. While there might still be considerable work to be done when it comes to full EES adoption, much more has been accomplished with regards to the harmonization of procedures. These procedures revolve around a number of key mechanisms: a common discourse in the EU – Eurodiscourse (Sciarra, 2000), a common knowledge base – Eurostatistics (I. Linsenmann et al., 2007), a standardization in the diffusion of knowledge, the creation of common methods of review and evaluation, and finally working along the same timeframes

(Jacobsson & Vifell, 2007) – more recently and notably through the European Semester. All these factors have had an influence, albeit a subtle one, on the policy agenda in that they created a common frame of reference for all member states. In short, the OMC seems to have advanced progress in several ways: countries now seem to have a shared process for policy development and implementation, cooperation between ministries and across multiple levels has increased, it has facilitated peer learning and constructive criticism across nations, networks of employment policy planning and evaluation are being formed and the feedback generated is influencing the EU agenda as a result.

Within the implementation of the EES and Employment Guidelines, one should also not underestimate the importance of financial support. For example, what drove reform in employment services in both Greece and Portugal was first a conditionality for continued European Social Fund (ESF) financial support, where ESF funds would be halted if certain quality markers were not reached; and second the ability of other national policy entrepreneurs to incorporate and take advantage of EES guidelines and policies in their national discourse for employment reform by for example portraying sceptics and the opposition as anti-EU (Zartaloudis, 2013). The author concludes that in both Greece and Portugal the effects of the EES on their public employment services were salient.

5.1.3 Policy instruments

The previous sections introduced several key concepts that underline EU policy making. Many of the results of the activities (procedures, processes and interactions) which happen in the EU political system are captured through a set of official EU policy documents, which can be both binding (hard law), and non-binding (soft law). Specifically, the European Commission, European Parliament and Council of the European Union (through their different institutions and directorates), together with other social partners, collaborate, consult, and negotiate on different policy topics, and then develop, either from their own initiative, or at the request of one another, different documents to address specific issues. Soft law is largely viewed as having an “informative” nature, as it has no legally binding powers. Hard law, on the other hand has punitive legal mechanisms associated with it, and therefore offers more legitimacy and has a much more direct impact on those to whom it is addressed. It is difficult to evaluate the

importance of hard law versus that of soft law when dealing with complicated topics such as WI or the psychosocial environment, and that is why it is important to look at both when evaluating such policy areas (Trubek et al., 2005). It is important to note that both these types of policies have their drawbacks. Some of the critiques of soft law include a lack of clarity and predictability in how it will be implemented/absorbed and no legal mechanisms for monitoring compliance. On the other hand, hard law has been criticised for being too restrictive and not allowing sufficient flexibility in how it is implemented, and for being too difficult to change quickly, which is a drawback when faced with modern problems in complex and rapidly evolving environments.

Within the hard/soft law domain, there are several types of policy documents, with different roles (ELTIS, 2021; Eur-Lex, n.d.). On the soft policy side, there are:

- Resolutions: non-binding documents, used in most cases used to set out work to be done in the future, in a specific policy area. Resolutions can also be used to invite the EC to make a proposal for further action to be taken.
- Communications: non-binding documents, without mandatory authority, used as a means of outlining the Commission's thinking on a topic or issue.
- Opinions: non-binding documents, used by different EU institutions to make a statement, without bringing with it any legal obligation on those whom it addresses; can be employed to give a regional or social/economic viewpoint on policies that are being developed.
- Staff working documents: non-binding documents which accompany a specific Communication, and which have the purpose of going into more detail on a specific topic.
- Green papers: non-binding documents published by the European Commission as a way to encourage discussion on different topics at the European level. They invite other relevant bodies or individuals to debate and participate in a process of consultation on a given proposal which has been put forth; they can give rise to legislative developments.

Hard policy documents are represented by:

- Regulations: binding legislative acts that must be applied in their entirety across the European Union.
- Directives: binding legislative acts that set out a goal to be achieved for all EU countries; they allow, however, each individual actor to set up their own legal frameworks for how they achieve said goal.
- Decisions: binding documents on those to whom they are addressed (such as an EU country or company), and which must be directly applied.

While it was not possible to find any official scale to weigh the importance of soft policies between themselves, and hard policies between themselves, some insights can be gained by looking at the official definitions. When it comes to soft law, we can see that resolutions appear to be the most action oriented, as they can recommend (in a non-binding manner) particular actions or work to be undertaken in the future. Similarly, green papers can lead to legislative outcomes, and they can be good tools to invite consultation and deeper discussion from broader set of stakeholders. Opinions, communications and staff working documents appear to be more informative in nature, and act towards providing additional information from a local/regional level perspective on specific topics.

On the hard law side, all three types of documents have justiciable mechanisms and are therefore binding. However, regulations have the broadest applicability as they impact all EU member states and must be implemented by a set date. Directives set goals, but do not prescribe how member states have to reach that goal (through a process of transposition), therefore offering more flexibility. Finally, decisions have the narrowest applicability, only impacting on specific groups or individuals whom they address.

Having presented the policy process and governance at the EU level, as well as the different policy process outputs in terms of hard and soft law, the next two sections will focus on providing an overview of the areas of psychosocial risk management and Workplace Innovation policy. This will contribute to the background for the analysis and discussion in the latter part of the chapter.

5.2 European policy on the psychosocial environment

The management of psychosocial risks at the EU level is stipulated in the Framework Directive 89/391/EEC on Safety and Health of Workers at Work which makes it compulsory for employers to address and manage all types of risks in a preventive manner and to put in place structures and procedures specifically designed for these purposes (Leka, Jain, Iavicoli & Di Tecco, 2015). Additionally, a number of policies and guidelines have been developed to be applicable at the EU level. They can be either legally binding (EU regulations, Directives, decisions and national pieces of legislation, other ‘hard’, binding, policies, such as ILO conventions, that are developed by either national, European or international recognised bodies), or ‘soft law’ (non-binding) policies such as recommendations, proposals, opinions, resolutions and conclusions of EU institutions, the Committee of Regions and other social partners as well as specifications, guidance and other campaigns from European and international committees, agencies and organisations (Leka et al., 2015). However, even though these efforts have been made, there is still a lot of ambiguity in the resulting documents, and still the terms “mental health”, “stress” or “psychosocial risks” are not present in the vast majority of existing legislation (Leka et al., 2015; Leka, Jain, Iavicoli, Vartia, & Ertel, 2011).

One of the main barriers in creating effective psychosocial risk management policies comes from differences in perceptions, priorities and interests between key stakeholders and social actors (Ertel et al., 2010; Iavicoli et al., 2004, 2011). However, a number of recent “soft” policies have been initiated at the EU level. An EU-OSHA report mentions a few documents directly related to mental health and psychosocial risk management (EU-OSHA, 2011):

- Lisbon Strategy: EU goal for economic growth and competitiveness, 2000-2010;
- Community Strategy on Health and Safety at Work, 2007-2012;
- Commission White Paper “Together for Health”, 2008-2013;
- Framework Agreement on Work-related Stress, 2004;
- Framework Agreement on Harassment and Violence at Work, 2007;
- The Mental Health Pact, 2008.

While most of the guidelines focus on promoting healthy workplaces, a good example of legislation that can be aimed both at WB as well as at improving conditions for IWB is found in the Framework Directive 89/391/EEC on Safety and Health of Workers at Work. It stipulates

that employers need to “adapt the work to the individual, especially as regards the design of workplaces, the choice of work equipment, and the choice of working and production methods, with a view, in particular, to alleviating monotonous work and work at a predetermined work rate, developing a coherent overall prevention policy which covers technology, organisation of work, working conditions, social relationships, and the influence of factors related to the working environment”. Looking at the scope of the article, it is easy to see that several important factors for IWB are specifically mentioned: working and production methods and work at predetermined rate – for increased autonomy and manageable work demands; and social relationships – to improve social support and communication. However, even though the Framework Directive has been developed, an evaluation of its implementation has revealed that it was lacking, with little to no attention being paid to addressing risks such as control, the organisation of work, work pace or repetitive work (European Commission, 2004). While a more recent report identified that OSH legislation does help in improving workers physical and mental health, but that implementation is far from consistent across members states and that generally large organisations fair better than SMEs (European Commission, 2017).

It is clear that developing policy to deal with workplace health and safety is far from complete (even more so for WI and IWB). In a study by (Leka et al., 2015) a large number of hard and soft policy instruments were reviewed and scored according to dimensions that had to do with their coverage and specificity of psychosocial risks and their effects. Their results point towards a limited coverage, especially for binding policies. This is probably due to the fact that hard laws are developed through a lengthy process of negotiation, as any controversial issues will be picked upon by stakeholders. However, due to their nature, psychosocial risks are bound to bring upfront potentially contentious matters, and as such creating laws to address them will be cumbersome. Nevertheless, understanding what has been done thus far and what will be done is paramount, should there ever be a comprehensive framework that will address both wellbeing as well as employee innovativeness. Furthermore, stakeholder perceptions are important (Iavicoli et al., 2011), as they are the ones that need to actively work on the development and implementation of future guidelines.

5.3 European policy on workplace innovation

While policy development aimed at psychosocial risks, health and wellbeing has received more targeted attention, when it comes to WI policy at the European level efforts have been comparatively less sustained. That is not to say however, that there has been no work done in this area. Most recently, the EU-WIN (European Workplace Innovation Network) has made one such attempt at standardising the meaning of WI across European policies. Furthermore, the programme also intended to bring together key stakeholders that would work to develop, implement and evaluate WI policies at the EU and national levels (Pot et al., 2017). Nevertheless, EU-WIN's activity has been suspended a few years after it was founded, and since then the landscape of EU WI policy has not seen major development. Before moving forward, it is important to understand where WI policy has come from, how its proponents believe it can help, and given its promise why it has been so difficult to keep momentum in this field.

With the recognition of the fact that the social side of innovation (continuous development, the organisation of work, employee voice and autonomy) is equally, if not more important, than the technological side of innovation (Bolwijn et al., 1986), came the efforts to try and understand how to promote this “social innovation”. Proposed to be part of Sociotechnical Systems Design (Mohr & Amelsvoort, 2016), the notion of WI first emerged after the Second World War and has since seen increased interest. However, it is important to acknowledge that across different policy domains, and indeed across institutions and countries, a range of similar concepts (“innovative workplaces”, “high involvement workplaces”, “sustainable work systems”) have been used to refer to what are basically the same set of ideas (Docherty et al., 2002; EESC, 2011; Gittell et al., 2010; OECD, 2010b). The fact that this set of concepts have emerged and are being used in Europe (as well as in the US, Canada and Australia) is encouraging, as it speaks to the appeal of WI. However, it must also be acknowledged that when multiple labels are used for what should be essentially the same notion, confusion can appear, which makes the development of clear guidelines and policies more difficult.

As the world of work is evolving and it has become clearer that one of the most important sources of competitive advantage comes from human capital, the Directorate General

for Employment, Social Affairs and Inclusion (DG EMPL) formed a policy advisory group called ACTEUR, which brought together a number of stakeholders who in 1995 published their manifesto on what can be done to achieve organisational innovation, competitiveness and increased employment (Andreasen et al., 1995), followed in 1997 by the publication of the Commission Green Paper “Partnership for the Organisation of Work”. All this initial activity, regrettably, did not lead to any practical policy interventions taking place (Pot et al., 2017), and for some time there was little progress made at European level because of a lack of buy-in from central EU stakeholders (Gold et al., 2012). This was in spite of the positive results that were being observed at the local levels where different countries were reporting on the success of different WI initiatives (Alasoini et al., 2017; Totterdill et al., 2016).

During the late 2000s the discourse at the EU level around WI continued, but in a disparate way, with different elements of WI being discussed in several different programmes and initiatives. The Employee Driven Innovation Network (linked to the “Lifelong Learning in Europe” programme) was established, as well as the Work-In-Net consortium (Alasoini et al., 2005; Høyrup et al., 2012a). At the same time the Lisbon Growth and Jobs strategy was launched, which had as a key point the promotion of work quality and productivity, skills and healthy and productive jobs. Nevertheless, all these programmes were not truly jointly managed and the resulting policy narrative differed greatly among member states, not in small part because WI still did not have a clear definition (Gold et al., 2012), which made it difficult to incorporate in the policy discourse. Those countries that already had established traditions in this field (e.g. Nordic countries, France, Germany) continued to lead, while others (the majority) continued to lag (Pot et al., 2017).

The introduction of the EU2020 Strategy (European Commission, 2010b) saw an opportunity to re-think and integrate WI into the broader policy narrative. However, this opportunity was missed, according to some (Dortmund/Brussels Position Paper, 2012). Specifically, one of the main aspects of WI, namely that of integrating policies on competitiveness, employment, health and safety, the work environment and innovation, did not prominently and clearly feature in a cohesive policy framework. Nevertheless, the complexities of WI were now increasingly being understood and recognised. It became clearer that a considerable number of stakeholders from multiple levels (European, Member States, regional

and local) and institutions (EU agencies and directorates, national ministries, NGOs, employee and employer organisations and research institutions) needed to be involved at all stages of the policy process (EESC, 2011). It was acknowledged that this is the only way to achieve the promised benefits of WI – increased innovation capability, health and WB, productivity and competitiveness. This was also the point at which the EU-WIN network was established, and more publications started to look at the benefits of WI, underlining the importance of elements such as: the organisation of work; balancing demands and resources; employee participation; and health, safety and wellbeing (European Commission, 2015a).

While it is undeniable that there has been considerable progress made in the WI policy area in the last 25 years, it is equally true that the creation of a comprehensive EU WI policy framework is still in the incipient phases. It is also important to note that, much in the same way as for psychosocial risk management policies, hard regulation might be extremely difficult if not impossible to develop. Instead, soft law has taken precedence, at least initially. This is due to the aforementioned degree of complexity and sensitivity surrounding this topic (Alasoini, 2016). Adding to this, the concept of WI itself is still in need of a clear, agreed and well-understood definition at the EU level and increased collaboration amongst all key stakeholders in the policy development process is necessary. However, current efforts are still disjointed and fragmented (Pot et al., 2017).

Up until this point, this chapter has reviewed the complex policy process and governance system in the European Union and has offered an overview of the policy documents which result as instruments of policymaking from the interaction in said systems. Moreover, an overview of the EU policy domains of psychosocial risk management and Workplace Innovation has been presented. Based on this, the next section will outline the methodology and analysis conducted in this study, aimed at further exploring the comprehensiveness and coverage of policy which sits at the intersection of WI and the psychosocial work environment.

5.4 Method

This study is based on the analysis of official policy documents, as presented in section 5.1.3. This section details the procedure through which relevant data was identified and selected, as well as the choices for the analysis procedure.

Keeping in mind the concepts of relevance to workplace innovation and psychosocial risk management, a review of policy in this area needs to explore both antecedents and outcomes of the relevant concepts. These would include work environment factors as well as outcomes at individual and organisational level. At European level, several policies have been developed to promote occupational safety and health (OSH) with the aim of improving employee safety, health and wellbeing (WB). Far fewer policy attempts have been made so far that aim specifically at improving WI. However, considering the wealth of evidence presented in chapter 2, the idea that WB and WI have common ‘causes’ leads to suggest that the intersection of these two policy areas is worth exploring as it may offer a fresh perspective towards a holistic policy approach for the management of the psychosocial work environment and Workplace Innovation.

This chapter considers policies which would fall within the Workplace Innovation framework, as proposed by (Kesselring et al., 2014). Therefore, in addition to investigating policies aimed at psychosocial factors and their management, this chapter also looks at policies dealing with innovation, competitiveness, social inclusion and employment to evaluate the intersection and overlap between these two domains.

It is also important to note that authors investigating OSH, psychosocial risk management as well as Workplace Innovation policy observe that the level of coverage of key factors in official documents leaves much to be desired (Leka, et al., 2015; Pot et al., 2017). To this end, this chapter will present an analysis of both hard and soft law, in order to evaluate their comprehensiveness and potential strengths and weaknesses.

The content in these policies will be assessed to understand what factors emerge as key aspects for promoting wellbeing, health, innovation (and as a result productivity) in the EU.

5.4.1 Data collection

Data collection was carried out through a search strategy developed to identify the most relevant hard and soft law documents published within the European Union. To this end, EUR-LEX was used, as it is the EU’s repository of official documents. Based on the literature around the psychosocial work environment and workplace innovation, several relevant terms were

initially identified which guided the search, which was conducted between November 2017 to April 2018. The search terms used were: “work* conditions”, “work organisat*”, “work environ*”, “innovate*”, “psychosocial”, “quality of work* life*”, “job insec*”, “work* innovation”, “work productiv*”, “health and safety”, “life* learning”, “skill*”, “human cap*”, “wellb*”. A high number of documents were found. In order to reduce the number and to ensure that only the most relevant documents were kept, the following inclusion criteria were followed (Scott, 1990).

- *Legitimacy*: only official documents found on EUR-LEX were used. This did not include documents that were no longer in force.
- *Scope*: only documents related to all the EU member states were considered. If documents were specifically addressing only one actor, nation or stakeholder group they were excluded.
- *Type*: only documents such as European directives, decisions, regulations, resolutions, communications, opinions, recommendations and staff working documents, and green papers were included.
- *Topic*: The aims, purpose, contents, title and topic of the document had to be relevant to the areas of interest. Only those documents mentioning either health and wellbeing, innovation and/or productivity were included.

Applying these criteria, the final number of the extracted documents was 76.

5.4.2 Analysis

For the analysis, a combination of framework analysis (Ritchie & Spencer, 1994) and a policy scorecard (Leka et al., 2015) was used. The first step was conducting the framework analysis, which allowed the creation of the dimensions that were then used in the policy scorecard. A description of these analysis methods is provided next.

Framework analysis is considered a good, structured way of managing and processing data (Spencer et al., 2003), and Srivastava and Thomson's (2009) five iterative steps were followed:

1. *Familiarisation*: gaining an overall understanding of the data collected by immersing in the documents; key ideas and recurring topics being to appear.

2. *Identifying the thematic framework*: the focus here was on emerging themes and topics; this was also guided by past research and existing frameworks for psychosocial risk management, as well as Workplace Innovation. Using an a-priori approach, the aim was to underline the common aspects of both of these frameworks and to try to understand how and if they are presented in the policy documents.
3. *Indexing*: once the broad themes were identified the relevant sub-themes were appropriately structured within them and mapped out. This was an iterative process, and in total the documents were reviewed at least 4 times each.
4. *Charting*: this stage is intended as an opportunity to structure the previously indexed themes and map them to their respective document. However, as the resulting case-based chart is very similar to the policy scorecard analysis tables, this stage has been adapted to reflect this. **Table 5.1** presents the key themes identified, the scores to be assigned based on the level of coverage, and in **Table 5.2** for each document an assigned score between 0-5, across all these themes is given. Additionally, **Table 5.3** presents the detailed analysis of each document, where for ease of interpretation the factors mentioned in each of them have been grouped as determinants and outcomes.
5. *Mapping and interpretation*: based on the key themes and dimensions identified, as well as the scores, policy documents and their comprehensiveness are comparatively discussed.

The policy scorecard approach has been previously used when reviewing a large number of policy documents. It provides a structured way of assessing the comprehensiveness of policies and has been employed for these purposes in studies investigating OSH-related documents (Leka et al., 2015). This approach must be driven by a clear set of rules and principles, especially when developing the dimensions against which policies are scored. In this case, the scoring dimensions used by Leka et al. (2015) in their analysis were referred to as a starting point, to develop the 6 different levels of comprehensiveness (0-5) in this analysis. The search terms used to find the documents, as well as the five key themes were derived from the European Union Workplace Innovation concepts and indicators report (Kesselring et al., 2014), the OECD Innovation strategy report (OECD, 2010a), EU-OSHA's review of Workplace Innovation and OSH report (EU-OSHA, 2012), as well as the theoretical work put forth by Oeij and Dhondt (2017) and Alasoini et al. (2017).

Guided by the above, as well as by the extensive literature review presented in Chapter 2, the following five dimensions were developed by the researcher and validated by a second expert reviewer:

- *Coverage of positive and negative potential outcomes related to health and safety, innovation and performance.* This dimension relates to the level of coverage of factors such as: wellbeing, health and safety, innovation, performance, profitability, engagement, satisfaction, burnout, stress, absenteeism, turnover, health-related costs, MSDS and CVDs.
- *Coverage of psychosocial factors/working conditions and their influence.* This dimension relates to the level of coverage of factors such as: autonomy, job control, job demands (psychological and physical), quality of working life, work-life balance, flexibility, security, work processes, teamwork, management and leadership.
- *Coverage of lifelong learning, skills and continuous development importance.* This dimension relates to the level of coverage of factors such as: training and investment in human capital, skills, education, lifelong learning and development.
- *Coverage of communication, collaboration and stakeholder engagement.* This dimension relates to the level of coverage of factors such as: increasing awareness and communication between actors, engaging stakeholders in discussions and increasing collaboration across the different levels.
- *Coverage of unified employment, health and safety and innovation guidelines.* This dimension looks at the frequency with which it is acknowledged that employment, health and safety and innovation policies and frameworks need to be comprehensively considered and discussed, to be able to develop truly holistic approaches across these inter-related domains.

To attribute the scores to each document, the amount of times, detail and comprehensiveness of the relevant factors within the themes were assessed. For the lowest scores there was either no reference, or only a cursory/high level mention of those particular factors; whereas to score highly a document needed to have the relevance and importance of those respective factors very clearly outlined, and potentially how they interact and are inter-connected with each other.

Table 5.1 Key themes and scoring dimensions

Key Themes	0	1	2	3	4	5
Coverage of positive and negative potential outcomes related to health and safety, innovation and performance	No reference to or acknowledgement/ coverage of potential positive and negative outcomes related to health and safety, innovation and performance	Only implicitly covered but not effectively addressed	Very limited, but explicit acknowledgement/ coverage of potential positive and negative outcomes related to health and safety, innovation and performance	Partial acknowledgement/ coverage of some potential positive and negative outcomes related to health and safety, innovation and performance	Sufficient coverage of potential positive and negative outcomes related to health and safety, innovation and performance	Comprehensive coverage of potential positive and negative outcomes related to health and safety, innovation and performance
Coverage of psychosocial factors / working conditions and their influence	No reference to or acknowledgement/ coverage of psychosocial factors / working conditions	Only implicitly covered but not effectively addressed	Very limited, but explicit acknowledgement/ coverage of psychosocial factors / working conditions	Partial acknowledgement/ coverage of some psychosocial factors / working conditions	Sufficient coverage of psychosocial factors / working conditions	Comprehensive coverage of psychosocial factors / working conditions
Coverage of lifelong learning, skills and continuous development importance	No reference to or acknowledgement/ coverage of importance of lifelong learning, skills and continuous development	Only implicitly covered but not effectively addressed	Very limited, but explicit acknowledgement/ coverage of importance of lifelong learning, skills and continuous development	Partial acknowledgement/ coverage of importance of lifelong learning, skills and continuous development	Sufficient coverage of importance of lifelong learning, skills and continuous development	Comprehensive coverage of importance of lifelong learning, skills and continuous development
Coverage of importance of communication, collaboration and	No reference to or acknowledgement/ coverage of importance of	Only implicitly covered but not effectively addressed	Very limited, but explicit acknowledgement/ coverage of importance	Partial acknowledgement/ coverage of importance of	Sufficient coverage of importance of communication, collaboration and	Comprehensive coverage of importance of communication,

stakeholder engagement	communication, collaboration and stakeholder engagement		of communication, collaboration and stakeholder engagement	communication, collaboration and stakeholder engagement	stakeholder engagement	collaboration and stakeholder engagement
Coverage of importance of having unified employment, health and safety and innovation guidelines	No reference to or acknowledgement/ coverage of importance of having unified employment, health and safety and innovation guidelines	Only implicitly covered but not effectively addressed	Very limited, but explicit acknowledgement/ coverage of importance of having unified employment, health and safety and innovation guidelines	Partial acknowledgement/ coverage of importance of having unified employment, health and safety and innovation guidelines	Sufficient coverage of importance of having unified employment, health and safety and innovation guidelines	Comprehensive coverage of having unified employment, health and safety and innovation guidelines

Table 5.2 Policy document scores

Policy document number	Coverage of potential positive and negative outcomes related to health and safety, innovation and performance	Coverage of psychosocial factors / working conditions and their influence	Coverage of lifelong learning, skills and continuous development importance	Coverage of importance of communication, collaboration and stakeholder engagement	Coverage of importance of having unified employment, health and safety and innovation guidelines	Overall scores
1	4	4	3	4	3	18
2	4	4	3	4	3	18
3	4	4	3	3	3	17
4	4	4	3	2	4	17
5	4	4	3	4	3	17
6	3	4	4	4	2	17
7	3	3	3	3	2	15
8	4	4	3	3	1	15
9	3	1	5	3	2	15
10	3	3	3	3	3	15
11	3	2	2	4	3	14
12	3	4	0	4	3	14
13	2	3	2	3	4	14
14	3	2	1	4	4	14
15	3	2	3	4	2	14
16	3	3	2	3	3	14
17	3	1	3	4	3	14
18	3	1	4	4	1	13
19	3	1	3	3	3	13
20	3	1	5	3	1	13
21	4	4	1	3	1	13
22	3	3	3	3	1	13
23	3	3	3	1	2	12
24	2	1	3	3	3	12

25	2	2	2	3	3	12
26	3	2	3	3	1	12
27	3	2	2	3	2	12
28	4	4	1	1	1	11
29	3	3	0	4	1	11
30	4	3	0	3	1	11
31	2	2	3	3	1	11
32	3	3	2	2	1	11
33	4	5	2	0	0	11
34	3	1	3	3	1	11
35	3	3	2	3	0	11
36	3	1	1	4	2	11
37	3	2	3	2	1	11
38	3	3	1	3	1	11
39	4	3	3	0	1	11
40	3	3	1	3	0	10
41	3	1	3	2	1	10
42	2	1	3	3	1	10
43	2	2	2	2	2	10
44	2	2	2	3	1	10
45	2	2	2	1	3	10
46	1	1	3	3	2	10
47	3	2	1	4	0	10
48	2	2	3	2	1	10
49	2	1	3	3	1	10
50	2	2	3	2	1	10
51	2	1	3	2	1	9
52	2	2	0	4	1	9
53	2	1	3	2	1	9
54	2	0	3	1	3	9
55	2	1	3	2	1	9

56	2	0	2	2	3	9
57	3	3	0	2	1	9
58	2	2	2	2	0	8
59	3	1	1	3	0	8
60	2	0	3	3	0	8
61	1	1	1	4	1	8
62	2	2	0	3	0	7
63	3	2	0	1	1	7
64	1	0	0	3	3	7
65	1	1	2	3	0	7
66	1	1	0	2	3	7
67	1	1	2	2	0	6
68	0	0	4	1	1	6
69	1	1	1	2	1	6
70	1	1	2	2	0	6
71	2	1	0	2	0	5
72	2	0	2	1	0	5
73	1	1	1	1	0	4
74	2	0	2	0	0	4
75	2	0	2	0	0	4
76	1	1	1	0	0	3

Table 5.3 Policy documents: coverage, type and overall scores

No	Policy	Determinant	Outcome	Hard	Soft	Score
1	Opinion of the European Economic and Social Committee on ‘Innovative workplaces as a source of productivity and quality jobs’ (own-initiative opinion)	Work processes, work organisation, working methods, physical working environment, skills, management and leadership; quality of working life; best-practice sharing and learning between actors, continuous organisational and individual learning	Positive: productivity; quality of work; performance; innovative products, services; social and functional innovations; EU competitiveness and wellbeing		✓	18
2	Opinion of the European Economic and Social Committee on ‘Promoting sustainable productivity in the European workplace’	Workplace innovation; management practices; skills; psychosocial factors; quality of working life; autonomy, teamwork, task diversity; employee involvement; health and safety; stakeholder communication and collaboration	Positive: wellbeing; job satisfaction; job security; creativity and innovativeness; efficiency and productivity; sustainable growth Negative: job intensity		✓	18
3	Opinion of the European Economic and Social Committee on Quality of working life, productivity and employment in the context of globalisation and demographic challenges	Quality of working life; work organisation and working conditions; cooperative manager behaviours; monotonous tasks; autonomy at work; varied work; education and	Positive: reduction of health risks; empowerment of workers; satisfaction at work; wellbeing at work; business productivity, profitability and innovativeness; prevention		✓	17

		training; WLB; social dialogue; psychosocial stressors; time pressure; unified economic, employment and social policies leading to a comprehensive innovation policy	of stress and work-related illness Negative: Work intensity, burnout			
4	Opinion of the Economic and Social Committee on 'Employment, Economic Reform and Social Cohesion - Towards a Europe of Innovation and Knowledge'	Unified policy framework; knowledge and skills; working conditions; work-life balance; autonomy; manager behaviours	Positive: Innovation; competitiveness Negative: job insecurity		✓	17
5	Opinion of the European Economic and Social Committee on Promoting sustainable productivity in the European workplace (2008/C 10/19)	Working conditions; stakeholder communication and collaboration; unified policy framework; skills, psychosocial factors, autonomy, teamwork	Positive: innovation, productivity, competitiveness; quality of work; wellbeing, health; job security		✓	17
6	Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions - Improving quality in work: a review of recent progress	Working conditions; education; lifelong learning; gender equality; new forms of work organisation; work-life balance; autonomy; working time	Positive: productivity; competitiveness; quality of work; innovation Negative: economic costs; absenteeism; ill-health; stress, depression, anxiety; musculoskeletal disorders		✓	17
7	COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL,	Skills; job quality; working conditions; flexicurity;	Positive: innovative, competitive economy and		✓	15

	THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS An Agenda for new skills and jobs: A European contribution towards full employment	lifelong learning; stakeholder communication and collaboration	organisations; productivity, economic growth; labour productivity; physical and mental health			
8	COMMISSION STAFF WORKING DOCUMENT RESTRUCTURING IN EUROPE 2011 Accompanying the document GREEN PAPER Restructuring and anticipation of change, what lessons from the economic crisis?	working conditions; skills and competencies; stakeholder communication and collaboration	Positive: productivity and innovativeness Negative: lower commitment, motivation, concentration; stress, burnout, MSDs, CVD, work-related accidents; absenteeism, presenteeism; bullying; turnover; decreased productivity and quality of work; decreased company reputation		✓	15
9	COMMISSION STAFF WORKING DOCUMENT Analytical underpinning for a New Skills Agenda for Europe Accompanying the document Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions A NEW SKILLS AGENDA FOR EUROPE: Working together to strengthen human capital, employability and competitiveness	Skills, training, lifelong learning	Positive: innovation, productivity; health Negative: unemployment		✓	15
10	Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions -	Working conditions; health and safety; flexible work	Positive: productivity; economic growth		✓	15

	Employment and social policies: a framework for investing in quality	organisation; working time; work-life balance; skills				
11	Opinion of the European Economic and Social Committee on the ‘Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions: mid-term review of the social policy agenda’	Working conditions; education and training; labour relations	Positive: productivity Negative: stress, depression, anxiety; musculoskeletal disorders		✓	14
12	COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Improving quality and productivity at work: Community strategy 2007-2012 on health and safety at work	Health and safety at work; wellbeing at work; good mental health	Positive: productivity at work; decreased staff turnover; increased motivation Negative: absenteeism; economic costs; MSDs; stress; psychological harassment; decreased competitiveness		✓	14
13	COMMUNICATION FROM THE COMMISSION TO THE COUNCIL, THE EUROPEAN PARLIAMENT, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS SCOREBOARD ON IMPLEMENTING THE SOCIAL POLICY AGENDA	Training, lifelong learning; employee consultation; health and safety; stakeholder dialogue and cooperation through the open method of co-ordination (OMC)	Positive: quality of work; increased employment (more and better jobs); competitiveness; productivity and innovation Negative: under-performing economy		✓	14
14	Opinion of the Committee of the Regions on the ‘Communication from the Commission “Employment and social policies: a framework for investing in quality”’	More synergy between social, employment and economic policy;	Positive: quality of work; job satisfaction; health at work; job satisfaction;		✓	14

		cooperation at the EU and regional levels; working conditions; overtime; management practices; cultural differences	innovative capacity; productivity and cost-effectiveness			
15	GREEN PAPER PARTNERSHIP FOR A NEW ORGANISATION OF WORK	Organisation of work; learning opportunities; work time; health and safety	Positive: innovation, increased productivity and competitiveness		✓	14
16	Health and safety at work European Parliament resolution of 15 December 2011 on the mid-term review of the European strategy 2007-2012 on health and safety at work	Psychosocial factors; workload; social support; work-life balance; lifelong learning	Positive: productivity, competitiveness; health and safety Negative: job insecurity; stress; musculoskeletal disorders; ill-health		✓	14
17	Commission staff working document - Accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Towards Common Principles of Flexicurity: More and better jobs through flexibility and security - Impact Assessment	Skills; lifelong learning; leadership; work organisation; stakeholder communication and collaboration	Positive: productivity; innovation absorption		✓	14
18	Regulation (EU) No 1303/2013 of the European Parliament and of the Council of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the	Job quality; skills, lifelong learning; stakeholder communication and collaboration;	Positive: social and research innovation; healthy working life, healthy aging; competitiveness	✓		13

	European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006					
19	Resolution on the report from the Commission on 'Employment in Europe - 1996' and the communication from the Commission on the Action for Employment in Europe: a confidence pact	Training; cooperation and collaboration; between actors; unified policy framework; education and training; skills; working time	Positive: innovation; competitiveness Negative: job insecurity		✓	13
20	COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS A NEW SKILLS AGENDA FOR EUROPE Working together to strengthen human capital, employability and competitiveness	Skills, training, lifelong learning; stakeholder communication and collaboration	Positive: innovation, productivity; job security		✓	13
21	COMMISSION STAFF WORKING DOCUMENT Ex-post evaluation of the European Union occupational safety and health Directives (REFIT evaluation) Accompanying the document COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Safer and Healthier Work for All - Modernisation of the EU Occupational Safety and Health Legislation and Policy	Psychosocial risks; workload, work pace, control, interpersonal relationships	Positive: wellbeing; productivity Negative: musculoskeletal disorders, stress, depression, anxiety; bullying; job insecurity		✓	13

22	Opinion of the European Economic and Social Committee on the Green Paper — Modernising labour law to meet the challenges of the 21st century	Stakeholder communication and collaboration; skills; health and safety	Positive: productivity Negative: stress		✓	13
23	COMMISSION STAFF WORKING DOCUMENT SOCIAL SITUATION REPORT 2007 Social Cohesion through Equal Opportunities	Education and training; sharing of knowledge; working conditions	Positive: innovation; reduced unemployment; stress		✓	12
24	Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions Social policy agenda	Lifelong learning; skills; new forms of work organisation; quality of working life	Positive: employment growth; innovative businesses		✓	12
25	European Parliament resolution of 23 May 2007 on promoting decent work for all	Lifelong learning, quality of working life; working conditions; stakeholder collaboration and communication	Positive: productivity, competitiveness, health and safety Negative: Stress, long working hours and work intensity, insecurity		✓	12
26	European Parliament resolution of 29 November 2007 on Common Principles of Flexicurity	Flexicurity; skills; stakeholder communication and collaboration; training and education; working conditions	Positive: job security; health and safety; productivity, competitiveness; innovation Negative: job insecurity		✓	12
27	European Parliament legislative resolution on the proposal for a Council decision on guidelines for the employment policies of the Member States	Lifelong learning; flexible work organisation; job quality; stakeholder communication and	Positive: productivity; work performance		✓	12

		collaboration; skill; lifelong learning				
28	COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF REGIONS on the practical implementation of the provisions of the Health and Safety at Work Directives 89/391 (Framework), 89/654 (Workplaces), 89/655 (Work Equipment), 89/656 (Personal Protective Equipment), 90/269 (Manual Handling of Loads) and 90/270 (Display Screen Equipment)	Work control, work organisation, repetitive work, psychosocial risks	Positive: productivity, competitiveness; reduced business costs Negative: deficits in the coverage of health and psychological aspects at work; occupational accidents; MSDs		✓	11
29	Opinion of the European Economic and Social Committee on the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions — Improving quality and productivity at work: Community strategy 2007-2012 on health and safety at work	Health and safety; working environment; working conditions; stakeholder communication and collaboration	Positive: productivity; competitiveness; economic growth and performance Negative: economic costs; occupational stress		✓	11
30	COMMISSION STAFF WORKING DOCUMENT Accompanying document to the COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Improving quality and productivity at work: Community strategy 2007-2012 on health and safety at work IMPACT ASSESSMENT	Working conditions; health and safety standards; psychosocial risks	Positive: productivity; competitiveness; motivation and morale Negative: social and economic burden; absenteeism		✓	11

31	Developing the job potential of a new sustainable economy European Parliament resolution of 7 September 2010 on developing the job potential of a new sustainable economy	Working conditions; Cooperation between actors; lifelong learning, training	Positive: innovation and creativity; economic competitiveness Negative: job insecurity		✓	11
32	Women's working conditions in the service sector European Parliament resolution of 11 September 2012 on women's working conditions in the service sector	Work-life balance; time pressure; working conditions; lifelong learning; stakeholder communication and collaboration	Positive: health and safety; economic growth, innovation Negative: job insecurity		✓	11
33	COMMISSION STAFF WORKING DOCUMENT Health and Safety at Work is Everybody's Business A Practical guidance for employers Accompanying the document COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Safer and Healthier Work for All - Modernisation of the EU Occupational Safety and Health Legislation and Policy	Psychosocial factors; working conditions; work control; social support; manager behaviours; repetitive work; autonomy; workload	Positive: creativity; innovation Negative: Sickness, ill-health; musculoskeletal disorders; stress, burnout, depression; job insecurity		✓	11
34	European Parliament resolution of 15 January 2014 on reindustrialising Europe to promote competitiveness and sustainability (2013/2006(INI))	Working conditions; autonomy; teamwork; skills; training; comprehensive policy framework	Positive: Innovation, creativity; productivity, competitiveness		✓	11
35	Community strategy 2007-2012 on health and safety at work European Parliament resolution of 15 January 2008 on the Community strategy 2007-2012 on health and safety at work	Psychosocial risks; lifelong learning and training; work conditions	Positive: productivity; quality of work; absenteeism; health and safety; motivation		✓	11

			Negative: musculoskeletal disease; cardiovascular disease; stress; violence at work; financial costs			
36	Commission staff working document - Accompanying document to the white paper - Together for health: a strategic approach for the EU 2008-2013 - Impact assessment	Working conditions; stakeholder cooperation and collaboration	Positive: health and safety; productivity		✓	11
37	Council Decision of 15 July 2008 on guidelines for the employment policies of the Member States	New forms of work organisation; flexible working time; skills, training, lifelong learning; communication and collaboration between stakeholders	Positive: productivity; innovation; health and safety Negative: unemployment	✓		11
38	Opinion of the European Economic and Social Committee on the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions — An Agenda for new skills and jobs: A European contribution towards full employment	Innovative forms of work organisation; health and safety; musculoskeletal disorders; stress; work-life balance; stakeholder communication and collaboration	Positive: productivity; innovation		✓	11
39	Communication from the Commission - Key messages from the Employment in Europe 2007 Report	Teamwork; work organisation; autonomy; complex work; working conditions; working time	Positive: wellbeing; performance; innovation		✓	11

40	COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Safer and Healthier Work for All - Modernisation of the EU Occupational Safety and Health Legislation and Policy	Psychosocial risks; stakeholder communication and collaboration	Positive: productivity, performance; competitiveness; health in the workforce Negative: absenteeism; accidents; turnover; Work-related illness; musculoskeletal disorders		✓	10
41	COUNCIL RESOLUTION of 15 July 2003 on Social and Human Capital Building social and human capital in the knowledge society: learning, work, social cohesion and gender	Lifelong learning; investment in human capital; quality of working life; stakeholder communication and collaboration	Positive: competitiveness; innovativeness		✓	10
42	Opinion of the European Economic and Social Committee on the ‘Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions — Towards Common Principles of Flexicurity: More and better jobs through flexibility and security’	Labour relations; inter-actor cooperation; skills; work-life balance; lifelong learning; gender equality; health and safety; social dialogue between actors	Positive: productivity; innovation; employment growth		✓	10
43	European Parliament resolution of 15 November 2007 on the European interest: succeeding in the age of globalisation	Lifelong learning; improved managerial processes; stakeholder collaboration	Positive: innovation (new products and services)		✓	10
44	Commission staff working document - Impact assessment accompanying the communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the	Health and Safety; flexicurity; skills and lifelong learning; working conditions; stakeholder	Positive: productivity Negative: accidents and injuries		✓	10

	Regions - Solidarity in health: Reducing health inequalities in the EU	communication and collaboration				
45	An EU Strategy for Youth European Parliament resolution of 18 May 2010 on ‘An EU Strategy for Youth – Investing and Empowering’	Skills, training, lifelong learning; work-life balance; working conditions; job quality	Positive: innovation		✓	10
46	COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS A Stronger European Industry for Growth and Economic Recovery Industrial Policy Communication Update	Working conditions; new ways of working; skills and learning; comprehensive policy framework	Positive: Innovation, productivity, competitiveness		✓	10
47	Opinion of the European Economic and Social Committee on the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions — Improving quality and productivity at work: Community strategy 2007-2012 on health and safety at work	New forms of work organisation; psychosocial risks; working conditions; Training; Communication and collaboration between actors	Positive: productivity, performance, competitiveness; economic performance Negative: economic costs; violence		✓	10
48	Council Decision of 12 July 2005 on Guidelines for the employment policies of the Member States	New work organisation; working conditions	Positive: productivity; health and safety	✓		10
49	Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Towards Common Principles of Flexicurity: More and better jobs through flexibility and security	Skills; lifelong learning; flexible work organisation; work-life balance; stakeholder communication and collaboration	Positive: productivity; competitiveness; innovation		✓	10
50	European Parliament resolution on the Commission recommendation for the 2002 Broad Guidelines of the	Innovative forms of work organisation; job quality;	Positive: productivity; quality of work		✓	10

	Economic Policies of the Member States and the Community	lifelong learning; stakeholder communication and collaboration				
51	Opinion of the European Economic and Social Committee on the situation of ageing workers faced with industrial change — providing support and managing age diversity in sectors and companies (own-initiative opinion)	Management systems; work organisation; lifelong learning; quality of working life; stakeholder communication and collaboration	Positive: innovation; creativity; productivity; quality of work Negative: burnout		✓	9
52	Opinion of the Economic and Social Committee on ‘Request by the European Commission for the Committee to draw up an exploratory opinion in anticipation of the Commission Communication on health and safety at work’	Working environment; stakeholder collaboration and engagement; health and safety	Positive: economic growth; increased health and safety at work; quality of work Negative: stress, musculoskeletal disorders, repetitive strain injury		✓	9
53	Communication from the Commission: Community policies in support of employment	Knowledge, skills, research and development	Positive: productivity, competitiveness, innovation		✓	9
54	Opinion of the European Economic and Social Committee on the Proposal for a Council Decision on guidelines for the employment policies of the Member States, in accordance with Article 128 of the EC Treaty	Unified policy framework; job quality; working conditions; lifelong learning	Positive: innovation, productivity; health and safety Negative: insecurity		✓	9
55	Integrated Guidelines for Growth and Jobs (2005-2008) - Communication from the President, in agreement with vice-President Verheugen and Commissioners Almunia and Spidla	Skills; new forms of work organisation; stakeholder communication and collaboration	Positive: productivity at work		✓	9

			Negative: low level of productivity growth			
56	COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Taking stock of the Europe 2020 strategy for smart, sustainable and inclusive growth	Education and training; Stakeholder communication and collaboration	Positive: innovation; productivity		✓	9
57	Opinion of the European Economic and Social Committee on the Fourth Report on Economic and Social Cohesion	Job quality; quality of working life; motivation	Positive: productivity; innovativeness		✓	9
58	REGULATION (EU) No 1296/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 on a European Union Programme for Employment and Social Innovation ("EaSI") and amending Decision No 283/2010/EU establishing a European Progress Microfinance Facility for employment and social inclusion	Skills; lifelong learning; working conditions; work-life balance	Positive: health and safety; innovation	✓		8
59	Council Resolution of 25 June 2007 on a new Community strategy on health and safety at work (2007-2012)	Job quality; lifelong learning	Positive: health and safety; motivation; competitiveness; productivity Negative: economic costs		✓	8
60	Communication from the Commission to the Council - Draft Joint Employment Report 2002	Working conditions; new ways of working; lifelong learning, education; stakeholder cooperation and collaboration	Positive: productivity; quality of work; job security		✓	8

61	Opinion of the Committee of the Regions on: the Review of the European Employment Strategy and the Employment Guidelines for 2003 based on the Communication on Taking stock of five years of the European Employment Strategy	Skills; work organisation; stakeholder communication and collaboration	Positive: productivity; quality of work		✓	8
62	OPINION OF THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE ON THE COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS on an EU strategic framework on health and safety at work (2014 – 2020)	Psychosocial risks; coordination between social partners	Negative: loss of productivity; worker health; stress and mental health		✓	7
63	Opinion of the European Economic and Social Committee on ‘The European Year of Mental Health — Better work, better quality of life’ (own-initiative opinion)	Psychosocial factors; working time, workload; communication and collaboration between actors	Positive: productivity Negative: stress, mental ill-health; financial costs to business		✓	7
64	White paper - Together for Health: A Strategic Approach for the EU 2008-2013	Stakeholder cooperation and collaboration	Positive: productivity; economic growth Negative: ill-health; financial costs		✓	7
65	Commission staff working document - Accompanying document to the Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions - Outcome of the Public Consultation on the Commission’s Green Paper “Modernising labour law to meet the challenges of the 21st century“	Working time arrangements; lifelong learning	Positive: competitiveness		✓	7

66	Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Unlocking Europe's full potential - Commission Legislative and Work Programme 2006	Absenteeism; poor health	Positive: productivity; quality of work		✓	7
67	COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS An Integrated Industrial Policy for the Globalisation Era Putting Competitiveness and Sustainability at Centre Stage	Lifelong learning, skills, training; working conditions; flexicurity; communication and collaboration between actors	Positive: productivity, innovation		✓	6
68	Commission staff working document - Accompanying document to the Communication from the Commission - Raising productivity growth: key messages from the European Competitiveness Report 2007	Skills, training	Positive: productivity; innovation		✓	6
69	Council Decision of 22 July 2003 on guidelines for the employment policies of the Member States	Working time; new form of work organisation; lifelong learning; stakeholder communication and collaboration	Positive: reduction of accidents at work; productivity; competitiveness	✓		6
70	COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS EU Quality Framework for anticipation of change and restructuring	Skills; education and training; working conditions	Positive: economic growth		✓	6

71	Green Paper - Improving the mental health of the population - Towards a strategy on mental health for the European Union	Working conditions; stakeholder communication and collaboration	Positive: productivity; health and safety Negative: economic costs		✓	5
72	Communication from the Commission to the Council - Draft Joint Employment Report 2003/2004	Stakeholder communication and collaboration; education and training	Positive: productivity; quality of work		✓	5
73	COUNCIL DECISION of 3 December 2013 establishing the specific programme implementing Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020) and repealing Decisions 2006/971/EC, 2006/972/EC, 2006/973/EC, 2006/974/EC and 2006/975/EC	Working conditions; gender equality; work-life balance; lifelong learning	Positive: innovative research and social innovation	✓		4
74	COMMISSION STAFF WORKING DOCUMENT State of the Industry, Sectoral overview and Implementation of the EU Industrial Policy	Skill, training, education	Positive: innovation; productivity		✓	4
75	COMMISSION STAFF WORKING DOCUMENT Accompanying the document COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS INDUSTRIAL POLICY COMMUNICATION UPDATE A STRONGER EUROPEAN INDUSTRY FOR GROWTH AND ECONOMIC RECOVERY	Skills; training and education; work organisation; autonomy	Positive: Innovation, productivity		✓	4
76	REGULATION (EU) No 1291/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 establishing Horizon 2020 - the	Research quality; gender equality; job quality and working conditions	Positive: innovation	✓		3

	Framework Programme for Research and Innovation (2014-2020) and repealing Decision No 1982/2006/EC					
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5.5 Discussion

5.5.1 Differences between “hard” and “soft” law

The analysis aimed to evaluate existing EU policy documents, covering both hard and soft law. To note is that national level policies have not been reviewed, but rather only those that are applicable across the European Union, to all the Member States. The focus was on the level coverage of the key factors that, if comprehensively addressed, would allow the creation of environments conducive to more innovative workplaces (Pot, Totterdill, & Dhondt, 2016), where employees can innovate and be productive, while at the same time enjoy high levels of health and wellbeing.

Overall, it became clear that, generally, coverage of these dimensions was more comprehensive in soft policy documents. This was mainly the case when it came to definitions of key terminology and concepts, as well as the relationships between the psychosocial work environment and how it relates to innovation, performance and productivity. This is not surprising, considering the lengthy nature of the development process of hard policy, particularly as it relates to reaching agreement between stakeholders with potentially different agendas and interests (Ertel et al., 2010). Furthermore, an additional layer of complexity is added by the perceived sensitivity of topics such as the organisation of work and psychosocial risks (Leka, Van Wassenhove, et al., 2015; Potter et al., 2019); and the onus of the different social actors and partners when it comes to supporting and promoting lifelong learning and worker skill development initiatives. As a result, only cursory, high level mentions of key factors are seen – e.g. mental health, wellbeing, work environment, learning – but without going into too much detail as to what they mean, and the pathways through which they influence the worker and the organisation. Nevertheless, the hard policy documents included in this review refer to several critical initiatives at the EU level. They are concerned with the creation of the EU Employment Policy Guidelines, as well as the creation of key policy delivery mechanisms, such as the Horizon 2020 Framework Programme, the European Social Fund and the EU Programme for Employment and Social Inclusion. Therefore, even if in terms of content they only explicitly cover aspects of the psychosocial work environment or WI to some extent, their impact lies also in the fact that they are setting out the creation of key funding mechanisms which act as engines of delivery for WI and OSH. Section 5.5.5 further details how these have impacted the establishment of different programmes in these areas.

When it comes to the impact of the programmes set out through the hard policy documents, while it is encouraging to see that progress is being made, it would not be reasonable to expect that all EU member states will have equally well implemented and taken advantage of these opportunities at the national level (Steunenberg & Rhinard, 2010), as this is often delayed (Kaeding, 2008; König & Luetgert, 2009). Furthermore, studies have shown that there can be major discrepancies between countries, adoption levels varying widely (Lampinen & Uusikylä, 1998; Larsen & Andersen, 2007), with several reasons for these differences being often cited: the policy domain in question, the timeframe for implementation, public opinion as it relates to the topic under discussion, the level of Euroskepticism in the population, and the level of support offered by the EU to the respective Member States (Williams & Ishiyama, 2018).

Looking closer at the top ten scoring soft policy documents included in the review, five were Opinions of the EESC, three were Communications from the Commission and two were Staff Working Documents. Soft law is many times developed by experts and does not have a binding nature, and as a result it by-passes the negotiation stage, rather going through a less intensive review process that could involve all or only some of the relevant actors (Leka, Jain, et al., 2015). It is difficult to assess the relative importance of one over the other, as there is little official evaluation done when it comes to their impact. The focus of these policies is to explore and address the aforementioned relationships in more detail and provide guidance as to how programmes can and should be implemented into practice. These documents act more towards setting the context, offering supplemental information and outlining the positions of some of the EU institutions or social partners. This leads to the content of these documents being more exhaustive and detailed, covering terminology, definitions and the interplay between different factors more comprehensively. Overall, when it comes to soft law instruments, their voluntary nature makes it more difficult to evaluate their implementation or impact, with several dimensions coming into play. For example, in a study conducted by (Prosser, 2013) the author investigated the extent to which the Agreements on Telework and Work-Related Stress were adopted in four European countries. Several factors were discussed such as: the already existing level of regulation around those areas, the convergence of the national policy agendas with the Agreements and the level of collaboration between the different national social partners, as well as with the government. The results of the analysis

support the idea that all these dimensions had an impact on the speed and effectiveness of translation, absorption and practical implementation of the respective Agreements, and that not all countries investigated were equally successful in their implementation.

Nevertheless, a closer inspection of the top 10 documents reveals several encouraging observations. The five Opinions scoring the highest clearly underline that the EESC proposes that the quality of working life, workplace innovation, new forms of work organisation as well as skills and training and working conditions such as autonomy, teamwork and manager behaviours have an impact on the level of job satisfaction, innovation, productivity and wellbeing. Furthermore, they opine that social partners then have a role to play by preparing, implementing and evaluating, with the help of structural funds, projects and programmes to find best practices of how these concepts can be implemented practically in organisations, sectors and countries. Furthermore, they underline that the role of EU institutions is to mainstream and raise awareness when it comes to concepts such as “workplace innovation”, “innovation in the workplace”, and “quality of work”, and to work towards standardising and mainstreaming these concepts in social, innovation and employment policies. Looking at the top three Communications, we see that the concept of quality of work is again mentioned, this time by the European Council. The notion is again linked with improvements in working conditions and work organisation, investments in training and LLL, as well as reduction in OSH incidents. However, it is also mentioned that this concept is unequally well understood and instituted in different programmes and policies across Member States, and that more work should be done towards awareness raising and standardisation. The key role of regional social partners is underlined, as it is proposed that they should work towards identifying local needs for training, education and skill development as key factors for innovative economies and organisations, and work towards developing appropriate programmes. Finally, the two Staff Working Documents from the top ten scoring official instruments are by far the most exhaustive, discussing at length and in more detail two topics, namely the reaction to restructuring across the EU and the new Skills Agenda for Europe. Both these documents, while aimed at discussing somewhat different topics, underline that several elements are key if EU workers, organisations and countries are to adapt and thrive in the changing socio-economic environment. In order to achieve increased innovation, productivity and efficiencies, as well as having a healthy workforce, there needs to be continued focus and investment in skill

development and lifelong learning, as well as promoting good working conditions (and in the case of restructurings engaging in psychosocial risk management). The important role of the different European Structural funds, especially for SMEs, as a means of increasing the adaptability of workers and companies, and development of human capital, is also recognised, as is the fact that uptake has not been equally successful across the EU.

It becomes apparent from the paragraphs above that several key themes have emerged as a result of the policy document analysis, and the following sections will discuss each of them in more detail.

5.5.2 Work organisation and psychosocial factors and related outcomes

The links between the psychosocial work environment and work organisation with outcomes such as increased wellbeing, productivity and innovation have been established in past research. Specifically, aspects of both job demands and job resources (autonomy, control, social support, decision autonomy) have been linked with employee engagement, job satisfaction, productivity, performance and innovation, as well as burnout, musculoskeletal disorders, heart disease, stress and depression, to name a few (Bakker et al., 2004; Chang et al., 2013; Demerouti et al., 2015; Hsu & Fan, 2010; Leka et al., 2017; Schaufeli & Taris, 2014).

The analysis indicates that the top 10 policy documents with the most comprehensive coverage of psychosocial factors and working conditions were all soft policy instruments, as they made reference to specific determinants (e.g. autonomy, working time, leadership quality, decision latitude, work-life balance, teamwork). Additionally, the same policies also acknowledge the importance of addressing these dimensions, if the aim is to increase health, wellbeing, innovation and performance in organisations. Looking at hard policy documents, most did mention to some extent elements of the psychosocial work environment, but generally the coverage was somewhat more sparse, with only a few offering definitions of key terms or calling out specific psychosocial risks. Rather, the discourse was kept at a higher level and, if mentioned, the terminology used was less detailed – e.g. work organisation, working conditions.

Reflecting on the potential absorption and implementation of these policies, it is difficult to accurately assess the level of adoption across the EU Member States. In a study by Leka et al. (2015), the authors have conducted an exhaustive review and analysis of the policy context

surrounding psychosocial risks and mental health in the EU. Their findings suggest that, encouragingly, steady progress has been made in many areas across several Member States. They also note that the discourse around psychosocial risks has begun to mature. Furthermore, key policy documents such as the Framework Directive 89/391/EEC has been broadly implemented, an idea that has also been echoed by the most recent Implementation of the OSH Directives Report (Directorate General for Employment Social affairs and Inclusion, 2015). However, the authors also point out that there is still much to be done in terms of collaboration and coordination between social actors. Additionally, more work is needed in order to develop a more comprehensive, unitary terminology and definition of key terms across the policy domain. These concerns are also echoed by research in the WI area, where it is noted that there is still much discrepancy between European countries, with Northern and Western Europe leading significantly (Pot et al., 2017).

The present findings point to similar conclusions, and it cannot be said that the two elements – psychosocial environment and work organisation – are missing from the policy discourse. Nevertheless, there is much room for improvement in terms of specificity and uniformity of terminology used. Moreover, there could be more explicit acknowledgement of the relationships between work environment factors and how they relate to outcomes such as wellbeing and health, and even more so innovation and productivity, especially in hard law.

5.5.3 Lifelong learning, education and skills and related outcomes

Moving to the next dimension, it must be noted that it was perhaps the most prevalent throughout all the policy documents, although with varying degrees of detail and comprehensiveness. The factors of education, training, lifelong learning (LLL) and skills were explicitly covered in almost all of the policies, perhaps with the exception of OSH related hard law. This was not surprising, and a good body of literature acknowledges the increased focus on lifelong learning and skill development at the EU level. In a paper by Volles (2016), the author explains how after a period of decreased interest between the 1960s to the 1980s, the Maastricht Treaty was developed during the 1990s, followed by the Lisbon Strategy in the 2000s, and with them came a resurgence of the concepts of lifelong learning and continuous skill development. Moreover, in response to the period of economic and societal downturn in

the 1990s, these concepts started being proposed as key to the challenges facing the European community (Delors, 1993). That is also when the idea of the European Year of Lifelong Learning (Delors, 2013) was introduced. All these factors lead to LLL and continuous skill development gaining more and more prominence. Furthermore, lifelong learning also features strongly in some of the WI literature, and in Norway LLL was seen to be a key element of employee driven innovation (EDI), a concept which is very similar to innovative work behaviour (Høystrup, Bonnafous-Boucher, Hasse, Lotz, & Møller, 2012b; Pot et al., 2017).

Considering the amount of political and institutional support for these dimensions, it is not surprising to see them so prevalent in the policy discourse. Moreover, having a skilled workforce with access to continuous education, and encouraging employees to embark on ongoing professional development and learning have been indicated as being key factors for increased employability, entrepreneurship, more and better jobs, and a productive, innovative and engaged workforce. However, there are those that caution against viewing LLL as a solution to everything – it risking to become an abused label believed to be suitable for any aims (Zarifis & Gravani, 2014). Critically, there need to be clearer definitions of terms, and a clearer framework to explain how LLL strategies should be implemented and how they will lead to the desired outcomes (Dehmel, 2006). Similar observations follow from the current analysis as well, and while there is much coverage of these topics, less is said when it comes to the supposed mechanism through which they work. Furthermore, the responsibility for actually implementing policies into practice remains vague. Rather, the discourse seems to point towards the idea of multi-stakeholder engagement and collaboration, with less emphasis placed on the accountability of the different actors.

5.5.4 Stakeholder communication and collaboration, a unitary policy framework

The final dimension that emerged from the analysis revolved around stakeholder communication and collaboration. This idea is well established in the European Union, especially because its model of governance is based on actors at many levels (supranational, national, regional and local) engaging in dialogue to reach agreements on any number of issues. This new mode of governance evolved into what is now known as the Open Method of Coordination (OMC) (Jacobsson, 2004b), and it relies on ideas such as multi-actor multi-level

networks and fora, National Action Plans and the European Semester (Bekker, 2014). The analysis indicated that a subset of these instruments were mentioned in most of the documents. Furthermore, specific institutions were called out as key stakeholders, amongst which: the European Social Fund, the European Economic and Social Committee, specific DGs, EU-OSHA, Eurofound, ILO, WHO, OECD, as well as Member States, NGOs and companies. While it is good to see that there is awareness of the importance of including these different partners in the policy process, it also becomes immediately apparent that a system which must consider all these different perspectives is inherently complex. It is unsurprising therefore that at times it might seem that progress on key policy issues is slower than desired.

The current findings support the idea that the OMC, as a soft policy development instrument, seems to have had an impact on the creation of soft policies in the areas of psychosocial environment and lifelong learning. Firstly, looking at the number of soft policy documents it can be seen that these considerably outnumber the hard policy documents. Furthermore, the former are also more comprehensive, overall scoring higher than the hard policies across all the dimensions. This supports the idea that there are areas where soft, rather than hard approaches are more suitable. A second observation is that, even though stakeholder communication and collaboration is called for, there are almost no documents that take a holistic approach, bringing together economic, social, industrial and health considerations when it comes to WI and OSH. This leads to the idea that policy development is still siloed, which also translates into another finding of the current study – namely that there is no clear definition of key terms, indicators and no shared terminology. This also holds back the implementation evaluation of the different policy initiatives, because there are potential differences in measurement and approaches across the different institutions and countries. Additionally, this makes it difficult to share knowledge between the different actors and stakeholders, which stifles policy learning.

Nevertheless, there is also cause for optimism. The OMC framework has been proposed as an adequate way to harmonize the development and implementation of both hard and soft policy, especially when dealing with complex, inter-related topics (Trubek, Cottrell, & Nance, 2005). If indeed the EU adheres to the OMC long term, the goal of a comprehensive policy framework, which unifies economic, employment, as well as health and safety legislation might

be achievable. Nevertheless, this will not be an easy task, and as other authors have suggested, if the OMC tenants are not adhered to, it will, as a framework, lose its potency (Hatzopoulos, 2007).

5.5.5 European programmes driving the delivery of workplace innovation and psychosocial risk management policy

It is important to also acknowledge that there have been several important European programmes which have had an impact on the implementation and adoption of European WI and psychosocial risk management policy.

Horizon 2020, was a framework programme that run between 2014-2020, with a budget of approximately 70 billion euros. Its implementation was managed by 22 different bodies across several EU institutions and stakeholder groups, including: the five Commission DGs, four executive agencies, four public-public partnerships, seven public-private partnerships, the European institute of Innovation and Technology, and the European Investment Bank (Reillon, 2015). The impact Horizon 2020 had on WI policy cannot be underestimated. A search of CORDIS (the Community Research and Development Information Service, the primary public repository for all EU-funded research projects) results in no less than 164 projects and programmes when using the search terms “workplace” AND “innovation”, and 76 results when searching with the term “psychosocial”. A clear focus on workplace innovation can be seen through the creation of tenders such as “Workplace innovation uptake by SMEs”. Recently, Horizon 2020 has been replaced by Horizon Europe starting with 2021, with a strategic plan spanning between 2021 – 2024. The topic of innovation in SMEs appears to still feature in the framework programmes, under the proposal “European Partnership on Innovative SMEs”, which recognises that SMEs play a critical role in they “introduce advances in products, methods and production and management processes” (European Commission, 2020, p. 7).

The European Programme for Employment and Social Inclusion (EaSI) is another financing instrument, which has brought together three, previously independently managed EU programmes, namely PROGRESS, EURES and Progress Microfinance. Its aim is to support the implementation of several different flagship initiatives, including the Agenda for New Skills and Jobs (European Parliament, 2013), which directly impacts job quality, working conditions

lifelong learning and skill development. Furthermore, a key aim of EaSI is the promotion of innovation in social policy, namely through funding projects aimed at improving best practices, and the sharing of knowledge and expertise. In a recent report, four such projects aimed at disseminating knowledge about best practice in the management of working conditions have been reportedly funded through EaSI, thus encouraging cooperation between social partners and national bodies, both within and across borders (European Commission, 2019). An important update to the EaSI programmes is that it will become an element of the broader European Social Fund Plus (ESF+) starting from 2021 until 2027, as it aligns with the ESF+ high level aims, namely that of being the EU's principal instrument for investing in human capital. This will support the EU's goals of creating a more social and inclusive Europe.

The European Social Fund is one of the five main European Structural and Investment funds, and the main mechanism through which financial resources are invested in Europe's human capital. According to the European Union's website, the main focus of this programme is to enhance the adaptability of workers (through new skills), of enterprises (with new ways of working), enhance access to employment and provide lifelong learning and vocational training opportunities, which are initiative sitting under 4 of the 11 thematic objectives of the EU (Thematic Objectives 8-11). Looking at the most recent evaluation report, covering the period between 2014-2017, it is noted that in total 505 thousand programmes have been funded through the ESF, benefitting in total more than 15 million people (European Commission, 2018). A separate report underlines though that when it comes to Thematic Objective 8 (promoting sustainable and quality employment and labour mobility) implementation across Member States is not consistent, with some leading (e.g. Cyprus, France, Luxembourg, Latvia), while others lagging behind (e.g. Croatia, Portugal, Romania). A similar observation is also reported when it comes to Thematic Objective 9 and 10.

It is encouraging to see that the different European Structural Funds have had an effect on the delivery and promotion of different psychosocial and workplace innovation related programmes and projects. It is also of critical importance that these funding mechanisms remain open in the future, so that work can continue to be done in these areas. However, it would be good if implementation of these programmes would happen more broadly and homogenously across the EU member states, with particular focus on helping SMEs as they are identified in

many instances as having the fewer resources (as compared to large enterprises) to invest in improving working conditions, the work organisation and innovative working practices. This is something stakeholders at all levels should work towards as an improvement opportunity.

5.5.6 Conclusions, limitations and implications for policy

Achieving a European unitary policy framework is now more urgent than ever, especially if the EU is to accomplish its aim of becoming a financial and social global power. Increasing the innovative potential of all the Member States and organisations is crucial, as innovation is a precursor to economic performance. Nevertheless, it must not be forgotten that innovation happens at the individual level, and therefore it is crucial to understand and acknowledge if the existing legal framework provides clarity for how to foster it.

Reflecting on the current findings, it can be said that while several important elements are mentioned across the policies analyzed, more clarity is needed. Specifically, across all the identified dimensions there need to be clearer definitions of key terms and more uniformity and harmonization in how they are used. The complex relationships which emerge between the psychosocial environment, new forms of work organisation and the role of lifelong learning and skill development are still unclear. Moreover, the link between these factors and a higher level of wellbeing, innovation and productivity within the workforce could be better underlined. No documents have been identified that sufficiently cover all these factors and their interplay.

It is perhaps not surprising that it has been difficult to address all these dimensions in a comprehensive framework. One of the key challenges in doing so stems from the fact that the accountability of the social partners involved in the policy development and implementation process is many times not clear. As a result, the level of stakeholder collaboration is sub-optimal. Furthermore, the heterogeneity of the Member states, as well as the competing interests of the different actors add an additional layer of complexity. Therefore, it would be difficult to advocate for hard policy in this area. Rather, perhaps a balance between hard and soft policy is the way forward, as not only does it provide more opportunity for experts to be involved, but the development process is less constrained. The OMC has been proposed as a way of promoting this hybrid hard/soft policy approach. Looking back on the observations made in this study, it appears that perhaps some principles from the OMC could be used to progress the WI

and psychosocial risk management policy domain. Specifically, it became clearer that soft policy, which tends to be created in collaboration with experts and is generally subjected to a less stringent development process than hard policy, is generally more comprehensive. At the same time, hard law is less specific, but acts towards setting delivery mechanisms (funding avenues), high-level goals (employment guidelines) and obligations for EU Member States and other stakeholders. There are opportunities for synergies here, where programmes funded through frameworks established through law could encourage communication, collaboration and best practice sharing. The learnings from these projects could then be translated, through guidelines, recommendations, staff working documents or green papers, to further strengthen the policy domain, leading to higher promotion, awareness and acceptance of these topics.

Finally, the limitations of the current study must be acknowledged. While the intention was for the search to be as comprehensive as possible when collating the policies, there is always a chance that some documents could have been missed. Furthermore, the search was limited to the EUR-LEX database, due to the aims of this research and therefore specific national policies were not investigated. These could undoubtedly be richer and more detailed in content. These constraints are recognized, and they stem from the fact that the focus of this study was specifically on the EU level and therefore focused on policy that would certainly be relevant and applicable to all Member States.

In this chapter the strengths and limitations of the current policy frameworks for WI, WB and psychosocial factors in the workplace were presented. The next chapter will build on these observations and further investigate what are some of the key enablers and barriers that make policy development in these areas so challenging for the stakeholders involved. Findings from a series of semi-structured expert interviews with policy makers and actors involved in the policy process will be examined and critically discussed.

6 Developing a comprehensive workplace innovation and wellbeing policy framework

6.1 Introduction

The previous study has presented a review of existing policies surrounding WI, WB and psychosocial factors in the workplace. Several observations were made following the analysis conducted, and it became clear that it is important to work towards improved, more comprehensive and unified policy frameworks. This standardisation and increased cohesion is also called on by researchers and practitioners (Pot et al., 2017). Nevertheless, the inherent complexities of the multi-level polity that is the EU further complicates these efforts.

The fact that the governance structure of the EU is complex is well established in the literature, some going as far as saying such a system is potentially “chaotic” (Sørensen & Torfing, 2018). Illustrating this is the fact that several different approaches and frameworks for conceptualising it have been proposed in recent years – for example “regulatory governance”, “democratic governance”, “participatory governance” and “multi-level governance” (Bache & Flinders, 2004; Bevir, 2010; Grote & Gbikpi, 2002; Levi-Faur, 2011). In these systems decision making is de-centralised, power relations are diffuse, individual or group interests collide and need to be managed. Furthermore, concepts such as legitimacy, responsibility and accountability do not clearly sit within a specific institution or decision-making level, rather they are spread across the system and change throughout time. Having to navigate such a complex landscape underlines the difficulty that any policy maker or stakeholder tasked or interested in advocating for specific issues and policies would have to face.

In response to this, the Open Method of Co-Ordination was developed and proposed as a governance mechanism at the EU level. It has been specifically designed to work within a multi-national, multilevel setting, where a number of stakeholders need to interact, communicate and negotiate in order to achieve common policy goals (Trubek & Trubek, 2006). In addition to this, the EU is comprised of a heterogenous set of Nation States – all with their own cultures and agendas influenced by national interests, institutional traditions and priorities. As a result, some opine that when dealing with complex issues in complex systems, where “hard” policies cannot be realistically implemented, the OMC is a potential way forward (Trubek & Trubek, 2005; Trubek et al., 2005). As evidence from the findings of the policy

review study, this is particularly encouraging and relevant in the case of workplace innovation (WI) and wellbeing (WB) policy.

As mentioned previously, the OMC has been designed to allow for multi-disciplinary, multi-national forums of interested actors and advocates to engage in a process of reflexive policy learning, where each collaborator is encouraged to participate with ideas and suggestions (Borrás & Jacobsson, 2004), but at the same time ask for and offer help, as well as challenge their peers. In theory, this should provide for an environment that promotes the sharing of best practices and thus provides mutual gains. Nevertheless, there are also those that are more sceptical when it comes to the promises and benefits of the OMC. Scholars have challenged the benefits espoused by this mode of governance, citing weak evidence of its actual efficiency in the real world (Radulova, 2007). This is because, they argue, the OMC lacks any justiciable ways of keeping key stakeholders accountable to following through with implementation; and thus, falling short when it comes to bringing about actual policy change.

It is clear that policy making at the EU level is a complex matter, to say the least. However, in order to progress the WI and WB policy agenda, it is important for researchers to be determined and persevere in trying to understand what the key challenges and barriers in these areas are. To this end, the current study has aimed at uncovering several of these factors. It is hoped that by doing so it will become clear what the potential next steps could be when designing comprehensive WI and WB policies.

6.2 Method

Workplace innovation, wellbeing and psychosocial risk management are very complex phenomena, and when trying to understand the challenges of developing policies in these areas it is important to understand the perceptions of the key stakeholders involved in this process. The WI area, even more so the psychosocial risk area, are relatively new, and policy attempts are still in the very nascent phases, at best. However, this does not mean that there have not been efforts to address them so far. Nevertheless, there is still much lack of clarity surrounding the extent to which WI, WB and psychosocial risks are understood as policy concepts. It is therefore key to understand the challenges that actors that have faced thus far when trying to

legislate in these areas. Qualitative methods lend themselves well when trying to explore such issues (Tierney & Clemens, 2011).

When trying to understand complex phenomena, expert interviews provide a reliable way to assess what is a potentially an under-researched and little-known subject Iavicoli et al. (2011) underline the importance of key stakeholder perceptions in the policy process, and the semi-structured interviews conducted with experts in this study enable gathering important information regarding what could be important information that is not readily available from other sources (Bogner et al., 2009).

In addition, semi-structured interviews provide several advantages, in that they allow the researcher to explore topics of interest in such a way as to take into consideration the opinions, values, experiences and attitudes of those involved (Rowley, 2012). Particularly when the aim is to explore the participants' opinions and experiences, semi-structured interviews allow the researcher to create an interview guide that underlies the major topics of interest, to ensure that key issues will be covered; at the same time the researcher can retain flexibility in order to explore emergent themes that would be impossible to foresee (Doody, 2013; Whiting, 2008).

6.2.1 Participants

Thirty-six key stakeholders from 23 organisations were contacted, covering a range of employees' organisations, employer's organisations, NGOs and academic institutions (a list of organisations is provided below). Furthermore, participants were also directly identified and contacted by looking at the authors' list on several landmark policy review/white papers in this area. This group of individuals were contacted directly, through their publicly available email address/contact information. Finally, the last group of participants were identified through direct recommendations from other policy makers and key actors. Overall, 15 organisations agreed to participate, however one of them, upon further elaboration of the study topic, felt they could not contribute, and another did not respond when asked to set a time for the interview. The final number of organisations and participants was 13. Table 6.1 details the participants' characteristics.

Table 6.1 Interviewee characteristics

<i>Participant</i>	<i>Institution</i>	<i>Role and duties</i>
Participant 1	University, National Institute	Scientific advisor, workplace innovation and wellbeing
Participant 2	University	Researcher, national programmes and policies for innovation in organisations
Participant 3	National Institute	Scientific advisor and policy consultant, wellbeing and workplace innovation
Participant 4	National Governmental Agency	General manager, health and safety, workplace innovation policies and programmes
Participant 5	European Employer's organisation	Senior advisor, health and safety policy
Participant 6	National Ministry	Head, health and Safety policy programmes
Participant 7	National Ministry	Head, working lives policies and programmes
Participant 8	International Research and Policy advocacy centre	Director, research and policy programmes for HRM and workplace practices
Participant 9	EU Agency	Senior research manager, policy and research for work and employment
Participant 10	Regional Governmental Agency	Head, employment and skills development
Participant 11	University, EU NGO	Director, workplace innovation and wellbeing programmes and policies
Participant 12	Employees' Trade Union	Programme manager, Innovation, research and trade policy
Participant 13	EU institution	Policy officer, work, industrial and social innovation

6.2.2 Procedure

Convenience and snowball sampling techniques were used in the participant recruitment process. All participants received an email inviting them to take part in the study. A participant information sheet (PIS) was attached to this email, clearly detailing what the study was about and what was expected from them. Attached in the email was also a participant consent form.

Invitation emails were sent between October 2017 and February 2018, initially, with follow-ups continuing until April of 2018.

Participants had the choice of over the phone, in-person, or online (e.g. Skype) interviews. 11 participants agreed to have the interview either online or over the phone (both mediated through Skype), one interview was conducted in person, and one participant asked if they could complete the questions in writing. It was agreed that would be acceptable, and they were sent the interview questions as well as detailed instructions on how to complete them, and how to contact the researchers in case something was unclear.

The interview consisted of 8 questions, two of which were meant as an ice-breaker to allow a comfortable rapport between the interviewer and the interviewee (for the full question list see Appendix E). The next six questions covered the following topics:

- What do you believe to be the current state of the policy efforts in these areas (of workplace innovation and wellbeing)?
- What do you believe to be the major challenges when creating comprehensive policy frameworks aimed at tackling these issues?
- Do you think that current action plans are sufficient?
- Do you think that current approaches in policy development are guided and/or informed by substantive research?
- What do you think would be best-practice approaches?
- What do you believe are future directions and efforts to be made, in the short, medium and long term to achieve broader EU targets in these areas?

6.2.3 *Ethical considerations*

All the interviews adhered to the ethical standards outlined in the British Psychological Society's Code of Ethics and Conduct (BPS, 2009), the Ethics Guidelines for Internet-mediated Research (BPS, 2013) and the Data Protection Act of 1998. Furthermore, an application was made to the Division of Psychiatry and Applied Psychology Ethics Committee, who granted ethical approval (Ethics Reference number: 244, see Appendix A). All the participants received information about the scope and aims of the research and the way in which data collection will

be conducted in a participant information sheet and in the consent form. After agreeing to take part, at the beginning of the interviews, all the issues surrounding confidentiality, anonymity and data protection were discussed again, and where recordings took place these only started once the participants gave their consent. Any identifiable information was removed during the transcription process. The researcher performed all the transcriptions personally.

6.2.4 Analysis

Thematic analysis (TA) (Braun & Clarke, 2006) was used to analyse the interview data. Using NVivo, a specialised qualitative analytical tool, the process proposed by Braun and Clarke (2012) was followed, and a thematic grid was developed which is presented in Table 6.2. The process followed involved:

1. Familiarisation: all the audio recordings were transcribed, which meant listening and then reading what was said several times. During this stage initial ideas were identified and noted down.
2. Initial code generation: the notes and transcripts were re-read, compared across the interviews, and grouped together based on similarity. The features of the groupings were used to create the initial codes. These codes were captured in Nvivo in different nodes and sub-nodes.
3. Theme searching: the initial themes were created; this process was driven in equal parts by the theory and by the data from the first two steps. The transcripts were read several times, as were the original ideas, which resulted in the development of some initial themes.
4. Theme reviewing: the initial themes were repeatedly reviewed and compared by two researchers. The newly emerging themes were refined and agreed upon by both researchers during several review sessions. The node structure in NVivo was iteratively adapted throughout.
5. Theme defining and labelling: The final themes were assigned appropriate names and concise definitions to capture their meaning. Any final discrepancies and required changes were discussed by the two researchers, which led to the development of the final thematic grid below.

Table 6.2 Thematic grid

Theme	Subtheme	Description
Barriers		
Factors that can hinder the policy development process and which can be difficult to completely change as some are more structural in nature.		
<i>Complexity of concepts</i>		This theme includes the factors that have emerged as challenges because there are very many complex issues to be considered when developing policies for workplace innovation and wellbeing.
<i>Defining workplace innovation</i>		Thinking about workplace innovation as a complex, holistic concept that needs to encompass wellbeing, OSH, lifelong learning and HRM practices, and how that interfaces with economic and technological innovation factors as well to improve innovativeness and productivity.
<i>Policy scope</i>		The challenge of making sure there is a balance between hard direct legislation and soft indirect guidelines. Only by finding the right combination of the two and having a focused working definition of the factors that policies should strive to improve can WI policy be successfully developed.
<i>Organisational context</i>		The organisational-level factors that emerge and influence the implementation and adoption of WI practices. These factors include diverse organisational sectors, organisational traditions and culture, and organisational size which influence the amount of knowledge and resources organisations have.
<i>Diversity of Member States</i>		These factors speak about the fact that throughout the European Union there are important differences between member states. These influence their willingness and readiness to be involved in policy development and implementation.
<i>Interest and readiness</i>		Cultural, economic, political and social factors influence the priorities that each Member State has. Therefore, these interests will shape the type of issues each country wants to be addressed through EU policy. The challenge arises when inevitable conflicts of interest become obvious in this inter-connected but heterogeneous multi-actor network.

<i>Power</i>	The balance of power between social actors within a country that will influence its political agenda. Power relations between employers and employees are crucial, especially when considering the organisational level.
<i>Implementation process</i>	The challenges that arise when trying to implement existing policies and guidelines, be them hard or soft. These include the translation and adaptation process, the decentralised approach of the EU when it comes to policy implementation and also the fact that each country has a different level of commitment to implementing respective policies.
<i>Fragmentation and credibility</i>	At both the European and national levels, when it comes to Workplace Innovation policies, their development has been delegated to a number of different functional silos. The challenge is that there is a lack of communication between these silos, leading to fragmentation and a lack of a comprehensive policy framework. Furthermore, policy makers do not have the knowledge and vocabulary to promote these policies at the organisational level, making their implementation more difficult.
Enablers	
Factors that when in place make policy development and implementation processes more achievable, and which should lead to a comprehensive and holistic policy framework to be developed.	
<i>Awareness and resources</i>	The amount of knowledge and financial resources that influence policy making and policy implementation.
<i>Current knowledge</i>	Discussing whether the policy makers and key stakeholders involved in the policy process are aware of the importance of research-guided policy making, and whether they actually have the requisite knowledge.
<i>Research needs</i>	Discussing whether existing research is sufficient, and where effort should be focused in the future. Consequently, considering if existing knowledge is made readily available and understandable by experts (researchers) to non-expert actors (e.g. policy makers), to enable research-guided/evidence-based policy making.

<i>Knowledge translation</i>	Agreeing that research-guided policy making is important, to consider whether there are learning and benchmarking procedures embedded in the policy process in order to make sure that knowledge is translated into actionable insights and that areas for improvement can be identified.
<i>Financial resources</i>	While knowledge and research are both important, financial resources are many times key, especially when thinking about implementation of new policies at the organisational level.
<i>Communication and collaboration</i>	It is of paramount importance for communication and collaboration channels between actors and across levels to be established in order to facilitate effective policy making.
<i>Multi-stakeholder engagement</i>	Making sure that the voices of key stakeholders involved in the policy process are heard. Bringing together trade unions, employer representatives, academics, NGOs and social partners is just as important as having good research.
<i>Achieving and diffusing best practices</i>	Once successful practices have been identified, making sure that there are networks that are ready to disseminate the information to the relevant audiences, be them countries, sectors or individual organisations. Furthermore, understanding current examples of best practice is important, as they can point to practical examples of things that have worked. This information is crucial when creating a comprehensive and holistic Workplace Innovation policy framework.
<i>Relevance</i>	Long term, it is important to work towards keeping WI and WB on the policy agenda. Understanding the key challenges inherent in keeping these topics on the radar and making them relevant for policy makers is key. This is required to achieve policy frameworks that successfully address the ever-evolving challenges in the world of work.

6.3 Results

The following section will present the results of the thematic analysis. Each theme and the relevant sub-themes will be described, in turn.

6.3.1 Complexity of concepts

The first theme that emerged underlined there are several complex and inter-related issues that must be taken into consideration when discussing WI and WB, both as theoretical notions as well as in policy terms. It includes three sub-themes: defining workplace innovation – referring to the fact that there are a number of dimensions making up a holistic workplace innovation concept; organisational context – referring to a number of company-level factors that influence the implementation and adoption of WI practices; and finally, policy scope – or the complex issue of achieving balance between hard and soft policies, to address the areas of WI and wellbeing.

6.3.1.1 Defining workplace innovation

From the interviews, it emerged that workplace innovation is understood as being an umbrella concept, and while all of the participants had some sort of understanding of the inherent complexities of this area, this was much better articulated by interviewees that were directly involved with research. Researchers, several national policy makers and a trade union representative mentioned the links between the psychosocial work environment, wellbeing, innovation and productivity, and how those should tie in with industrial policy; while an employers' organisation representative highlighted ensuring OSH standards and opportunities for continuous professional development as important aspects of wellbeing, innovation and productivity. Overall, both organisational and economic factors were regarded as important.

Participants addressed the link between WI and WB, one interviewee from a trade union organisation saying that it is important to acknowledge that:

“...there is this linkage between workplace innovation and promoting employee innovation, mental health and the psychosocial environment” and that *“you can't say that somebody promotes workplace innovation and leaves out lifelong learning and training.”* (P12)

Furthermore, two other interviewees stated that WI is about:

” ... joining up [industrial] competitiveness, productivity, innovation on the one hand, and health and WB and mental health at work, on the other.” (P11)

and about

“... the link between work organisation, job design, quality of working life, satisfaction, retention of workers, as well as wellbeing.” (P8)

This reported complexity of WI as a concept requires a multi-policy perspective in this area, as echoed in a quote by the one participant who said *“WI is bringing a lot of different policy disciplines together”* (P11). This implies that policy makers need to marry different disciplines in order to achieve holistic WI and WB policies, and one policy manager underlined this by stating that there are several fields that need to be considered to successfully...

“... promote, enhance and introduce workplace innovation - the first is occupational health and safety, then you have the innovation and competitive strategy and the third one is the broader employment strategy.” (P4)

6.3.1.2 Policy scope

As mentioned previously, the characteristic complexity of the concept of WI carries over into policy and influences how the discourse around these issues evolves. Aspects such as wellbeing, job design and job quality are just some of the challenges when developing a holistic WI policy framework. Promoting hard law (regulation) exclusively to address all these dimensions would be impossible. Participants from national and EU governmental organisations, consultants, social partners and NGO representatives all agreed with this, which was well underlined by one participant stating:

“It’s very hard to see, except in few areas, how you can translate good practice in terms of workplace innovation into European Directives. You couldn’t imagine a European Directive saying ‘well we’ve got to have self-managed team working everywhere’ or around job design, it’s very, very hard to put into [hard] law.” (P11)

Many of the interviewees also pointed that, considering the complex network of issues that constitute it, WI policy cannot be overly constraining and specific, so that it remains widely applicable across a range of member states, sectors and organisations.

“... whatever policies there are at the EU level [...] they have to be adopted at the national context, different sectoral contexts and even different company contexts.” (P5)

Furthermore, a diverse range of entities will need to benefit from and implement WI policy, amongst which different member states, different organisational sectors, and a vast range of organisations, that will all have their individual needs and requirements to address. Therefore, WI policy needs to include sufficient information to provide valuable insights, but at the same time the letter of the law must not be too restrictive. One actor with experience at the national but also EU level, referring to WI and WB, stated that:

“... you need broad-based policy, for member states to be able to implement or transpose this into national policies [...] to make people able to have their own discourse on this.” (P2)

Finally, while there have been successful approaches to legislating for a number of psychosocial and physical health issues in the workplace, the general consensus amongst all interviewees is that soft law and guidelines need to act in conjunction with legislation in order to achieve the best results for WI and WB policy. Reflecting on this, one policy consultant stated that for *“either WI or psychosocial risks or WB at work I think the proper policy is soft regulation”* (P3). This view seemed to be echoed by one employers’ representative who said the EU should promote WB and WI:

“...through the more general communications, statements, staff working documents, highlighting what could be the benefits to employees but also highlighting more what the benefits could be for business.” (P5)

Conversely, one trade union representative proposed that more can and should be done through legislation when it comes to the management of the psychosocial environment:

“Although we think we do a lot, it’s not enough [...] we can improve the framework and also of course the legal framework for improving the psychosocial environment.” (P12)

6.3.1.3 Organisational context

At the same time, addressing WI and WB at the organisational level requires a variety of actions, with examples given by almost all the participants. Most equated organisational WI and WB promotion with practices such as giving people *“high levels of autonomy on designing their job”* (P2), engaging in *“participation and shop floor consultancy”* (P3) and enabling workers to develop *“planning and scheduling skills, communication skills and problem solving skills”* (P11), as that creates an environment where *“people have the opportunities to solve problems in their work and to contribute to innovative work procedures, or even innovative products or services”* (P3) and *“at that time improve psychosocial WB at work”* (P12). It becomes clear that implementing WI practices at the company level is complex but crucial, and policies to support this are needed, as one interviewee stated:

“Organisations do not do it themselves [...] public policy is necessary to stimulate organisations to work on reduction of psychosocial risks and to improve workplace innovation.” (P3)

When trying to implement all these practices into organisational level procedures, it becomes a complex issue, as there are inherent differences at the organisational level that need to be taken into consideration. These issues were explicitly brought up by more than half of the participants, from a range of backgrounds, including researchers, policy advisors, trade unions and employers’ organisations representatives. They referred to organisational traditions, cultures, size or sectoral differences as important aspects.

Some said that practices will differ because of the characteristics of different organisational sectors, which could mean that approaches to improving WI and WB at the company level might need to be tailored for the specific target sectors, to some degree. One stakeholder observed that:

“Workplace practices differ between industries, you can’t expect the same workplace practices to work, in exactly the same way in pharmaceuticals and in the IT sector.” (P9)

A third of the participants also mentioned organisational size as being important. They noted that generally it appears that SMEs have a harder time implementing policies and practices than do large corporations, mostly due to lacking the same kind of financial and human resources. One participant noted that:

“...large organisations are well in position to get the technology, software, [...] and the management expertise in order to implement [WI practices] throughout the company.” (P9)

Conversely two other interviewees stated that *“SMEs maybe don’t have the infrastructure”* (P7) and *“do not have [...] knowledge resources”* (P13) that would enable them to do so as easily.

Finally, organisational culture and traditions will also play a role when it comes to how receptive organisations are of WI and WB practices, as this will have an impact on the level of acceptance of change from both top management and the employee side.

“WI and the reduction of psychosocial risks leads to better performance and better quality jobs [...], it’s so evident [...] but many of them [organisations] don’t do it because they have different traditions, or they do not dare to change, or they do not like to ask their workers their opinions.” (P3)

6.3.2 Diversity of EU member states

This theme emerged as the majority of the participants (12 out of 13) made reference to the different factors, both between and within member states, which give rise to the heterogeneity of the EU community. This in turn has a direct effect on the development and implementation of policy. Three sub-themes emerged, namely interests and readiness – referring to all the cultural, political and social factors that define and shape member states’ needs and priorities; power relations – referring to how the balance of power between and within countries influence their political agenda; and implementation capacities – referring to the challenges of implementing policies at the national and EU levels.

6.3.2.1 Interests and readiness

The first sub-theme that developed, and was mentioned by more than half of the participants, pointed to the fact that within member states the issues of both employee WB and WI will have different levels of importance given to them. This is very much influenced, as one EU official stated, by the “*different traditions within the countries, different traditions of industrial relations, different ways and cultures of working*” (P9). Similarly and very comprehensively, another national policy advisor said that the work involved in making sure WI and WB policy gets implemented consistently across all the member states depends on a number of factors which create a complex network of relationships and interests:

“With regard to the level of their [member states] development in innovation behaviour and employee wellbeing, there are different political power relations, there are different levels of political importance being given to these issues, there are different levels of organisations of main stakeholders, like for example trade unions and employee associations, or different kinds of intermediate organisations.” (P1)

This naturally gives rise to disparities in how policies penetrate the political agenda of different states, and as a result some countries are doing better while some are lagging behind:

“There is this group of Scandinavian countries which are really, really strong in promoting employee driven innovation. In the South, but also in Central Europe, there are other countries and social partners who don't see it as their responsibility.” (P9)

A further challenge is that these interests and relations are difficult to manage well by those wanting to improve the adoption of the aforementioned policies. Although social partners' interests should be aligned, as that is a key factor in the successful development and adoption of policy programmes, this is not always the case. One interviewee, referring to the broader EU reality of this issue observed that:

“[...] there are differences in interests between employers and their associations on the one hand, and the employees and the unions on the other hand.” (P1)

Furthermore, as noted by the same interviewee a key question still remains, namely:

[...] how to balance the interests of trade unions and employers and how to balance the different interests between different countries.” (P1)

Furthermore, a country’s interests could have a much greater impact across the EU. To understand why, it is important to mention that the model through which regulations are being developed is that all the member states need to reach agreement before they get officially ratified. However, when one country’s interests do not align with those of the broader community, legislation can get blocked. As one participant opined, this means that, in effect, even though *“[...] the role of the EU is to support countries with a less well-developed regulatory framework, employment practices and so on”* there could always be countries *“who will object to things that they regard as being unnecessary for their own countries”* out of *“self-interest”* (P8).

6.3.2.2 Power

There is an additional possible reason for the observed differences between member states in the area of WI policy. A fourth of the participants brought up the fact that *“there are different political power relations”* (P1) between the government and social partners. As the input of different social actors is valued differently in each state, this will influence perceptions and acceptance of new programmes and frameworks in this area. One senior policy manager from an advisory NGO indicated that:

“It partly depends on how industrial relations or employee relations happen in different member states [...] There are some countries like Germany or the Netherlands where the involvement of trade unions in decision making is legitimate and accepted and generally regarded as positive [...] in those environments it’s much easier for the outputs of the EU legislation to be embraced and implemented.” (P8)

The countries where the balance is good are also those that are championing WI and wellbeing policy. Furthermore, where the overall political power resides within a country might also play an important role, as programmes and policies related to employee rights, participation, WB and by extension WI are historically more prevalent in countries leaning left in the political spectrum. As one policy manager from a national advisory agency mentioned:

“[...] another important thing is political power-relations. It’s rather clear that if I may use the traditional left-right division, then in countries where governments are dominated by leftist parties, that the possibility for such programmes [WI and wellbeing programmes] is much higher than in countries where a right-wing party dominates in the government. [...] Sweden is a very good example, Social Democrats have been in power for decades, and for the very first time when other parties came into power they discontinued the Working Life Institute.” (P3)

However, it is important to also mention that one director from an NGO underlined that WI programmes can be surprisingly resilient to changes in political power. This strength is drawn from the fact that when done right, these policies demonstrate that they are worth allocating time and money to, as they produce good return on investment.

“Germany and France have been implementing different sorts of WI related policies and programmes for a very, very long time, [...] and actually they’ve survived political shifts from left to right in a remarkably resilient way, because they are actually generating the evidence to show that they are good return on investment.” (P11)

It is important to note though that in order to prove that WI and WB initiatives work, they first need to get initiated and allowed sufficient time to take effect, as one interviewee said “you need to let that [WI and WB] policy bed in” (P10). However, if it is indeed an issue that in some circumstances these policies are not given a high priority, this might also prevent them

from ever being initiated in the first place. Therefore, proving their effectiveness becomes a moot point. Reflecting this, one individual noted:

“[...] the barrier is, in some member states at least, the social partnership model that exists, [...] getting into the question of how work is organized and jobs are designed and so on [...] I think there’s a resistance to that and I feel there are limits to the extent to which EU directives and other guidance materials can break through that barrier.” (P8)

One participant with experience working closely with a large number of organisations also pointed towards the fact that internal power relations within organisations also play a crucial role in the equation, as they have a direct impact on the relationship between managers and their employees. Within organisations that have a flatter hierarchy, where managers support their followers and a culture of innovation permeates at all levels, adoption of workplace innovation will take place much more readily. In addition to this, national culture will also play a role:

“It helps when the population, the employees, have some experience with expressing their voice. In the Netherlands, just to give this example, people dare to say something to their boss [...] But there are countries with other traditions where you cannot say anything to your boss, otherwise you will be dismissed, so that’s also a difference in culture.” (P3)

6.3.2.3 Implementation process

Overall, 8 participants from a range of academic, national and EU level institutions pointed towards several issues in the implementation process. Those were either related to translation or adoption and conflicts arising throughout those processes. This is in large part a consequence of the policy process operating at the EU level, which implies that in the case of hard law, member states should adapt and translate it into national policies; while soft law is underpinned by guidelines towards certain goals, but with no justiciable mechanisms, so the ways in which countries reach those goals is mostly left to individual states. One interviewee observed:

“The kind of policy making process in Europe is that there is a broad set of policy goals or values, and then it’s up to member states to respond to how they’re going to make that happen within their own context.” (P11)

As mentioned previously all EU policy, be it hard or soft, needs to get translated and adapted for use by each individual member state. To ensure that the spirit of the law is kept when adapting it to the national context makes this a long, challenging and technical process, which usually leads to delayed implementation. One national policy project manager from an institution advising regional level policy stated that *“it’s an implementation issue, and it takes time because it’s technical work” (P2).*

Another factor that was mentioned as being a barrier to implementation is the fact that in the translation and adaptation process, in many situations the letter of the law gets interpreted or understood differently by different countries. This could be because of the level of expertise in those countries, or it might reflect other needs and interests that will shape how policy will get ultimately implemented across the EU. One participant underlined this by noting:

“One barrier to the translation of some of those regulations and their spirit in the Member States is because they are interpreted differently [across Member States] or because [Member States] have different priorities.” (P8)

This is further complicated when a specific policy also happens to conflict with other already established national level laws. A further complication appears when the local government is unwilling or incapable, because of differing interests or perhaps lack of competency and resources, to combine the two policies in a unified document. One interviewee, referring to such a situation, observed:

“ [...] how do you dovetail those two policies together? [...] because of the politics, neither side, no party is prepared to change their policy. And sometimes this happens between the UK government and the European government, and I suspect between other governments and the European government.” (P10)

6.3.3 *Fragmentation and credibility*

The third theme that emerged surrounded the factors that have led to a fragmented and disjointed policy framework in the EU, but also at the national level. A majority (9 out of 13) of the participants raised several issues, and overall it became clear that much more work is still needed to achieve more holistic policies, frameworks and programmes.

It became quickly apparent that at the EU level WB and WI issues fall within the remit of different Directorate Generals, as one consultant comprehensively stated:

“OSH is in one DG, DG Employment, and innovation and organisational performance is in other DGs, like DG Growth ... DG Employment also [...] say that technological innovation should be complemented by workplace innovation [...] so that’s the 3 most important DGs where these policies have been developed, and of course there’s some attention for WI at DG Research and Innovation.” (P3)

Nevertheless, as recognized by the same interviewee:

“The problem is that these four are silos that do not work together very much”.

This lack of collaboration and communication was also acknowledged by representatives of both a trade union:

“I think that they [referring to the EU] have their own kinds of silos. In one place you’re talking about growth, in another place you’re talking about the psychosocial environment, in a third place you’re talking about educational policies.” (P12)

As well as by a representative of an employers’ organisation:

“We don’t have so much of a debate at the EU level linking these two [referring to WB and WI].” (P5)

These disjointed efforts might stem from the fact that policy makers from specific DGs have their own, very similar, professional backgrounds, with little overlap across directorates.

This has been noted by one policy project manager from a national advisory institute, who said that WI and WB policies are “*dealt with by different policy makers from different traditions [who] do not see their integration*” (P1). This in turn inevitably leads to fragmentation in any attempt at a policy framework, due to the “*boundaries of competence of each of the main directorates*” (P8) that emerges.

These silos of knowledge are not exclusively found between different EU institutions. They are also apparent within research, as one interviewee stated:

“[...] there are still two kinds of innovation studies: [those] which do not give any significance to employee WB issues and issues related to what is known [...] as employee driven innovation; and then there are innovation studies that recognize the important role played by employees and the important role and the interaction between employee WB and innovativeness.” (P1).

This is an important issue, as research should be used as a starting point to guide policy (an idea that will be discussed in a later theme). If the starting point itself is not promoting a comprehensive and holistic view, then it would only be expected for the result (namely policies) to be the same.

These issues of fragmentation in policies persist at the national level as well, and that has to do mostly with how the majority of member states have their government structured. Nationally there are several ministries, each with its own mission and expertise, and as in the case of the EU, these institutions in many cases do not collaborate effectively. One interviewee underlined this by observing that “*in most countries in Europe it [employment and innovation issues policies] falls between two different ministries, or government departments, and nobody is really looking at the inter-connection between them*” (P11). Furthermore, the same interviewee also observes that the lack of comprehensive guidance from the government makes knowing what practices work and how to implement them that much more difficult, at an organisational level:

“[...] there is no really joined up view of what a good workplace looks like and I think that reflects the fragmentation within government itself.” (P11)

Overall, the interviewees all agreed that in order to move forward it is necessary to “*break down silos of policy making and understand inter-connectedness of policy much more*” (P8).

6.3.4 Awareness and resources

The fourth theme that emerged encompasses all the issues surrounding the influence that awareness and knowledge, research and financial resources have on policy development and implementation. It is important to note that all the participants had something to contribute within this broad theme, and therefore four sub-themes have emerged, that make up its structure. The first sub-theme is *current knowledge* – or how much awareness there is amongst policy makers and other key stakeholders with regards to existing research, and the extent of research-based policy making; the second sub-theme is *research needs* – referring to whether interviewees believed that existing research is sufficient and adequate, and if it is understood by non-experts (policy makers) directly involved in policy making; the third theme that emerged is knowledge translation – which is about the policy process and all the mechanisms (e.g. learning and benchmarking) within it that are necessary in order to successfully translate knowledge into actionable insights, and to identify areas for improvement; and finally financial resources – or the crucial role that financial instruments play in policy development and implementation efforts, at both the national and organisational levels.

6.3.4.1 Current knowledge

It became apparent from the interviews that most participants (11 out of 13) had understood that it was important for policy to be research based, and that it was crucial to continue to raise awareness amongst policy makers.

One interviewee stated that research should be the starting point: “*I think for a start the policy should be evidence based. You need to have a really good evidence base*” (P7). Two proposed ways in which relevant knowledge is obtained were that you either “*draw on the tacit knowledge and experience and creativity of the individuals, or the scientists come up with the answer*” (P11), this reflecting a broader dichotomy in the ways that knowledge is produced. In

practice however, these two tactics would be complementary, the same interviewee, referring to the two approaches, stated that *“you can have a little bit of this and a little bit of that”* (P11).

This might also be because WI is *“a relatively new area”* (P8) which is not in itself fully understood. However, *“policy makers have been interested”* (P8) and recently awareness of the links between the two has risen. Reflecting this, some believe that policy makers do indeed strive to use more research and to consult more experts when designing and implementing policies. One policy officer from a EU agency observed that:

“I think there is, at the EU level there is sufficient knowledge. I have participated in many, many meetings with the practitioners and the researchers and EU level officials, and they seem to understand what is going on.” (P9)

Similarly, interviewees from our sample who worked as policy managers or policy officers at a national level displayed good awareness of the importance of research guided policy making, one of them saying:

“I think we have very good researchers in the Department for Work and Pensions and across government and we rely heavily on this for what we do.” (P7)

It is interesting to note that amongst this study’s interviewees, the one representing a trade union organisation indicated that in their organisation the dialogue around policy development appeared to be very holistic and cantered on what research said about...

“[...] the psychosocial environment in the workplaces and wellbeing of workers, because we know that it’s crucial for WB, but also for performance and productivity in the workplace. And in the overall picture it’s extremely important for the competitiveness of a nation.” (P12)

Furthermore, at the organisational level they acknowledged the importance of implementing what research has shown works, namely that...

“... you need a new kind of leadership where you do not micro-manage your workers, and where you have to accept as a manager or leader that you are not an expert in all fields, your workers are.” (P12)

Contrariwise, an employer's organisation representative in this study, while also recognizing the importance of research for promoting WI and WB, agreed that in their organisation's case:

“In terms of specific [WI and WB] policies [...] we don't have so much of a debate at the EU level linking these two. [...] Maybe others do discuss it, but I don't hear it in the general discussions we have around these issues. [...] as I've said it's not the core of our business.”

(P5)

However, regarding research-based policy making, it is important to note that, another interviewee, referring to the EU level, opined that even though research exists, and experts are consulted on policy matters, in many cases experts *“are one or two steps removed from the actual policy process even at the European Commission level, and several steps removed from policy at the national level”* (P11), and therefore their influence is not as impactful as it could be. Furthermore, awareness of the research behind the links between WI and WB might be limited to a small number of individuals, as pointed to by one interviewee's remark about civil servants at the EU level:

“[...] there are some people at DG Growth who connect the two [WI and WB], there are some people at DG Employment who connect the two, and there are some people at the European Social Fund that connect the two. But to be honest, it's only a few people.” (P3)

6.3.4.2 Research needs

Apart from the issue of awareness of the importance of research, an issue surrounding the degree to which research is understood remains. One of the reasons might be that knowledge has not been made easily available, or has not been made clear enough, therefore creating confusion amongst policy makers. This will undoubtedly have an influence on how readily evidence is incorporated into policy, and therefore the extent of evidence-based policy making. One national advisor stated that:

“There is enough research indicating the importance of work organisation, and its relevance to innovation, productivity, employee WB and so on, but it may be the case that this knowledge hasn’t reached enough policy makers in many countries.” (P1)

While there is a good body of research on the human-factor side of innovation, some argue that when compared to investments in research for technological innovation, there is still a very big discrepancy. This is particularly disconcerting, as the human side of innovation has been proven both empirically, as well as confirmed by many participants’ experiences, as being as important as the technical side of innovation, as agreed to by many of those interviewed:

“If you were to examine what governments spend on innovation research oriented towards technology and you compare that towards let’s say social science, social innovation, it’s only a small fraction.” (P4)

One participant pointed to the need for more research investigating how several work practices factors lead to desirable outcomes. To be able to underpin the mechanisms that make some practices work, and the exact reasons why they are effective is crucial in order to be able to convince all the key stakeholders of the value and potential of research.

“You need qualitative research to understand the mechanisms and the transmission mechanisms between an input on one side of the equation, and an output on the other side.” (P8)

Moreover, having additional research to explain how and why specific practices work would enable policy makers to improve their knowledge and therefore develop more potent and evidence-based policies. The same interviewee underlined the fact that this is still somewhat lacking, particularly at the national level:

“I would say that policy makers at the member state level are still struggling to work out how they translate the messages from all that research into policies which support good practice.” (P8)

Furthermore, this type of research would also enable useful cost-benefit analyses to be made, thus strengthening the business case for developing and implementing research-based policy. One national policy advisor experienced in working with businesses, spoke about the need for research on the benefits of evidence-based policy, saying that it is important for “*the business case*” (P7) and that it allows them to show the effect it will have on “*business in improving the productivity and staff engagement and the wellbeing of staff*” (P7). This would allow them to obtain the buy-in of key stakeholders much more easily. Similar ideas were reinforced by yet another participant, who stated that more research is needed for “*building the evidence base in order to illustrate the impact of progressive people practices [...] for businesses so that they can see what their return on investment is.*” (P4)

6.3.4.3 Knowledge translation

It is not only about making high quality information available to the policy makers, but also making sure that knowledge is readily absorbed and translated into actionable insights. For this, efficient mechanisms need to be put in place that will enable reflecting on things that work and things that require improvement and as such creating an adaptive learning system. Several participants agreed on this, as reflected by one interviewee’s remark:

“I think that we need to implement, at least to develop and implement learning-oriented methods, mechanisms, to make more dynamic this process of policy making.” (P2)

In order to do this successfully it is important to have a better understanding of how such processes work. Developing more comprehensive policy learning frameworks is needed. Reflecting this, the same interviewee noted how it is crucial to do more research into “*policy learning issues, for example*” (P2). Moreover, they proposed this as a key step towards holistic policies across the EU:

“[...] to have some spaces or arenas to reflect on what we call policy learning issues. If we are able to develop learning-oriented mechanisms for policy making and share ideas and things like this, I guess we could get more comprehensive frameworks in Europe.”

Furthermore, this process can be further facilitated through factors such as benchmarking a policy development, implementation and evaluation process across Member States. This would enable reflective policy development where critical friends could offer helpful insights and share experiences, and having a shared vision for what WI policy in the EU should achieve, as one individual stated:

“More commonality around how we talk about those issues, and more agreed language across those [WI and WB] issues.” (P7)

6.3.4.4 Financial resources

Especially when it comes to getting research translated into practice at the organisational level, one of the major enablers is having sufficient funds. Re-thinking and restructuring the whole work organisation can be a daunting task even when there is buy-in from the executive levels and when there is sufficient knowledge. More than half of the interviewees (7 out of 13) identified pecuniary resources as a crucial factor. Acknowledging that new organisational practices could be initially costly, one participant remarked:

“One of the reasons for why they are hesitant I think is that this involves, of course, investments. I mean it costs money. Maybe you have to experiment a bit more on how many hours to work per day, could we have a more flexible time schedule for workers, maybe we should try and invest even more in new technology, and so on and so forth.” (P12)

The financial aspect will always act as a deterrent unless there are specific funds allocated either from the EU through agencies such as the European Social Fund – *“What you still do have is the European Social Fund which gives subsidies to organisations who take initiative”* (P9); or from national agencies to aid with this issue, with potential for success as exemplified by one individual:

“The approach that the UK has used a few times with some success, is to set up what you might call a challenge fund. So an amount of money where employers that want support to introduce innovative work practices are given financial support.” (P8)

6.3.5 Communication and collaboration

The fifth theme that emerged pointed towards the importance of having open channels of communication and collaboration between stakeholders at all levels, why that is important for policy development and implementation, and how that leads to achieving best practice. Overall 10 out of 13 participants, from various backgrounds, contributed to this theme. It encompasses two sub-themes, namely *multi-stakeholder engagement* – or the idea of ensuring that the voices of all the key actors (e.g. academics, employers’ organisations and trade union representatives, NGOs, other social partners and the policy makers themselves) are well-represented in the policy making process; and *achieving and diffusing best practice* – or developing the necessary networks to disseminate those practices deemed successful, at a cross-national, national, sectoral or organisational level.

6.3.5.1 Multi-stakeholder engagement

It was widely acknowledged (9 out of 13 participants) that in order to achieve successful results when developing policies for WI and WB, it was crucial to include the perspectives of all the relevant actors from the very start. However, this might be challenging, as one participant indicated:

“[...] there are a number of stakeholders in this space so it’s about working together [...] and everybody having the same understanding and narrative in terms of what WI is.” (P6)

Being mindful of stakeholders’ shared, as well as unique, perspectives on the challenges faced enable a much more comprehensive solution to be reached. One participant, referring to this, pointed out that *“I think that’s something where it needs a coming together of researchers, of policy makers, of trade unions and employers’ organisations, and other stakeholders, really*

to begin to define that [WI and WB]” (P11). Furthermore, the importance of making sure that expert knowledge is used effectively, or that there is “*collaboration in research*” (P12) was also underlined by the several interviewees:

“In all of the countries which I think have this kind of sustained commitment [to WI] there is some kind of engagement from trade unions, from employers’ organisations, from universities, [...] in terms of actually building a bridge between academic knowledge and practice.” (P11)

At an organisational level, having these networks and communities of practice would mean that businesses can look at others like them for support on their journey of work practice redesign. It is important for businesses to have peer examples, as they have reported they are more likely to listen and learn from those that are like them and that have gone through similar struggles. This would also, to some extent, address the gap that is left by the fact that policy makers many times cannot speak credibly with business because they do not share much in terms of language or practical experience, as mentioned in one of the previous sections. One national policy advisor working closely with companies underlined this by stating:

“Employers are actually telling you that the only people they listen to are their peers or people like the sector leaders, people they aspire to be like, or maybe someone in their area that is doing really well, [...] that’s who they’ll listen to.” (P7)

6.3.5.2 Achieving and diffusing best practice

It was acknowledged by more than half of the participants that more effort should be expended in order to improve the level of best practice diffusion. One interviewee underlined this by clearly stating that “*this aspect of diffusion of good practice, or diffusion of innovation, is a real problem.*” (P1). One of the reasons for why dissemination is lacking could be that it is not actually planned and budgeted (both in terms of financial and time resources) within the broader programme. When it comes to mainstreaming what has been proven to work, the same interviewee said that “*the main issue is that the programme strategies for mainstreaming have*

been insufficient” (P1), referring to the fact that this stage is sometimes left out from the overall programme frameworks.

When referring to the diffusion process, there are things that could be done at the EU level. For example, creating a knowledge pool to which all the interested actors would have access was suggested by several interviewees, as exemplified by what one participant said:

“One thing you could do, at a European level, [is] to collect some of the good examples from different kinds of workplaces [...], and what can come out through prioritising workplace innovation.” (P12)

Similarly, several participants made reference to having a cross-national network of actors that are ready and willing to share their experiences. Countries which are interested in improving their innovation capacity and quality of work would join these networks and have the advantage of drawing on the expertise of others. One national policy manager referred to their experience when developing their country’s strategy:

“One of the first things that we did was to look at other EU examples, to look at how other countries were developing their approach to WI [...] one of the key things for that has been being members of EU-WIN [EU Workplace Innovation Network] and [...] what that enabled us to do was develop connections with other countries in Europe that were facing similar challenges.” (P6)

Another participant referred to their belief that it is crucial to translate research into practice, and to diffuse relevant findings into actionable insights. Understanding research in this context was suggested to be key for implementing successful policies and programmes. This can prove to be very useful, especially at the organisational level:

“I am a believer in the kind of action research approach that some of the Nordic and German governments have been using, but only if it’s then actually linked to some wider process of dissemination. [...] in Germany they’ve been looking for a long time at how you translate

these lessons from these national action research programmes, into very practical actions for SMEs for examples.” (P11)

From an implementation perspective, having organisational-level communities of best practice was brought up by an employers’ organisation representative as well, and it links back to what the same participant also stated in the previous sub-theme regarding the fact that businesses will be more willing to listen and learn from those similar to them (i.e. other businesses that are doing well). The interviewee underlined the importance of...

“... this idea of exchanging best practice with different actors, companies, employees themselves, national authorities, about what they’ve done in this areas, perhaps the challenges they’ve had and how they found solutions and why it’s been useful for them” (P5)

One senior manager from an advisory NGO also underlined the importance of not only looking at the return on investment, or at the business gains that could result from improved WI and WB policies, but to also to accentuate the moral imperative of making sure working practices are improved:

“We have to go down that route of promoting good practice and making it almost, not just an economic argument, but also a moral argument for doing it better.” (P8)

Finally, to illustrate the importance of integrating almost all of the factors mentioned in this theme, but also in the other themes above, one EU policy officer detailed plans for a new holistic WI programme to be started in October of 2018, aimed primarily at SMEs. It is encouraging to see that at the EU level all these elements of achieving best practices have not gone unnoticed. This programme will have at its disposal financial funds, as well as aiming to create regional support networks. This seems to illustrate in practice what has been the EU’s approach to WI policy, namely frameworks created based on the principles of the Open Method of Coordination, which is dependent very much on integrating non-state actors in the policy process, bringing in experts and local stakeholders and ensuring an appropriate level of funding.

While encouraging, the results of this programme, and as importantly its implementation, remain to be seen. Explaining more comprehensively the plan, the interviewee stated:

“In this context the European Commission will propose in October 2018 a new action on Workplace innovation uptake by SMEs. The Action will be a piloting scheme for the uptake of workplace innovation by SMEs. It will aim at creating interregional networks gathering national or regional innovation support agencies, which will work together to create pilot schemes supporting the uptake of workplace innovation in SMEs. The composition of the networks should reflect similar needs of SMEs and a comparable entrepreneurship culture in the area covered by the network. This approach will enable the creation of new, context-based workplace innovation support schemes. Those new pilot schemes will be tested in companies selected by the interregional networks, by using financial support to third parties. Thereby it will stimulate: (i) new forms of work organisation and working (including the gender dimension); (ii) stronger employee participation in innovation processes (creation of new products, services and their production); (iii) improvement of the managerial techniques; (iv) it will help draw lessons for innovation support agencies.” (P13)

6.3.6 Relevance

The sixth and final theme that emerged revolved around the importance of keeping WI and WB issues on the policy agenda, and the challenges associated with having to integrate these issues within other emergent challenges. Overall, 11 out of 13 participants from various organisations all pointed towards the importance of being mindful of new developments in the world of work, such as digitalization, demographic shift and the dawn of the 4th industrial revolution.

One key aspect that everybody agreed with was that WI and WB policy could and should be kept on the political agenda, and one consultant underlined this by saying that:

“[...] it’s important to make sure that WI and psychosocial risks and WB at work remain on the agenda. That’s what politicians should do, and that’s what people like us in our networks can try to stimulate [...] we have these concepts of WB and psychosocial risks so we have to defend them.” (P3)

However, in order to be able to maintain WI and WB relevant for active policy development, many participants indicated that it would be useful to integrate these issues, and show how they are a key part of the solution for other emerging challenges. One interviewee noted that to successfully develop WI policies “*anticipation and adaptation are the key words*” (P13). Along similar lines, another national policy advisor pointed that:

“I think the challenge for the future is how to integrate issues related to work organisation and workplace innovation with those kinds of aspects or those concepts that are now hot on the political agenda.” (P1)

Furthermore, some believe that when advocating for different programmes it would be a mistake to focus on WI and WB in isolation, as failing to show how these two factors fit in the broader socio-economic picture would inevitably relegate their importance for active policy development. Illustrating this, one interviewee noted that:

“I do not believe so much anymore on programmes which solely focus on workplace innovation, because the problem for these kinds of activities may be that they will be a kind of isolated effort and they would be marginalised in the eyes of policy makers.” (P1)

When asked what they believed are the immediate, but also the long term issues that they perceive as being important, and to which WI and WB could provide solutions, there was a lot of convergence in what participants said, many citing matters such as digitalization, the demographic shift and what some broadly referred to as Industry 4.0 or labour market 4.0.

Referring to digitalization, one interviewee pointed out that “*I think there is a lot of discussion now on the effects of digitalisation, AI, machine learning*” (P1), while another underlined that “*digitalization [...] is a big opportunity but also a big challenge.*” (P9)

Other participants reported that “*one of the big issues we need to think about is demographic change*” (P5) and that it is important to consider the fact that

“[...] there is going to be huge seismic shift in the age of our workforce. There are far less young people coming in to the labour market and with the state pension age increase as well,

and the fact that we are living longer and a much bigger proportion of the workforce is going to be over 50.” (P7)

All these factors contribute to what some call “*the 4th industrial revolution, industry 4.0,*” (P11). In this new environment characterized by more older workers that might need to work fewer hours, increased digitalisation could mean several professional fields would become obsolete either because machines would replace humans or because they would simply not be needed any longer, several questions arise, as enunciated by one participant:

“[...] can we be innovative enough to think about what would people then do, what kind of skills, how should they spend their time, should we work less, spend more time together in families.” (P12)

In such an environment, the importance of WB, the psychosocial environment and having a good work-life balance was underlined by one trade union representative:

“WB at work, work-life balance, the psychosocial environment are becoming more important in this labour market 4.0.” (P12)

6.4 Discussion

The aim of the present study was to explore what has been, as of yet, an under-researched issue – namely what are the barriers and enablers when trying to develop comprehensive WI, WB and psychosocial management policies. The analysis conducted pointed to several key themes which underpin the challenges inherent in the policy making process. Bearing these in mind, the following paragraphs will comprehensively discuss the findings of the analysis.

Overall, it became clear that one of the main difficulties when striving to understand WI and WB in a policy setting is that there is still some lack of clarity as to exactly what these dimensions should cover. This is perhaps not surprising, as both these concepts are complex and multi-faceted. For example, in a report on workplace innovation, no less than nine different definitions are given for WI, and they include a range of macro (e.g. broad market and economic consideration) and micro (work and organisational factors, HRM practices) indicators

(Kesselring et al., 2014). Similarly, when it comes to WB and psychosocial factors, although academic research and to a certain extent policy development is more advanced (e.g. Jain et al., 2018; Leka & Cox, 2008) the current findings indicate that awareness and understanding by policy makers can still be limited and needs to be improved. This underlines the key role that researchers have, namely, to make their findings accessible to non-expert groups and to engage in dialogue and advocacy. Nevertheless, these are not easy challenges to overcome – comprehensive solutions require re-thinking individual, organisational and societal level elements (Alasoini et al., 2017).

This is a difficult undertaking, first and foremost because of the vast number of organisations from different countries and sectors, each with their own cultures, ways of working, degree of available resources and willingness to engage in change. However, policy can support and guide companies on this journey, and research does point to success stories from countries in which policies and programmes for WI and WB have run (Alasoini et al., 2017; Oeij et al., 2015). However, there is a debate as to whether hard or soft policy is the most appropriate route to encouraging the uprooting of these practices at the national and organisational levels. Many believe that the inherent complexity of the concepts, as well as the fact that many times some elements can be quite sensitive (especially when it comes to the psychosocial work environment), make soft policy initiatives the easiest – and perhaps only – way forward (Alasoini et al., 2017; Leka et al., 2015). The current findings also support this assumption, interviewees citing a need for flexible policy that needs to be implemented across different national and organisational contexts.

An additional challenge comes from the inherent heterogeneity of the Member States of the European Union. The different welfare state regimes across Europe will influence, amongst other things, expectations surrounding the roles and involvement of government and different social partners. As a result, this will have an impact on how policy is perceived and adopted at the national level (Weishaupt, 2014). As mentioned earlier, to address these challenges, the EU developed the Open Method of Coordination (OMC), which is a de-centralised, collaborative, dialogue driven method of governance (Trubek & Trubek, 2005). Nevertheless, factors such as country interests and readiness have been cited to influence the level of investment in WI/WB policy adoption (Pot et al., 2017; Totterdill et al., 2016). The current analysis falls in line with

this, several participants indicating that some groups of countries (e.g. Nordic and Scandinavian) are much more advanced in these domains. A further element to be considered is that of power relations between governments and different social partners and stakeholders, as well as internally between higher management and employees (Cook et al., 2017). This is not unexpected, as past research has indeed found that engaging in collective dialogue, bargaining, employee representativeness and trade union density are all important factors for worker health, wellbeing, WI and organisational performance (Dollard & Nesar, 2013; Gill, 2009; Kim & Bae, 2005; Totterdill, Cressey, & Exton, 2012; Wood & Fenton-O’Creevy, 2005). Furthermore, at the national level, the degree of stakeholder participation and engagement has been shown to have an effect on policy adoption, implementation and integration at a regional level (Aurich-Beerheide et al., 2015). The issue of implementation has also emerged from the present interviews, and factors such as how policy is interpreted at the national levels, the ability of local and regional authorities to translate and transpose policy as well as how to reconcile national and EU policies that might, at times, be at odds, are all challenges currently faced by all the actors involved in the legislative process.

A further complication arises from the fact that WI and WB are policy areas that span across several different EU Directorates, and at the national level across different Ministries. The analysis indicated that historically, these topics have fallen between DG Employment, DG Growth, and DG Research and Innovation, to name a few. This leads to the creation of so-called “silos” of knowledge, and the level of communication between these institutions has not been optimal. Pot et al. (2017) echo these observations, noting that WI and WB policy has been, throughout time, dispersed across many EU organisations. Furthermore, they also advocate for more cohesiveness and collaboration between these bodies, as this is the only way in which a “joined-up” policy framework can be achieved. Furthermore, this also exacerbates the issue of legitimacy (Schmidt, 2013) and as a result, policy makers are perceived as being insufficiently informed or unable to advise on cross-cutting issues, especially as they relate to the development of practical guidelines.

The importance of having research-driven, evidence-based policy is another important dimension that has emerged from the analysis. The role empirical evidence plays in the policy development process cannot be understated (Rimkutė & Haverland, 2015; Sanderson, 2002).

In order to be able to create comprehensive and effective policies and guidelines academics, practitioners and policy makers need to engage in constructive discussions. From the interviews, it emerged that some believe that the level of knowledge at the national and EU levels is adequate, but at the same time how one translates that knowledge into practical guidelines is less understood. In order to improve this, it is important to engage in reflective discussions where different stakeholders share their experiences and learnings, struggles and success stories. Furthermore, the provision of financial support and resources plays an important role in the successful development and implementation of policies, as evidenced from the current findings and research (Gerven et al., 2014; Verschraegen et al., 2011).

Literature also supports the idea that in the current complex landscape, where societal issues are multi-faceted and solutions are rarely straightforward, research-based policy making is potentially a way forward (Banks, 2009; Cairney & Oliver, 2017; Howlett, 2009; Pawson, 2002; K. Young et al., 2002). However, several key points need to be considered when aiming to promote evidence-based policy making: clearly understanding how research can be made accessible in a timely manner in order to be more relevant to the policy-making process (Cherney, 2015; Cherney et al., 2013); being mindful of the rapidly evolving socio-political context; broadening the range of methodologies used in research in order to improve the quality of evidence (Cairney & Kwiatkowski, 2017); more focus on measuring the actual real-world “impact” research has; and involving all the key stakeholders in every stage of the knowledge creation process (Oliver, Innvar, et al., 2014; Oliver, Lorenc, et al., 2014).

It is not sufficient, however, to only increase the level of high-quality research and knowledge. The findings of this study also underline the importance of engaging all actors, from all levels in constructive dialogue. Communities of practice where stakeholders come together to share their knowledge and experiences are a key part of achieving and diffusing best practices. These communities should aim to provide a forum where different individuals and organisations can act as critical friends and engage in the process known as policy learning. This approach very closely resembles the quintessential governance model of the European Union, the Open Method of Coordination – an approach where “soft policy” and “hard policy” approaches are used in tandem in order to address complex societal issues (Trubek & Trubek, 2005), such as WI, employee WB and innovation. If implemented well, the OMC can provide

a way forward when developing comprehensive policy frameworks for increased quality of work (Tholoniati, 2010).

As mentioned previously, an important mechanism through which the OMC brings forth change is that it allows those taking part in the policy process to engage in what is known as policy learning. Policy learning is an important element when trying to enact change. By involving relevant actors in the policy process, it is theorised that they will critically reflect on their own and others' knowledge, potentially breaking down barriers and power relations (Moynon et al., 2017), as well as share practices across different institutions and settings (Gilardi et al., 2009). This leads to so called "advocacy coalitions" to be formed (Sabatier & Weible, 2007), which, in turn, influence beliefs and perceptions. This is important because stakeholders' beliefs are a central element of developing and implementing new policies (Dunlop & Radaelli, 2017; Matti & Sandström, 2011).

A final consideration to be kept in mind is that the agenda at the EU level is constantly shifting in response to the volatile socio-economic conditions across Europe. It is then to be expected that the political relevance of specific issues will fluctuate, and therefore some will have primacy over others at specific times. This has been pointed out as a key consideration to be kept in mind, especially in the long term, when advocating for WI and WB to be kept as policy priorities; especially as challenges like digitalisation, gentrification of the workforce, industry 4.0, immigration and gender equality are all on the horizon.

It is encouraging however to hear that WI and WB can be made an integral part of the solution, as opposed to competing with these challenges, according to the interviewees. Nevertheless, it is not easy to do this, and keeping these two topics alive and in focus will require continued investment in research in order to improve the collective understanding of how they work and how through WI and WB a range of pain-points can be addressed; as well as creating advocacy coalitions and groups to promote these solutions and frameworks at all levels – European, national and regional. Agenda setting in the EU is a complex matter (Dunlop, 2016), and the aforementioned factors have all been shown to influence political decision making and the amount of attention and resources invested in specific topics (Bache, 2012). Therefore, in order to keep WI and WB on the agenda, all stakeholders need to work together towards raising awareness and interest, building capability and credibility and mobilising other

supporters, thus making it clear that the EU is invested in and is claiming a level of authority and ownership (Princen, 2011) when it comes to comprehensively promoting WI and WB policies.

6.5 Conclusions, implications and limitations

The current study has set out to try and understand what the main enablers and barriers are when developing a unified policy framework in order to promote WI, WB and psychosocial management. The findings shed light on a few key considerations that all stakeholders involved in this process should keep in mind: these issues are conceptually complex, and more research is needed in order to be able to improve understanding of the mechanism through which they operate; the EU is a multi-level ecosystem, formed of a mix of heterogeneous countries and actors who sometimes have different priorities and agendas; this adds another layer of complexity when developing and implementing new policies and programmes; funding and resources are integral to the success of both policy development and policy implementation; and that in order to achieve the EU's strategy for increased economic performance, higher quality of working life and improved workforce innovation and productivity it is important to create communities of practice that co-create, share, challenge and promote new and existing policy programmes at all levels.

From a policy development and implementation perspective then, it becomes apparent that the onus does not fall squarely on a single stakeholder group. Rather, it is key to promote greater communication and collaboration between EU directorates, between National Ministries, and across the different NGOs, employers' and employees' organisations and academic institutions. Each of these actors have a key role to play at all stages of the process: to produce and share expert knowledge; to use that knowledge and create more comprehensive policy programmes; to offer feedback and challenge the adequacy of these programmes; and to act as promoters and change champions in regional/local networks and organisational sectors. Only if synergy between these actors is achieved will policies be successfully developed and implemented.

It is important to also discuss the limitations of the current study. While it was intended to have representatives from across as many organisations and levels as possible, the difficulty

in reaching this expert group meant that in the end the total sample size was 13, which can be argued is on the lower end. However, for this type of study, past research has indicated that a sample size of around 12 is adequate (Rowley, 2012), and the final sample did not omit a representative from any major stakeholder groups. Nevertheless, it is acknowledged that a slightly larger sample size would have brought in more clarity, especially considering how complex the area under investigation is.

A further limitation (and future research opportunity at the same time) stems from the fact that some challenges that have arisen from the interviews were not fully investigated and addressed. Specifically, it would be good if future studies would try and shed light on how to reconcile potentially competing national and EU policies, and how to actually integrate WI and WB programmes with other areas, such as R&D, industrial and economic policy. While these are all interesting points, they were not questions that this study set out to answer. However, the information uncovered from the interviews underlined that these are undoubtedly topics that warrant future consideration. A potential avenue for this would be to look at countries which have successfully developed unified, comprehensive frameworks. Finally, the interviewees were all from EU countries and institutions, which was a conscious choice given the aims of the study, but that means that the current findings cannot be generalised beyond the EU. Other countries will have different political systems and socio-cultural norms, so research should be carried out in those contexts as well.

Having now presented the conclusions of the last of the three studies, the next and final chapter will go through the overall summary of the thesis context aims, will holistically integrate the findings from across the three studies and will discuss the overall limitations and opportunities for future research.

7 Discussion

The final chapter focuses on reviewing the overall work conducted in this thesis, examining the results obtained in the three studies and discussing them within the wider context of the relevant literature. In addition to this integrative perspective, the overall strengths and limitations, as well as future needs and directions at the policy, research and practice levels will be presented.

7.1 The context, aims and value of this work

Increasingly, at the EU level, in the pursuit of competitive advantage and productivity, the concept of innovation has been attracting increased attention, as it appears to be a promising way of achieving many of the cited EU goals. The importance of the quality of the human capital is becoming more evident in achieving innovation and productivity priorities (Capozza & Divella, 2019; Diebolt & Hippe, 2019; Lund Vinding, 2006), and the HRM practices through which organisations manage their employees have a direct impact on the quality of their human capital (Afiouni, 2013) and innovation capacity (Bos-Nehles et al., 2017; Delery & Roumpi, 2017; Kianto et al., 2017; Seeck & Diehl, 2016). Nevertheless, all these must be done in a sustainable way, ensuring that organisational and individual health and wellbeing are not sacrificed in the pursuit of economic gains.

Bearing this in mind, the main purpose of this PhD was to investigate whether the same work organisational factors that have been traditionally thought of as being critical for employee health, safety and wellbeing, also have an influence on the level of employee innovation at work. If supported, this idea would allow academics, policy makers and practitioners to develop and implement comprehensive policy frameworks and programmes that simultaneously promote these strategic priorities across the European workforce. As it relates to this thesis, innovation has been theorized at the macro and meso level through the concept of workplace innovation, which encompasses a set of processes and principles that promote, at the individual level, innovative behaviours and wellbeing. Looking at this through

the lens of the psychosocial work environment and existing theories of job design, in particular the Job Demand Resources model, several propositions have been identified.

The first chapter set out to map and clearly define all the key terms and concepts that will be referred to and tested later on. A key insight from this has been that WI is a complex, multi-faceted concept, that encompasses economic, organisational and individual level factors (Kesselring et al., 2014; Oeij & Dhondt, 2017). While this means that it can potentially be of much use when developing integrative frameworks, its complexity also makes understanding it more challenging. This idea will be revisited when discussing the findings of the earlier studies. Within the first chapter, the concept of innovative work behaviour was also defined and positioned as a potential individual level outcome of WI processes. Furthermore, key health and wellbeing concepts were also introduced. In the policy review and stakeholder interview studies, these were holistically considered when evaluating the current policies, and the challenges when trying to develop comprehensive policy programmes and frameworks.

Chapter 2 then delved more deeply into the theory. It was proposed that psychosocial factors, as theorized in the JDR model, can provide a structure against which individual level outcomes, namely innovative behaviours and wellbeing, can be studied and understood. First, the well-established evidence base that links the psychosocial work environment, through the JDR, with employee mental and physical health was reviewed, as was the value case for promoting health and wellbeing in the workplace. While much less extensive than the former, existing research that has used the JDR model to look at innovative work behaviour was also reviewed. From this it followed that one of the main propositions of this PhD has empirical support: namely that IWB and WB, at the individual level, are driven by the same work environment factors. This is of paramount importance if there is a chance of developing integrated EU policies on health, wellbeing and innovation. However, the literature linking the psychosocial environment and IWB is still new, and specifically studies investigating these relationships at a cross-country, EU level, have been very limited so far. Therefore, having identified this gap, and acknowledging the value in addressing it, a model linking key elements of the psychosocial environment and individual innovation was developed and tested in chapter 4.

7.2 Integrating findings

7.2.1 Summary of findings

The first study, presented in chapter 4, aimed to test, through a quantitative approach, if, how and which psychosocial factors influence employee innovative work behaviours. Having acknowledged some of the key variables that have been proven to drive employee health and wellbeing, the aim of this chapter was to confirm whether they also influence the degree of reported IWB, in a representative sample of EU employees. The model, based around the JDR theory, investigated how autonomy, social support from managers and colleagues, manager encouragement, working at high speed, working to tight deadlines, working overtime and working on complex/monotonous/unforeseen tasks influence the levels of individually reported IWB. Furthermore, another important finding, and one that has not been explicitly tested for in other studies, to the best of the researcher's knowledge, was to show how reported level of individual level IWB is related to country level innovation in the EU (process/product and organisational/marketing innovations). This comes in direct support of the assertion that innovation starts at the individual level, and that investments in designing good places to work ultimately bring macroeconomic benefits as well.

The second study, presented in chapter 5, concerned itself with first identifying and reviewing the existing European policies falling within the remits of workplace innovation. First, the EU policy process was outlined, as were the complexities of the EU governance. It was explained how the multilevel, multi-actor system gave raise to complexities which could lead to “deadlocks” in the policy-making process, especially when it came to complicated social topics such as WI and OSH. However, it was also acknowledged that that there were specific “exit mechanisms”, defined by different types of interactions between actors at different levels. The OMC was also introduced as one potential (but not exclusive) governance mechanism which through communication, collaboration, joint planning and definitions of issues, as well as through sharing of best practices and learnings could provide a framework through which policy solutions, both hard and soft, could be agreed. Much of the output from these complex EU policy/governance mechanisms is presented through several policy documents. Their differences have been summarised and explained, in order to provide the necessary background for the analysis. The search methodology started by identifying relevant terms used in existing

frameworks for WI and WB. Several key themes were developed, and all the identified documents were scored against these, in order to identify strengths, weaknesses and areas of improvement. Several important observations emerged from the findings. First, soft law policies were much more comprehensive than hard law policies, which leads to the conclusion that the area of WI and WB might be well-served by focusing on the development of guidelines and principles, rather than legislating how countries and organisations go about achieving innovation and wellbeing. This is not surprising, and it is something that will be discussed later in this chapter. Furthermore, while concepts like the psychosocial work environment, work organisation and lifelong learning were all cited in existing policies, the degree of depth and detail in which they were presented varied, with most policies only superficially mentioning them. Similar observations were made for the themes of stakeholder communication and collaboration and the importance of having a unified policy framework. Overall, while there were several (soft) policies with good coverage of most of the factors, the vast majority had shortcomings. Finally, the important role of hard policy in the creation and scope of the different European programmes and European Structural Funds as mechanisms and drivers of WI and psychosocial risk management policy delivery, was also recognised. It was encouraging to see that historically the number of projects and programmes in the area of WI and psychosocial risk management was not inconsiderable, but more importantly that in future initiatives such as ESF+ and Horizon Europe there seems to be specific opportunity for funding aimed at improving human capital, skills development and the management of work. This would unlock opportunities for different social partners, NGOs and research institutions to access funding for programmes aimed at designing, implementing and evaluating WI and psychosocial risk management practices across the EU community.

The interview study in chapter 6 considered the previous findings and set to answer why the policy development and implementation process in these areas is so difficult. Following a thematic analysis, some important barriers and enablers to the policy development process were identified. The experts who were interviewed pointed to challenges around complexity of terms, the heterogeneity of the EU community at both the political and organisational levels, and the issue of the siloed development of WI and WB policies. As for enablers and requirements moving forward, the topics of awareness raising, dissemination of resources (both material and in terms of knowledge/research), stakeholder communication and collaboration and ensuring

WI and WB remain on the agendas of policy makers were all considered important. It is interesting to reflect on these findings, because they help explain some of the observations in the previous study. For example, the fact that stakeholders believe the terminology and concepts are complex and difficult to understand might explain why the coverage of the same constructs is not detailed enough in the policies. The siloed approach to policymaking also explains why there is no shared terminology and vocabulary across existing policies.

These studies make several important contributions to theory development and research. First, when it comes to the JDR model, it had been previously proposed (e.g. Li, Taris, & Peeters, 2020; Podsakoff et al., 2007; Rai, 2018; Tadić, Bakker, & Oerlemans, 2015) that demands should be further broken down into challenges and hindrances, with the argument being that they will have different effects. When IWB is an outcome, this appears to be the case, as confirmed in the quantitative study – while some demands had a negative impact on IWB (e.g. working at high speed), others had a positive influence (working to tight deadlines). Moreover, proposed explanations as to the mechanisms through which these factors interact and operate were also discussed. Another important contribution from the results is that the JDR can be used to study outcomes other than physical health, burnout, satisfaction or engagement, even though a large part of the literature focuses on those aspects. When it comes to the topic of IWB, an important observation was that it should be perceived as a multi-stage activity (i.e. idea generation/idea implementation), and that there are different needs depending on where in the process one finds themselves in. Moreover, this would also have implications in practice. Furthermore, the fact that individual IWB had an influence on country level innovation is a key addition to the literature. Within the area of WI, the results validate some of the prepositions made in previous theoretical work (Oeij & Dhondt, 2017). Specifically, that the JDR model can offer a conceptual starting point for understanding the human resource, organisational systems and organisational process level factors that underpin WI.

Additional contributions are also made within the policy area. The lack of a consistent and sustained approach to the development of WI and WB legislation had been recognised in the literature (Jain et al., 2018; Pot et al., 2017; Totterdill et al., 2016), but a holistic evaluation of the actual EU-level policies that exist in these areas had yet to be conducted. Therefore, in chapter 5 two important additions to the existing knowledge base were made. First, by relying on several existing frameworks for WI and WB, a clearly defined search methodology was

developed. This enabled the researcher to identify relevant documents and, by using a structured approach, to evaluate their comprehensiveness, gaps and limitations. In terms of both methodology and scope this approach was novel in the WI and WB areas. Furthermore, these findings were then used to also discuss the observations made in the interview study in chapter 6. In this final study, some of the key barriers and enablers to holistic policy development were identified. While studies (e.g. Iavicoli et al., 2011; Leka et al., 2015; Leka et al., 2011) in the area of the psychosocial work environment and wellbeing had addressed drivers and barriers in policy making, this is amongst the first studies to look at these issues in relation to WI as well. Furthermore, the fact that the participants were all expert stakeholders involved in the policy process at different levels added key insights which would not have been otherwise available.

Having reviewed the findings and contributions of the three studies, the following sections will detail potential ways forward in addressing the challenges and leveraging the identified opportunities.

7.2.2 Aligning perspectives at the organisational level

Some of the key findings of the quantitative study pointed that demands and resources have differing effects on the two facets of IWB (idea generation and idea implementation). This leads to the conclusion that when organisations wish to promote innovation amongst their employees, they should try and design work that elicits the desired outcomes, while carefully managing those stressors that hinder innovation. More specifically, HRM practitioners should aim to create jobs that, first of all, offer employees autonomy in how they do their work. Then it is also important to have opportunities to work on complex tasks, while allowing them sufficient time to creatively think about how to do their jobs better. Furthermore, the innovation process is intensive, which means that when individuals are engaged in innovation, they might work longer hours. Reflecting more broadly from a health and wellbeing perspective, these psychosocial factors need to be carefully managed at the organisational and team levels, otherwise employees might be at risk of overworking themselves and potentially burning out, especially during the implementation process. Finally, social support is crucial and can have a direct impact on how employees innovate. Garnering support from colleagues or looking for

manager support and encouragement (effectively getting manager buy-in) are factors that act as enablers throughout the innovative process.

These findings align well with other proposed models of WI and employee-driven innovation (Hansen et al., 2017). For example, Dhondt, Totterdill, Boermans, and Žiauberytė-Jakštienė (2017), in their Fifth Element model of WI, directly reference the JDC model (a precursor to the JDR model), and recognize the importance of well-designed jobs and teams as the First Element. Furthermore, the Second Element speaks about organisational structures, management and procedures where functional boundaries are reduced or eliminated, where there are opportunities to work in cross-functional teams and decision making is distributed with high degrees of autonomy and employee voice (Fourth Element). These notions resonate with the present findings, as when employees are working in such an environment they are likely to develop a strong network that they can rely on (social support) and are likely to have the opportunity to work on potentially complex and novel (as opposed to monotonous) tasks. Seeing these elements discussed in relation to WI is very encouraging, as they are some of the same factors that are cited in one of the well-established European frameworks used in the management of the psychosocial work environment, the PRIMA-EF framework (Leka & Cox, 2008). This directly supports the initial proposition made in this thesis, namely that innovation, at the individual and organisational levels, is not only compatible but dependent and driven by some of the same aspects driving health, safety and wellbeing.

To take this further at the organisational level it is important to rely on strategic human resource management (SHRM). Strategic management differentiates itself from operational management in that it is concerned with longer term corporate vision and goals, linked to corporate priorities and values (Mintzberg, 1980). SHRM answers questions such as “what is”, “what should be” and “how to get there” (Daley, 2016). It is important to have a holistic perspective at the strategic level, especially because past research has warned of the dangers of hyper-specialization (van Scheppingen et al., 2015), where departments risk working in isolation, which can lead to inefficiency and a rigid organisational structure. It is important to embed WI and WB in a company’s long term mission, and previous research has advocated for a unitary approach when developing integrated health, safety and WB management (Jain et al., 2018). Expanding that to encompass the promotion of innovation in organisations as well will only bolster the business case and benefits of such initiatives. Bearing this in mind, and the

current findings, in Table 7.1 below a proposed organisational psychosocial management framework for the joint promotion of innovation and WB is presented.

Table 7.1 Psychosocial management framework for innovation and wellbeing

Element	Description
Development of a specific business case	Clarifying the business reasons for encouraging line management to put effort into managing the psychosocial work environment. It is critical here to underline the responsibility of businesses to act ethically and prioritize employee health and wellbeing, but to also underline how these efforts also benefit the promotion of IWB.
Integrating psychosocial risk management into governing documents	Governing documents comprise policies, requirements, work processes and guidelines with the purpose to ensure standardization and deployment of best practice across the business.
Integrating psychosocial risk management into the performance management system	Development of a psychosocial risk indicator which is instrumental in prioritizing key areas, with appropriate follow-up measures. It is important here to measure not only health and WB outcomes, but also innovative output.
Integrating psychosocial risk management into the company's monitoring system	Regular checks of whether the business understands the requirements and benefits of managing the work environment, paying particular attention to: job demands, autonomy, social support, task variety (monotonous, complex, unforeseen).
Integrating the psychosocial risk management into the company's training programme	For managers, training is integrated into new and already established management meetings and internal coaching courses; main aims: to increase management knowledge on the value and link between the psychosocial work environment, wellbeing and innovation as well as to enable peer support.
Fostering organisational learning on psychosocial risk management	Regular evaluation of whether actions are implemented as agreed and are effective, from both the wellbeing and innovation perspectives.

Adapted based on Bergh, Hinna, and Leka (2014)

Having discussed how the findings could influence practices within organisations, it is also important to consider how large-scale organisational change at the national and cross-national level can be achieved. From the findings in the current studies, it can be inferred that there are indeed several key organisational level factors that appear to be important for both employee innovativeness as well as employee wellbeing, as mentioned above. This is good, as these factors could act as a starting point for interventions which could be run in different

organisations. However, as others have said (Totterdill, 2020), when designing approaches and organisational programmes at the local level, one must pull on the “local knowledge, resources, cultures and institutions” (p. 13), as that will need to inform several key decisions and choices:

- To go for broader interventions across more companies vs in-depth interventions in fewer organisations;
- To attempt to design and deliver transformational cases vs promoting smaller, incremental innovations and changes based on existing knowledge.

It should be noted that these options must not be mutually exclusive, but rather can be used to augment each other. For example, new knowledge can and will be obtained by developing in-depth interventions, which could lead to truly transformational examples in particular organisations. The knowledge gained from these model-companies should then enter the public domain, and different actors from the civil society, which have been involved in the development, implementation and evaluation of those programmes should also act towards disseminating the knowledge gained across the relevant industries, sectors or countries. The main challenge with this approach is that it can be involved and lengthy, which normally also means costly. A potential solution when funding is not available or is limited from local governments or from other local means, is to take advantage of the different European Structural Funds which are available. Both in the new Horizon Europe programme (the successor of Horizon 2020), as well as in the newly refreshed European Structural Fund + (ESF+), there are specific objectives aimed at improving Europe’s human capital, skills, and innovation in products, methods and management processes. All of these are directly linked with innovation, wellbeing and ultimately increased productivity.

Further reflecting on the organisational level, implementing change is always difficult. However, difficulties might stem from different reasons. For example, as has been acknowledged in previous chapters, for many SMEs a lack of understanding or knowledge of WI or psychosocial risk management practices might lead to a trailing implementation. While part of this could be addressed through external funds (e.g. local grants or ESFs), many times the path to accessing these might not be immediately clear to new business owners that might not even be aware these exist or how to take advantage of them (Visković & Udovičić, 2017). Here different NGOs and consultancies could act as “middle-men”, facilitating access to

knowledge, an established network and guidance for these entrepreneurs. We have seen a similar role played by EUWIN with much success. With multi-national companies, the challenges to implementing change could be different. While funding and know-how might be available (or more easily purchased as compared to SMEs), the scale of change in a large organisation is a big challenge. When companies span across several regions or countries the changing socio-cultural, economic and political landscapes make implementing any change more difficult, as standardisation across departments, divisions and units spanning across several borders becomes more challenging. While it was not within the remit of this work to explore how change could be implemented in EU organisations, several reflections can be made. First, there is no “one-size fits all” solution. Any approaches will need to take into consideration an organisation’s existing internal financial and human resources, and to tailor programmes according to those constraints. EU Policy can help towards this by creating the necessary programmes and financial environment in which funding and access to funding becomes more streamlined; by creating a more homogenous and standardised policy landscape, which would mean offering more clarity to all actors involved in this area; and by also helping develop a common vocabulary of terms, raising awareness, promoting dialogue and disseminating good practice. Pushing for more standardised reporting on key indicators would also be a positive step, especially if organisations (more-so the large ones) would need to report on a well-established and agreed-upon list of factors that would indicate to which extent their management practices align with guidelines. Even if these reporting exercises would have no legal weight, the reputational effects could likely still elicit a sufficient response from the private sector (as well as from public institutions).

7.2.3 Aligning perspectives for public policy

Some important insights can be gained from chapters 5 and 6 when it comes to a holistic approach for WB and WI policies. First, when it comes to both these concepts one must acknowledge their multi-dimensionality and complexity. This has been noted in the literature directly and has been apparent in the way they have been referred to in the reviewed policy documents. Furthermore, interviewees have also noted this, underlining it is a challenge in achieving integration. As briefly mentioned above, a proposition is to create a common

vocabulary of terms and agree definitions around the meaning of WB and WI at the policy and organisational levels. This would enable a shared set of measures and statistics, which could be administrated through Eurostat, the official statistical office of the European Union. Having high quality statistics would then enable researchers, practitioners and policy makers to evaluate the design and implementation of EU policies in these areas. The clarity and oversight that would be conferred by this would allow for close monitoring of national progress by the EU, but also by other independent national and regional stakeholders. Chapter 4 helped illustrate the benefits of having cross-national data, as the study not only was able to test a model for individual IWB at the EU level, but it took insights one step further by illustrating how psychosocial work factors have a bottom up influence on country-level innovation.

A second proposition is to break down the barriers and improve communication between the different directorates and institutions that are concerned with WI and WB. This is no easy task, as underlined in chapter 6, especially because it is difficult to break down the well-established institutional traditions of policy making. This is to be expected to some extent, as institutions that have purpose-based missions (such as policy-making) have been theorized to be more likely to develop silo-isation (Blau, 1972). This is likely to be the case, as much of the WI and psychosocial risk management policies have been driven by different DGs within the European Commission, which are purpose-based policy branches, that might display low cross-unit coordination (Trondal, 2017). This is the case because it is believed that when an institution has a clear mission it will work towards prioritising its own interests and agenda, even at the price of lowered co-operation with other partners. Therefore, it could be argued that in order to increase collaboration there should be more common policy goals, which would bring working groups from across different units together as they would need to work on a common purpose. Practically speaking, this would become more apparent in more joint-up policy document such as the Commission Staff Working Documents, Opinions or Communications. More broadly speaking, there could be an increased number of White papers, where external experts and other representative members of the civil society could work together on topics such as: “How does the psychosocial environment influence the innovative output of EU companies?” and “What financial support is needed to promote better WI and psychosocial risk management?”. This would need contribution from experts at DG Employment, DG Research and Innovation, EU-OSHA, Eurofound, and social partners (employers’ and employees’ representatives such as

ETUC and BusinessEurope). This would be part of what could be an initiative similar to that launched in the Health Policy arena (i.e. “Health in all policies”) – potentially called “Innovation in all policies”.

Overall, while it might be difficult to do, if breaking down silos is not achieved, the effectiveness and credibility of the resulting policies will suffer. This is acknowledged in the literature as well (Jain et al., 2018; Pot, 2017). Ultimately and importantly, should there be new and improved policies, the policymakers themselves need to think and act more innovatively. As WI and psychosocial risk management policy will need to provide a flexible, adaptable framework, innovation in policy itself is needed. Reflecting back on the concept of innovative work behaviour, it could be said that its promotion is of relevance not only in organisations throughout the EU, but also at within and across the EU’s organisations. This, together with the other factors mentioned above, will result in integrative policies which will produce comprehensive frameworks offering clarity and direction, where resources will be used more efficiently, leading to an overall more innovative European socio-political environment.

Another aspect worth discussing is that of creating networks, at different levels, to act as communities of practice. Here, researchers, practitioners and policy makers from all levels could engage in the sharing and diffusion of best practices. Practitioners would have the opportunity to not only learn from their peers, but also from researchers; and policy makers would have a chance to see how their policies are being received and perceived. Furthermore, employer and employees’ representatives would have a forum in which to engage in constructive debates for the betterment of policy programmes. It is undoubtable that such groups would lead to increased awareness of the importance of WI and WB amongst stakeholders, which would speed up policy learning and policy implementation at all levels.

The EU should offer support for the creation of these multilevel networks, and a good example of this has been EUWIN which, however, was regrettably stopped as an EU project in 2016 (Oeij, Rus, & Pot, 2017a). It should also offer support to SMEs which have been identified as lagging when compared to larger organisations, mainly due to lacking resources to set up comprehensive internal HR structures and processes (Jain et al., 2018). Moreover, the EU should make better use and promote the OMC as a governance approach across the two policy domains. The OMC is a framework through which policies get elaborated jointly with member

states, and which promotes some of the key elements discussed earlier: peer review, mutual learning and reflection, measurement based on shared principles and statistics, engaging social partners and broader stakeholder groups (McDonald et al., 2013; D M Trubek & Trubek, 2005). Furthermore, the OMC would also help address one final concern, that of the hard law / soft law debate, by allowing a hybrid approach to be considered. This would leverage some of the strengths of hard law, such as its legitimacy and enforcement power, but also draw on the value of soft law, which brings more depth, is more inclusive and more quickly developed.

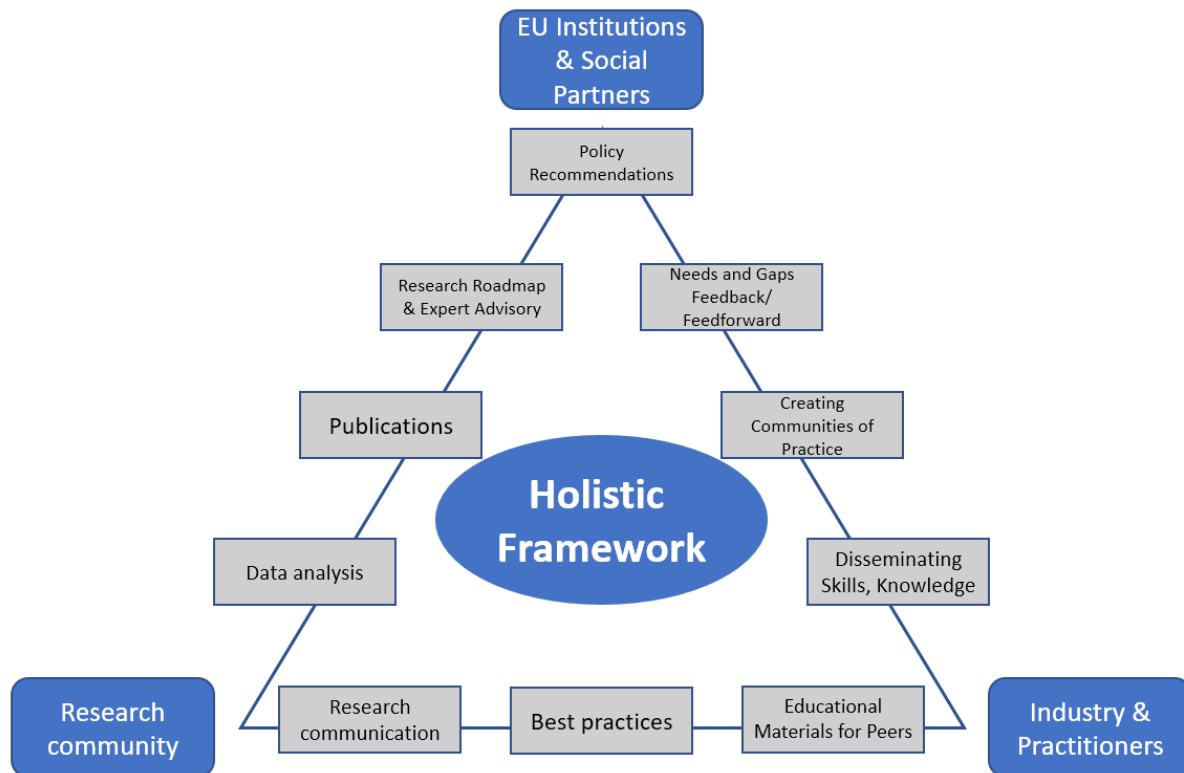
7.2.4 Aligning perspectives for research

The role that research and researchers play can and must be multi-faceted. At the organisational level, research can be facilitated by work and organisational (W&O) psychologists, who must use their knowledge and act as catalysts of evidence-based practice (Cascio, 2007; Rousseau & McCarthy, 2007). They should act as educators, teaching top management how research can provide solutions to strategic problems, primarily by acting as translators of research into practice (Shapiro et al., 2007). To do this, they could design evaluations and interventions driven by qualitative and quantitative data gathered at the company level, and act as translators, sitting at the intersection between business and practice. Furthermore, they could not only embed research into practice, but also use problems that emerge in practice to drive the research agenda. Such “research translator” roles have been advocated for in the past, but with an even broader scope. For example, it has been proposed that W&O researchers should also engage in policy making activities, in order to help mediate the relationship between different academic institutions and organisational interests, so that practice is driven by strong methodological rigor and not populist science (Anderson et al., 2001; Buchanan & Badham, 2008). Reflecting on how this links in with the current research, it is important to reflect on the complexity of the model tested in chapter 5. It would be difficult, perhaps even unrealistic to expect non-experts to spend the time and understand the intricacies of not only the overarching concepts, but also the relationship between their antecedents and how to translate that into practice. Here is where the “research translator” can have an impact, taking and distilling key insights into actionable, practical elements that can be implemented in the business to drive innovation and WB.

Research has a role in informing policy making. The importance of the evidence that drives policy development has been well acknowledged at the EU level. The European Science Advice Mechanism (SAM) was developed for this purpose, with a cited mission statement of “promoting the dialogue between the highest level of decision making in the Commission and the leading representatives of the scientific community” (European Commission, 2015, p. 3). The SAM is a multidisciplinary group of globally recognized experts, that are tasked with providing independent, objective advice, in a transparent manner, by relying on their expertise but also by engaging with the broader scientific community to provide a multidisciplinary perspective on the complex socio-economic issues facing the EU. Seeing such an institution being established is very encouraging, as it is exactly the type of forum needed to provide a holistic perspective on health, wellbeing and innovation, from a social but also economic perspective. More and higher quality research is also one of the key enablers identified in chapter 6 and such EU organisations could spur more research driven policy development, implementation and evaluation methodologies. Researchers in academic institutions should also take it upon themselves to engage in such fora every time the opportunity arises, as that would make their research more impactful in the real world and would improve the profile of the academic profession in the wider society.

This and the previous two sections outline many factors at the organisational, policy and research levels, which are important in the development of an integrative framework. To better visualize how these would combine into a truly holistic structure, the conceptual figure below is proposed.

Figure 7.1. Integrative model



7.3 Overall strengths and limitations

The work carried out in this thesis has both strengths and limitations, as is the case with all applied research. An important strength of this PhD has been the fact that it approached the questions of wellbeing and innovation from a multi-level, interdisciplinary perspective, in order to answer questions on practice and policy making in these areas. Academics have previously pointed to several research needs (Jain et al., 2018; P. Oeij et al., 2017a), which these studies help address, as will be highlighted in the following paragraphs.

The theoretical model developed and tested in chapter 4 started at the organisational and individual level, but also looked at how the identified factors impact on a macro-level indicator of country innovation performance. To the best of the researcher's knowledge, this approach is novel and has not been tested in other studies conducted at the European level. A further strength of this study was that it has employed a large, representative sample size, which allowed for a more granular investigation of the variables of interest and also ensured that the findings would be relevant for the European Union workforce. Furthermore, the analytical

methodology employed was chosen to be appropriate for the sample characteristics (multilevel population) and measurement methods (ordinal scales). This enabled a higher degree of confidence in the observed effects. This directly addresses a need that has been identified in previous literature namely, to improve the quality of the applied research methods used in the area of WI and WB. Another addressed need was to make better use of European databases, which the quantitative study has also done (Parent-Thirion et al., 2017). Chapter 2 has also aimed to clarify concepts and provide definitions to serve both in this thesis, but also more broadly in future research, which again is a requirement that had been called out.

The combination of quantitative and qualitative methods throughout the thesis meant that the questions that the researcher could address were more complex and could provide insights that would have not otherwise emerged by sticking to one level of analysis. An important strength of the policy review study is that it looked at policies (hard and soft) that would be applicable to all EU member states, therefore the findings should be adequate to inform EU-level frameworks. Furthermore, the structured approach which was employed during the analysis (i.e. the policy scorecard method) increases the reliability and validity of the findings, as it makes the process clear and transparent. The interview study has several strengths as well. First, as it is based on expert stakeholder interviews, it provides key insights that would have otherwise not been available. The importance of the perceptions of key actors in the policy development process had been pointed to in prior research (Ertel et al., 2010; Iavicoli et al., 2011) and this consideration has guided the recruitment strategy here as well. The population interviewed were not only experts, but also had a diverse range of backgrounds, thus providing a breadth of perspectives from multiple angles. As with the two other studies, by relying on well-established methodologies (semi-structured interviews and thematic analysis) the quality and validity of the findings is increased. Overall, it is hoped that these findings will provide a good starting point for researchers, policy makers and practitioners alike, as Oeij et al. (2017) have suggested applied research should.

Nevertheless, the studies also have several limitations. First of all, the data used in the quantitative model has been collected at one point in time, which means that it is harder to speak with certainty about causal relationships. For example, it could be argued that an employee that innovates in how they work also engages in job crafting, therefore influencing the amount of demands and resources they experience on a daily basis. It is therefore suggested that future

research develops intervention studies in organisations, aimed specifically at improving specific working conditions and then measuring wellbeing and innovation at baseline and after the interventions have taken place. Such longitudinal approaches would allow for more clarity as to the direction of the causality. Another limitation has to do with the measurement used, and while a strength of this research comes from using the EWCS data, it can be argued that measurements used in the analysis were not purpose-designed to measure job demands/resources and IWB. While this has been addressed by looking at past research when identifying the variables to ensure conceptual overlap, future research could use questionnaires that are validated for those specific psychosocial factors and outcomes. Intervention studies could, again, be of much relevance here.

As far as the policy review is concerned, it is important to recognise that while the aim of this study was to stick at the EU level of analysis to ensure adequate generalisability of results, this can also be a drawback. As underlined in previous research, some countries are further along with their WI and WB policy agendas, and therefore there might be more information to be gathered from their national policies. However, these policies would not be relevant as far as the situation in other countries goes, and as stated before, the aim was to assess the overall level of policy development at the EU level. Nevertheless, future work could use some of those more detailed national policies to inform practical steps for policy development more broadly as well. Additionally, while it is assumed based on previous research that policies will have an influence on organisational-level outcomes, this assumption has not been directly tested here. It would therefore be useful if future research would incorporate theories that explain the links between public policy and corporate practices.

The limitations of the interview study must also be recognised. First, the fact that the population was made up of experts meant that the potential pool of participants was more limited and harder to reach, and therefore the total sample size was 13. Second, while several over-arching barriers to policy development were identified, these could be further investigated to gain more clarity and a more granular level of understanding, perhaps at specific national and regional levels.

As an overall limitation on the generalisability of the findings, all the studies were based on EU level data, or in reference to EU specific concepts and considerations. Therefore, it is

important that these findings should be primarily interpreted in the context in which they were researched.

7.4 Conclusions

Overall, this PhD has set out to address one important question: can there be an integrated framework, at the policy and practice levels, to support innovation and wellbeing. The socio-economic benefits of such a holistic framework has strategic value in achieving the critical European goals of a competitive economy, driven by sustainable business practices and an innovative workforce. Several relevant learnings have emerged from the work carried out in search for answers to this question.

First, employee wellbeing and innovation are not only compatible, but interdependent. The psychosocial factors that drive wellbeing in the workplace are also those that enable employees to innovate. This is not only good for organisations, but also for the countries, as innovative employees make for innovative nations, which reinforces the idea that innovation happens at the individual level. The insight comes in direct support of the importance of having integrated socio-economic policies. Innovation is enabled not only by technological investment, but also by the quality of the human capital. As this is a core proposition around which this thesis is structured, it was important to evaluate how to address some of the gaps in existing policies, in order to uncover how to develop more holistic frameworks. It became clear that the way forward will likely include both hard and soft policy approaches, but also that there is still much to do before we achieve true integration across the different domains. Multilevel stakeholder engagement, evidence-based policies and practice and having a multidisciplinary approach are the key to a way forward. However, there are still many unknowns and opportunities for future research are abundant.

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Appendices

Appendix A. Ethics approval letter



Investigators: Stavroula Leka and Vlad Dediu

Title of study: Investigating the relationship between determinants of employee wellbeing, innovation and organisational performance: A policy and practice perspective

Duration of study: Until September 2019

Ethics reference number: 244

Faculty of Medicine & Health Sciences

School of Medicine

Division of Psychiatry and Applied

Psychology

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Thursday 17th August 2017

A favourable opinion is given to the above named study on the understanding that the applicants conduct their research as described in the above numbered application, and adhere to all conditions under which the ethical approval has been granted and use only materials and documentation that have been approved. If any amendments to the study are required, an amendment should be submitted to the committee for approval.



David Daley (Professor)

Co-Chair of DPAP Ethics Subcommittee



Amanda Griffiths (Professor)

Co-Chair of DPAP Ethics Subcommittee

Appendix B: Invitation email

Dear Sir/Madam,

My name is Vlad Dediu and I am a doctoral researcher at the University of Nottingham. I am currently undertaking a study aimed at exploring key actors' opinions about how present and future policy frameworks can better encourage the creation of workplaces that promote employee innovation and well-being.

We believe you to be a key person of interest with relevant knowledge and expertise in this area. **OR** You have been referred to us by [insert name] as a key person of interest with relevant knowledge and expertise in this area. We would therefore appreciate it if you would take part in an interview, which will last approximately 30-45 minutes. You can choose to have the interview over the phone, or online (e.g. Skype) or in person [for interviewees in the UK].

A participant information sheet is attached, detailing the aims and procedure of this study. Please note that your participation is entirely voluntary and information you will provide in the context of the interview will be treated anonymously and confidentially.

I look forward to hearing from you, and would like to thank you in advance for your time and attention.

Kind Regards,

Vlad Dediu

MSc (Hons), PhD researcher

Division of Psychiatry & Applied Psychology

School of Medicine

University of Nottingham

Email: vlad.dediu@nottingham.ac.uk

Phone: +44 7955 478 523

Appendix C: Participant information

Division of Psychiatry & Applied Psychology
School of Medicine, Faculty of Medicine & Health Sciences

Project Title: Investigating the relationship between determinants of employee wellbeing, innovation and organisational performance: A policy and practice perspective

Researcher: Vlad Dediu - e-mail: vlad.dediu@nottingham.ac.uk

Supervisor: Professor Stavroula Leka - e-mail: stavroula.leka@nottingham.ac.uk

Ethics Reference Number: 244

This is an invitation to take part in a research study to evaluate key actors' opinions about how present and future European Union policy frameworks can better promote the creation of workplaces that promote employee innovation and well-being. This information is designed to tell you what it will involve.

Your participation is voluntary, and you may change your mind about being involved, or decline to answer a particular question. You are free to withdraw at any point before or during the study. Withdrawal does not require a reason. Once the interview has been completed you can still have your answers withdrawn from the study within 7 days. However, after that period your answers will be anonymized, and it will be impossible to withdraw your data because the link between you and your answers will be lost.

What is the project about?

The present research aims to evaluate your perceptions about the current policy frameworks at the European Union level surrounding the promotion of employee well-being and innovative behaviour in the workplace. We wish to evaluate:

1. What you believe to be the current state of policy efforts in these areas.
2. What you believe to be the major challenges when creating comprehensive policy frameworks aimed at tackling these issues.
3. Whether you think that the current action plans are sufficient.
4. Whether you think that current approaches in policy development are guided and/or informed by substantive research.
5. What you think are or would be best-practice approaches.
6. What you believe are the future directions and efforts to be made, in the short, medium and long term to achieve broader EU targets.

Who is being asked to take part, and why?

Key stakeholders, like yourself, identified through publicly available information from relevant organizations (e.g. EU directorates, employers' associations, trade unions), are being asked to take part in semi-structured interviews because we believe you possess highly relevant and valuable knowledge on the development and implementation of policies in the aforementioned areas (workplace well-being and employee innovation).

What will I be asked to do?

Participants are requested to take part in an interview, which will take around 30-45 minutes. There are several options for conducting the interview. You can choose to do it in-person, over voice-conference (i.e. Skype) or over the phone. A time and date will be arranged in a following email. The interview will be audio-recorded with your permission. Should you not wish for your interview to be recorded, please inform the researcher as soon as possible.

Please keep in mind that participation is voluntary, and you should only take part if you wish to do so. There will be no negative consequences if you do not take part. You can withdraw at any time during the data collection process (interview). You can also inform the researcher within 7 (seven) days after the interview has been completed if you wish to withdraw, case in which your answers will be discarded and destroyed.

Will the research be of any personal benefit to me?

It is not expected that the current research will bring any direct personal benefits to you. This research is conducted as part of an academic qualification (PhD) at the University of Nottingham. However, we appreciate your participation, and feel that the contributions you make to the research are very valuable.

What will happen to the information I provide?

We will follow ethical and legal practice and all information about you will be handled in confidence. 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 which is collected about you during the course of the research will be made anonymous and kept strictly confidential. Anonymized data will only be viewed by the researcher and authorised persons (i.e. supervisor or members of the ethics committee), should there be a need.

As this is an interview study and audio recordings will be made, please rest assured that they will be destroyed after the information has been transcribed. The transcription will be made directly and solely by the researcher. The transcriptions will not hold any personally identifiable information. The transcriptions and recordings (up to the point where they are deleted) will be kept either on a secured, password protected server, or on an encrypted USB drive.

Also note that during the write-up of the research, we might wish to use a direct quotation of something you have said. This will be, of course, anonymized. However, should you not want that to happen, please inform the researcher.

What will you do with the data?

All information will be used for the stated research purpose only (i.e. a study for the PhD). Research data will be kept on an encrypted database for 7 years. During this time all precautions will be taken by all those involved to maintain your confidentiality and only members of the research team will have access to the data. After this time your data will be disposed of securely. Should you wish to learn about the results of this study, please email the researcher directly. Once the study is completed (estimated early 2018), a summary of the general findings can be made available to you.

At the end of the project, all raw data will be kept securely by the University under the terms of the Data Protection Act (1998). The data will not be kept elsewhere. If you have any questions or concerns, please don't hesitate to ask. We can be contacted before and after your participation at the above email addresses.

THANK YOU FOR YOUR PARTICIPATION

If you have any queries or complaints about this study, please contact the student's supervisor in the first instance. If this does not resolve the query to your satisfaction, please write to the Administrator to the Division of Psychiatry & Applied Psychology's Research Ethics Sub-Committee (MS-DPAPEthics@nottingham.ac.uk, +44 (0)115 8232214) who will pass your query to the Chair of the Committee.

Appendix D: Participant consent form

Division of Psychiatry & Applied Psychology
School of Medicine, Faculty of Medicine & Health Sciences

Project Title: Investigating the relationship between determinants of employee wellbeing, innovation and organisational performance: A policy and practice perspective

Researcher: Vlad Dediu - e-mail: vlad.dediu@nottingham.ac.uk

Supervisor: Professor Stavroula Leka - e-mail: stavroula.leka@nottingham.ac.uk

Ethics Reference Number: 244

- Have you read and understood the Participant Information? YES/NO
- I agree to take part in an interview that will be recorded YES/NO
- Do you know how to contact the researcher if you have questions about this study? YES/NO
- Do you understand that you are free to withdraw from the study without giving a reason? YES/NO
- Do you understand that once you have been interviewed it may not be technically possible to withdraw your data unless requested within a week? YES/NO
- Do you give permission for your data from this study to be shared with other researchers in the future provided that your anonymity is protected? YES/NO
- Do you understand that non-identifiable data from this study might be used in academic research reports or publications? YES/NO

Signature of the Participant

Date:

Name (in block capitals)

This consent form will be detached from the completed interview and stored separately. Your answers will not be identifiable.

Appendix E: Interview questions

1. What is your role in your job?
2. How long have you been in this job?
3. Considering present and existing workplace innovation and occupational health and safety policies are they sufficiently detailed, in their coverage of work organization factors and their management?
Prompts: Comprehensiveness of lifelong learning, training and educational policies?
Occupational health and safety policies? Existing policies surrounding workplace innovation?
4. Research indicates that the same factors that promote employee well-being, as well as the amount of skills and training employees have, are also crucial for employee driven innovation. Do you believe that the existing policy efforts are comprehensive for the promotion of employee wellbeing and innovation in the workplace?
5. Do you believe that these policies are aptly implemented at the national level?
 - a. What do you think are the main barriers for implementation?
 - b. Do you have any suggestions as to how they might be better implemented?
6. What are the major challenges that policy makers are faced with?
Prompts: is there sufficient knowledge among policy makers with regards to existing research? Major challenges to the development process?
7. In your opinion what would be some examples of best-practice approaches that have already been implemented or that you would like to see implemented?
8. What do you believe are the future needs, and actions to be made, in the short-, medium- and long-term, in order to achieve a healthier, more innovative workforce, in the European Union?