



The Antinomies of Autonomy: The Social Structures
of Stressors in Ireland and Denmark

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List of Abbreviations

CME	Coordinated Market Economy
D-C	Demand-Control Model
EAP	Employee Assistance Programme
ERC	European Research Council
ERI	Effort-Reward Imbalance
ESS	European Social Survey
EWCS	European Working Conditions Survey
FDI	Foreign Direct Investment
HAPA	High Activation Pleasant Affect
HAUA	High Activation Unpleasant Affect
HR	Human Resources
ICT	Information Communication Technology
IT	Information Technology
JD-R	Job Demands-Resources
JIT	Just In Time
KIF	Knowledge Intensive Firms
KPI	Key Performance Indicators
LAPA	Low Activation Pleasant Affect
LAUA	Low Activation Unpleasant Affect
LME	Liberal Market Economy
MNC	Multinational Company
MUSSI	Maynooth University Social Services Institute
NGO	Non-governmental Organisation
WLB	Work-life Balance

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Summary

Autonomy is a core aspect of the labour process, working conditions, and the relationship between working conditions and well-being. Developments in technological capacities, networked production, occupational structures, and organisational flexibility, have altered the dynamics of autonomy. High levels of work autonomy can now present counter-intuitive demands and contradictions which challenge the experience of self-regulation, discretion, and freedom at work - the *Antinomies of Autonomy*. In negotiating the decisive and interlinked post-industrial work bargains of effort, boundaries, and employment, different antinomies emerge which can present unique forms of stressors. The interrelated dynamics of the autonomy and antinomies within these post-industrial work bargains present difficulties for models linking working conditions and well-being outcomes (Bakker and Demerouti 2007, Karasek 1979, Siegrist 1996). The key mechanisms shaping the impact of work on psychological well-being go beyond the individual and a work 'place'. The thesis thus presents a sociological framework centred on a stressor (Wheaton 1999) - capability (Sen 1999, Hobson 2014) pathway.

Employing a comparative case study method, the research draws from in-depth semi-structured interviews with IT workers in Ireland (n=17) and Denmark (n=14) to explore the antinomies, strategies and stressors of autonomous working lives and how they are shaped by different institutional contexts. The interviews involved psychosocial work environment and job related feelings surveys, alongside more detailed discussions of work and employment conditions in IT. The survey data shows an association between high autonomy and high demands for the Irish interviewees but not the Danish, and a surprising lack of feelings of excitement, enthusiasm, and calmness at work.

The qualitative analysis identifies three mutually reinforcing antinomies of autonomy - interdependence, boundarylessness, and fusion - occurring within the

labour process, working conditions, and the employment relationship respectively. The strategies and stressors emerging from these conditions are based on the 'capability sets' available within each institutional context. The analysis shows how Danish interviewees drew on more collective and institutional resources and norms in developing working life strategies. The Irish interviewees described strategies sourced and sustained mainly at the individual level. The thesis illustrates the complex interplay of post-industrial work bargains, the antinomies of autonomy, institutional capabilities, and the social structure of stressors of working life.

Chapter 1 A Reflective Introduction

....in the long history of scientifically analysing the relationship between subjective feelings and external circumstances, there is always the tendency to see the former as more easily changeable than the latter. As many positive psychologists now enthusiastically encourage people to do, if you can't change the cause of your distress, try and alter the way you react and feel instead. This is also how critical politics has been neutralized...If there are to be social and political solutions to the problems which cause misery, then the first step must be to stop viewing those problems in purely psychological terms (Davies 2015:254-255).

On the 9th of February 2012 I sat in a boardroom accompanied by approximately 20 Human Resources (HR) directors and Corporate Social Responsibility representatives from various high profile private and public sector employers in Ireland. We were there to spend the day with a respected organisational psychologist, learning about the concept and importance of "resilience" in the modern workplace. As part of my previous role working for a non-governmental organisation (NGO) researching workplace inclusion, I was there to arrange and co-host the training session for some of our project partner companies who were looking to address the rising levels of stress, presenteeism, absenteeism, and mental health issues in general in their organisations.

Thoroughly engaged in the session, the attendees recounted the various psychological support policies of their companies and were eager to learn how resilience might help them reinforce the support offered to their employees. The opportunity to learn how they could improve their own resilience and that of their staff was deemed important and timely. The training content emphasised how the mind and body are connected through the immune system and the nervous system respectively, how negative mental health outcomes can be a response to malfunctioning environments, and the importance of the meaning process in interpreting experiences via the interaction of events and responses . While not stating it explicitly, the presenter accentuated a point of view underscored by the existentialism of Viktor Frankl (1978), emphasising that biology is fuelled by meaning. It is around this sense of purpose and meaning that resilience is

constructed. The employer's role in fostering resilience lies in the empowering and engaging of individuals so as to provide them with choice, meaning, and subsequently, a reinforced ability to absorb change. Although the presenter, and the material, noted that individuals have unique limits, and that unhealthy working environments can propagate unhealthy responses, by the end of the day-long session I was struck by the tone of the questions and comments. Two themes resounded; the session was very valuable from an individual and reflective perspective, and; "how do we now make our staff more resilient?". The attendees - who had significant influence on the working conditions of their staff - seemed to take on board the key messages of the training for themselves as individuals. But when it came to their organisational position, they had only one question; how can we take what we have learned today and modify it for our own staff so that they can improve their own resilience?

Unbeknownst to me initially, my background in Sociology (it had been six years since completion of my Masters in Sociology) propelled a number of queries to the forefront of my thoughts. Implicit within much of the post-training session conversation was that the solution (and therefore the problem) to the workplace stress issue lies in the individual worker. Worryingly one of Frankl's most prominent messages regarding context and psychological well-being; 'An abnormal reaction to an abnormal situation is normal behaviour' (1978:18)¹, was being overwhelmed by the economic imperatives placed on managers tasked with the maintenance of productivity and profits. The focus was therefore on "improving" individual resilience and sustainability rather than the working conditions. Biting my lip for the sake of project partner rapport (and my job!), I walked out of that boardroom with two things; more information about neurobiological processes, and niggling worries about the nature of the questions posed about the relationship between working conditions and psychological well-being. Resilience and employment assistance programmes which offer psychological counselling may end up treating the symptom rather than the condition. If these problems are socio-economic, shouldn't they require socio-political solutions? What if the source of these issues

isn't the individual? Looking back now I realise that day was an essential influence on the genesis of this research.

Six months later I was beginning a PhD in sociology on the comparative psychosocial stressors of working life. Approximately 18 months later I was reminded of that resilience session while listening to a Danish academic describe a study where the company had a very advanced and individually tailored workplace stress policy. Employees could access support from psychologists and, where required, negotiate time off. The working conditions were very intense with a hectic pace, many deadlines and very long hours required to meet them. Unsurprisingly, many workers were "going down" with stress. The academic noted that really the only way out of these working conditions was to be ill; an employer sanctioned and psychologist ratified ill. Just like the resilience session I attended, these recounted findings provide another example of circumstances where "supports" provided for workers' psychological well-being serve to locate and define the issue solely within the individual, obscuring the role of working conditions and minimising any opportunities for critique. As indicated by Davies (2015), the corporate sponsored focus on the biological manifestations of well-being and misery within the science of happiness, and the subsequent focus on psychological supports and interventions, has two pernicious side-effects; it restricts the spotlight of workplace and psychological well-being to the individual, and silences any critical social perspectives as being part of the problem.

A Sociological Spotlight

A sociological approach to the work and psychological well-being relationship can assist in making critical social perspectives more audible in this context of pathologised workers. Concentrating only on the ways in which employers can psychologically support workers to adapt to, and recover from, often unpredictable, insecure, and intense working rhythms only serves to ignore the working conditions themselves. It is the individual who requires reinforcing, rather than the

organisation of work, conditions at work, leadership style, or organisational culture which requires amending. Reframing the working conditions and psychological well-being debate in terms of stressors, conditions, and contexts can re-illuminate the simple fact that; '...we must consider that working conditions determine the conditions of workers' (Schnall et al. 2009:335).

Within the conjunction of a hegemonic neoliberalism, post-industrial occupational structures, and organisational flexibility, working conditions have generally become more engaging, more autonomous, more collaborative, more intense, and more insecure (Eurofound 2015). Rapidly developing technological capabilities, an increasingly volatile global capitalism, the valorisation of shareholder value, and the vertical disintegration of organisations have rendered flexibility a common feature of work, and a required capacity of workers (Sennett 1998, Smith 1997). In a post-crisis environment of increased job losses, unprecedented debt, narrowing social protection systems, and greater demands on workers within jobs and labour markets, the task facing European states, and employers within them, is the maintenance of a labour supply that can adapt to these insecure and unpredictable circumstances whilst maximising productivity levels and minimising the detrimental health outcomes. These structural shifts have subsequently transformed the employment relationship, the organisation of work, the demands of working life – and the way work affects workers. Trends across Europe indicate a general increase in the level of psychosocial risk factors of work, particularly in the form of high psychological demands, consistent working at high intensity, and heightened job insecurity (Eurofound 2010, Stavroula and Jain 2010). The effect is often a detrimental impact on workers' levels of job satisfaction and well-being, despite increased economic affluence (Green 2006). In line with these concerns various EU communications and directives (i.e. The 1989 Framework Directive) on health and safety at work have cited psychosocial issues and work organisation as research priorities.

Yet, in what Davies (2015) describes as a 'competitive-depressive' society, the corporate frame for solutions to these conditions is limited to the individual worker.

Terms such as "burnout", "exhaustion", "anxiety", "depression", "presenteeism", and "stress" are often twinned with "changing workplace", "workplace culture", "redundancy", "insecurity", and "time off" in newspaper article headlines across the world. There is some irony in business associations and states highlighting the economic impact of workplace stress, absenteeism, and presenteeism without emphasising the economic organisation's impact on these outcomes. The costs of these forms of individual withdrawal, disengagement, and resistance are regularly calculated in relation to national GDP rates (e.g. days of business lost to stress), thus simultaneously monetising and pathologising individual workers, rather than workplaces or working conditions. 'Healthy workplace' campaigns thus come to focus on human capital and economic cost models which rely on a psychologically bounded view of the problem and solution. The economic costs of stress-as-an-outcome serve to distract from the economic organisation of stressors-as-potential-cause. This thesis seeks to sociologically re-evaluate this reductionist 'business case' view of working conditions and well-being.

Work and health are linked through a multi-level, multi-causal, and multi-directional path. Nonetheless, both sociological and psychological approaches converge on the point that work can contribute to, and even cause, psychological distress. However, exposure to different types of working conditions and work related resources varies across regions, states, industries, occupations, organisations, positions, and even individuals. Countries contrast across a number of work-related dimensions, including; welfare states (Esping Andersen 1990), production regimes (Gallie 2007; Hall and Soskice 2001), work organisation (Arundel et al 2007), working conditions and stress (Gallie and Zhou 2013), health and well-being at work (Eurofound 2012), and work-life balance (OECD Better Life Indices: oecdbetterlifeindex.org). Working lives are made up of a package of institutionally shaped bargains affected by employment policies, health and safety legislation, economic regulation, welfare policies, and organisational procedures. These bargains compose the general array of demands and resources of working life. When it comes to working conditions, stressor generation, and psychological outcomes - social context matters; 'Mental health is not a mystery, nor is it

something that happens to other people: it is as structural as it is individual' (Fillar 2014: opendemocracy.net/transformation/ray-filar).

The term 'stressor' is usually caught up in more psychological literature related to the stress process (Selye 1956) and therefore often suffers the same ubiquitous application as 'stress'. However with a clear conceptual definition and appropriate use, 'stressor' is a term which offers sociological insights on the impact of working conditions. Based on its original application in engineering, Wheaton (1999) defines stressors in terms of threats, demands, and structural constraints which challenge the capacities of the individual. The emphasis here is on the composition and transmission of external pressures, which may or may not result in physiological effects for the individual. In this format, stressor is a psychosocial concept bridging aspects of the structural environment of workers and the psychological pressures. A sociological de-construction of stressors is further strengthened by the use of the 'capabilities' framework (Sen 1999) which provides a conceptual tool for studying the divide between individual's valued goals ('functionings') and the opportunities available ('capabilities') to achieve them. Sen's focus is the freedom, autonomy, and choice required for human development across a multitude of circumstances. More sociological applications of Sen's individualist approach have highlighted the role of 'collectivities' (Miles 2014) and 'situated agency' (Zimmerman 2006) in shaping the range of capabilities available. Hobson (2014) uses the capabilities framework to analyse the range of choices available for managing work-life balance and quality of life across different institutional settings. Such an approach also assists in explaining the institutional effect on the threats, demands, constraints, and individual capacities which define the stressor process.

A 'capability set' (Hobson 2014) contains individual, institutional, and societal/cultural factors which provide different resources for workers to shape how they respond to the various demands of working life. This multi-dimensional scope broadens the frame of factors impacting on the experience of work and accounts for the variation of resources and constraints for men and women in similar societies, occupations, and positions. The resources and effective choices of

the 'capability set' affect the experience of external demands, threats, and structural constraints, and therefore represent a key facet in the stressor construction process also. These capabilities provide non-neurobiological (i.e. social) forms of resilience which augment workers' options for controlling and managing the increasing demands of working life. The key condition of working life which underpins these capabilities, as well as job quality, the contestation of the labour process, and well-being outcomes, is autonomy; 'Virtually every identified psychosocial stressor that impacts health assesses control at some level of existence...'(Schnall et al. 2009: 337).

Keeping Autonomy Under Control

The social implications of economic organisation have been an analytical ever-present for Sociology, through the primary figures of Marx, Weber and Durkheim, to the industrial sociology of the 1960's and 1970's, the labour process studies of the late 70's and 80's, and the subsequent analytical shift towards the 'situated' agency of workers (Hobson 2014, Hodson 2001, Sherman 2007). Sociological investigations have highlighted various ways in which the organisation of work impacts on workers through correlates of specific sets of working conditions, including control, autonomy, self direction (Marx 1964; Blauner 1964; Kohn 1976) and dignity (Hodson 1996, 2001). Common to all of these research endeavours is the balance of employer control and employee autonomy across a multitude of different technical and social working contexts. Studies using the longitudinal survey data of British civil servants in the Whitehall II studies stated that job control is one of, if not the, most important factors impacting on the health outcomes of workers; 'Of all the factors that the Whitehall researchers have studied over the years, job stress and people's sense of control over their work seem to make the most difference' (Wilkinson and Pickett 2009:75). Within psychology, theoretical models linking working conditions and health outcomes also point to the benefits of skill discretion and decision latitude in reducing levels of 'strain' on the job (Karasek 1979). Whether used in terms of job control, skill discretion, decision latitude,

freedom, choice, or influence, the opportunity to 'direct one's own occupational activities' (Kohn 1976) is fundamental to the employment relationship, job quality, and the relationship between working conditions and well-being.

Edwards (1979) delineation of different types of control mechanisms (simple, technical, bureaucratic) highlights the 'contested terrain' of the workplace where production systems represent the outcome of the continuous clash between worker strategies of resistance and capitalists seeking increased control and profit. However, the flexible working practices of post-industrialism have altered the character of this clash. In broad terms this has entailed a shift from traditional employer control structures (time and pay) to more normative mechanisms (organisational culture, occupational expectations, employability). At a very general level, workers have higher levels of autonomy, endure an increased variety and intensity of demands (quantitative, cognitive, and emotional), and are more insecure in their employment. Workers have become both more important and more disposable to organisations (Sennett 1998) and working lives are becoming increasingly shaped by institutional contexts (Budd and Spencer 2015, Grönlund 2007). While remaining fundamental to the employment relationship, the nature of control and autonomy at work has transformed in line with these structural shifts. Autonomy has become more prevalent across the occupational spectrum whilst bringing with it porous responsibility, intensity, and demands associated with the blurring of work-life boundaries (Allvin 2008). Furthermore, high autonomy does not protect from the uncertainty of insecure employment relationships (Glavin and Schieman 2014).

Emerging evidence from sociology of work literature has now begun to question the taken for granted positive effects of high levels of autonomy at work, especially within highly autonomous post-industrial occupations (Schieman et al. 2006). Thus high levels of autonomy at work complicate Edwards' (1979) binary poles of employer control and employee resistance as new working rhythms of standardised processes and individualised discretion and flexibility (Hvid et al. 2008) mean that control *in* work is no longer linked to control *of* work (Lund et al. 2011).

'Responsible autonomy' (Friedman 1977) has become ever more complex. In such working contexts of high autonomy, wide-ranging and porous demands, and fluid work-life boundaries, the institutional context becomes a key factor in managing the dynamics and stressors of autonomous work. Hence, the autonomous working life itself becomes a complex, multi-dimensional, context-influenced 'contested terrain'.

Autonomy, and its unique working life demands, can bring about circumstances which paradoxically reduce the sense of freedom and control. The title of this PhD, *The Antinomies of Autonomy*, refers to these counter-intuitive complexities, contradictions, demands, and stressors arising for post-industrial workers with high levels of autonomy at work. Regarding the title, it is also worth noting that Martin (2013) uses the same term in a philosophical study using German idealism to investigate the counter-intuitive structures within English mental health legislation. In order to unpack the complexities, demands, and dynamics of autonomy, it must be located. This study locates autonomy in two different ways; using a sample of IT workers with similarly autonomous roles, tasks, and demands, and comparing the capabilities and stressors for these IT workers across the different institutional contexts of Ireland and Denmark. IT work presents an interesting sectoral context for the intricacies of autonomy at work as it contains skilled workers with high levels of discretion yet is also at the forefront of market-dictated demands. Taking the post-industrial work bargain framework developed by Ó Riain, Behling, and Byrne (2016), the study unpacks the experience of autonomous work at the level of working conditions (time and boundaries bargain), labour process (effort bargain and internal relations), and labour market (employment/career bargain). Thus investigating the particular forms of stressors emerging within these different bargains. The study provides a sociological perspective on the stressors of autonomous IT work across two different institutional settings; Ireland and Denmark.

Contextualising the Thesis

This doctoral research was undertaken as part of the *New Deals in the New Economy* research project. The project is located in the Department of Sociology and the Maynooth University Social Science Institute (MUSSI), in Maynooth University. Funded by a European Research Council (ERC) Starting Grant and led by Professor Seán Ó Riain, the *New Deals* project investigates how workplaces across Europe are being transformed, how new workplace bargains are emerging and how these bargains are institutionalised within broader socio-political contexts. Thus moving beyond the binary distinction of liberal and coordinated market economies in the 'Varieties of Capitalism' framework (Hall and Soskice 2001). Using representative cross-national survey research from the European Working Conditions Survey (EWCS) (1995, 2000, 2005, 2010) and industrial case studies in the small, open economies of Ireland (liberal) and Denmark (co-ordinated), the project seeks to integrate sociology of work and political economy perspectives in order to analyse how emerging workplace bargains are structured by the institutional context in which they are embedded. The EWCS data allows a multilevel analysis of the types of workplace regimes emerging across Europe, particularly in relation to pay, process, careers, and working time. The case studies enable a more nuanced investigation of the social and political processes through which these working bargains and practices become institutionalised in different structural contexts. A comparative case study approach is well suited to the analysis of these embedded social dynamics (Ó Riain 2009).

The industries of interest were theoretically selected in line with Bell's (1973) depiction of the categories of service work emerging within the post-industrial society; social services, producer services, personal services. Consideration was also given to those industries whose organisation and conditions were likely to have influence beyond their respective sector. In effect this resulted in the selection of health (social), IT (producer), and retail (personal) as the case industries for the *New Deals* project. Each industry case study would entail interviews with industrial relations analysts, academic observers, organisational experts, managers, and 15 -

20 workers. As the project progressed it proved very difficult to gain access to interviews with workers in retail in both countries, thus this sector was limited to meso level institutional style interviews.

The *New Deals* project is interested in how capitalism is constructed across different institutional and social contexts in Europe. In other words, how capitalism is enacted via the social basis of economic organisation - in the form of economic policies, industrial relations, production methods, organisational practices, occupational structures, and working conditions. My doctoral research is also interested in context - but from a more micro perspective. More specifically how the combination of capitalism and social context provide autonomous workers with different demands, resources, capabilities, and stressors of working life. Inherent within this approach is a comparative analysis of the dynamics of autonomous IT work across different social, political, and organisational contexts. In other words what are the strategies and practices used to managed the demands of working life for high autonomy IT workers in Ireland and Denmark? How does the interplay of autonomy in work, structural context, and capabilities affect the manifestation of stressors? Such an approach encapsulates not just working conditions but the institutional resources that reside outside the workplace, yet are still used to manage the demands of working life. The societal features of Denmark and Ireland are thus linked to individual experiences and work-related stressors through a focus on autonomy as a crucial condition of working life. In summary, while the thesis shares a basic design and empirical data with the *New Deals* project, my research explores more micro-level phenomena (e.g. experience of work demands, stressors, job-related feelings etc.) using data that was for the most part collected my me.

Ireland and Denmark present social contexts facing similar challenges within globalised capitalism, yet structured by distinct social and political institutions. As such, they offer comparative cases which provide much insight into the role of different institutional contexts as they shape workplace bargains, the nature of autonomous work, and stressor manifestation. Both are small open economies of similar population size which rely primarily, although in contrasting manners, on

external markets (foreign direct investment in Ireland and export markets for Denmark). Both saw agriculture play an important role in the economic bases of their economies. However, most importantly, Ireland and Denmark represent different social and political structures with Ireland regularly, sometimes uncomfortably (Ó Riain 2014), identified as a liberal market economy and Denmark as a coordinated market economy (Hall and Soskice 2001). Additionally both are usually located in alternative welfare state typologies (Esping Andersen 1990).

An Irish context of socio-economic conservatism and liberal welfare state provides workers with limited economic regulation, alongside limited security and social supports. Whereas the more interventionist Danish setting offers workers a wider range of publicly financed supports in return for higher economic regulation. In terms of working conditions, general levels of autonomy at work are regularly cited as much higher in Denmark (Arundel et al. 2007; Gallie and Zhou 2013). The countries also offer an interesting comparison of the impact of more autonomy economically (Ireland) versus more autonomy at work (Denmark) and how both, in conjunction with institutional resources, influence the management of demands and stressors of modern working life. Additionally, cross-sectional surveys of European workers have also noted Denmark as scoring more positively than Ireland on various indicators of quality of life, working conditions, and psychological well-being (Eurofound and Bertelsmann Stiftung 2014, Eurofound and EU-OSHA 2014, OECD 2014; 2012). The case countries thus present a pertinent instrumental, and institutional, frame from which to explore the different forms and consequences of high autonomy for IT workers across both contexts. The purpose of this thesis is to reintroduce context to the work and well-being analysis in two ways - shining the spotlight on the social structure of stressors autonomous workers face rather than on individual disorders, and on the role of the institutional context in shaping the options available for workers to manage the demands of high autonomy work. In doing so the thesis will be structured as follows.

Chapter two describes current macro-level developments in post-industrial work and how they are presenting new types of demands and an increasing range of

psychosocial risks for workers with autonomy. Noting these transformations the discussion reviews the changing context of control and autonomy at work as addressed by the labour process literature, before presenting a framework which addresses the key bargains of post-industrial work (Ó Riain et al. 2016). The chapter also contrasts the institutional contexts of Ireland and Denmark, noting the differences in the organisation, and experience, of work.

Autonomy at work has an important but varied history, and has become more complex in the current working world. Chapter three attempts to unpack the nature of autonomy in its current form. Detailing a number of studies from countries such as the Netherlands, Denmark, Canada, the US, and Ireland, the discussion highlights the contradictions arising for workers with high levels of autonomy. Using the key bargains of post-industrial work presented in the previous chapter as a structure, the analysis investigates whether the character, dynamics, and effects of autonomy are changing in line with post-industrial work, to the extent that work autonomy itself has become a contested terrain.

Chapter four details some of the most influential theoretical models linking working conditions and health outcomes. Originating mainly in the fields of organisational psychology and occupational health psychology, these models highlight the type of conditions which present psychosocial hazards for workers. Due to the limited workplace frame of these models, they ignore the role of the structural context in which work is taking place, and the various contingent demands which come with, and impact on, autonomy at work. The discussion points to a need to introduce a more sociological approach to the work and psychological well-being relationship. Emphasising the role of stressor construction, the chapter presents a re-contextualised theoretical framework which portrays the link between institutional contexts, capabilities (Hobson 2014), the stressor process (Wheaton 1999) and the psychological well-being of workers. This framework underpins the analysis within the study.

Chapter five explains the methodology of the study. Beginning with the realist philosophical foundations of the approach and how this fits with the study topic, the chapter highlights the context in which the study took place, the key methods undertaken, and the research instruments utilised to investigate the social structures of stressors across autonomous working lives in Ireland and Denmark.

Utilising data from the fifth wave of the EWCS (2010) to ground survey responses from the research participants, chapter six presents a descriptive analysis of working conditions in Ireland and Denmark. The analysis replicates the Demand-Control (D-C) model (Karasek 1979) in order to identify the types of conditions faced by IT workers studied in Ireland and Denmark. Warr et al.'s (2014) affect quadrant circumplex is also used to link participants' working conditions with how work makes them feel. The chapter highlights some interesting differences between working conditions in Ireland and Denmark, and some counter-intuitive results in terms of working conditions and job-related feelings.

Chapters seven, eight, and nine use the qualitative data from the semi-structured interviews to answer some of the puzzles and country differences emerging from the analysis in chapter six. These chapters present the three key antinomies of autonomy arising for the participants as they manage the demands of autonomous working lives at the level of working conditions (boundarylessness), the internal relations of labour process (interdependence), and security within the post-industrial employment bargain (fusion). In negotiating the balance between freedom and responsibility, autonomy and anarchy, and employability and the self, the participants described the different mechanisms which can become stressors, and the different, context-based capabilities used to manage these antinomies of autonomy.

Chapter ten concludes the study with a summary of the main findings and key contributions of the research. The discussion integrates the main findings of the study and presents the antinomies of autonomy emerging within the post-industrial bargains of the Danish and Irish participants. Extending the Nordic literature of

Allvin (2008), Hvid et al. (2008, 2010) and Lund et al. (2011), the chapter illustrates the conditions under which autonomy presents its own unique, and linked, antinomies for IT workers in Ireland and Denmark, and how the resources offered by different institutional contexts provide individual and collective capabilities from which to manage these demands. The findings also sociologically re-locate the traditional theoretical models by illustrating the linked role of social context and stressor manifestation.

The relationship between working conditions and psychological well-being goes beyond the individual. The stressors of working life, which are the psychosocial link in this relationship, are the result of the interplay between institutionally and occupationally shaped work bargains, and the capabilities provided to manage their inherent demands. As such, the demands and effects of work have moved beyond a 'place'. Central to the dynamics and effects of these processes is higher levels of autonomy. Highlighting the macro-transformations in which autonomous work operates, a sociological framing complicates the assumptions of autonomy in organisational psychology (Bakker and Demerouti 2007, Karasek 1979), especially in contemporary high autonomy working contexts. Autonomy now brings its own demands (e.g. cognitive and work-life balance), and must be negotiated alongside high intensity and insecurity. The cognitive demands of such roles, alongside the indeterminacy and insecurity of deregulated neo-liberalism (Berardi 2009) has augmented the role of economic imperatives in shaping the rhythm of working lives.

The question arises as to whether workplace autonomy, so often perceived as a positive condition which limits the negative impact of work, now brings its own unique stressors within the bargains of post-industrial labour. How 'freeing' is autonomy within the cognitive labour processes of post-industrial knowledge work? In a study of working conditions and mental health in Europe, the OECD underlined a key point; '...what matters most are the mechanisms by which normal stress turns into bad stress' (2012:61). Bringing together the key bargains of post-industrial labour (effort, time, employment), and the role of the institutional context in

providing resources to manage the demands emerging from these bargains, the thesis explores the working conditions of IT workers in Ireland and Denmark to present a sociological illustration of the mechanisms structuring the dynamics and stressors of autonomous work.

Chapter 2 Working Conditions and the Conditions of Workers I: A Post-Industrial Context

Introduction

In order to establish a basis for the sociological analysis of the stressors of autonomous working lives, the chapter begins with a review of macro-level developments in working conditions. The discussion depicts the broad trends in working conditions across Europe and highlights the increasing risk of psychosocial hazards faced by workers across Europe who are exposed to conditions of high intensity, increasing autonomy, and limited security. Reviewing sociological literature the analysis then tracks the general developments in the organisation of work from Fordism to post-industrialism, describes in detail the trajectory of control and autonomy within the labour process literature, before presenting a conceptual frame which assists the investigation of post-industrial working conditions. Finally, the chapter compares the working contexts in the small, open, post-industrial economies of Ireland and Denmark which have seen significant employment growth (Ireland) or persistently high employment rates (Denmark) since the 1990's. This comparison illustrates the significant role of the institutional context in shaping trends in the organisation of work, and the experience of working conditions.

European Trends and Psychosocial Risks

The Europe 2020 strategy of the European Commission has prioritised 'inclusive' and 'sustainable' growth in a time of post-recession instability. The importance of the mental health of workers has thus been repeatedly acknowledged at state and EU levels (EU Commission 2007). Broad transformations in political and economic activity have altered the options available for organising work, the form the demands of working life can take and, significantly, the way work affects workers. In particular, the psychosocial aspects of work have recently received greater

attention (OECD 2012, Stavroula and Jain 2010). The psychosocial aspects of work refer to job resources, demands, social structures and interactions which influence the psychological functioning of employees (Knudsen et al. 2011). A range of international reports have depicted the increasing pervasiveness and significance of psychosocial risks at work across Europe, particularly in the form of high psychological demands, consistent working at high intensity, and heightened job insecurity (Eurofound 2010, OECD 2012, Stavroula and Jain 2010). These conditions present a range of stressors for European workers. High levels of work intensity are strongly correlated with the experience of work-related stress (Eurofound 2015). According to Eurofound and the European Agency for Safety and Health at Work (EU-OSHA) (2014), approximately 25% of European workers say they experience stress at work always or most of the time. The twin message from European research evidence implies: working conditions can have a negative effect on workers' psychological well-being, and the types of conditions usually depicted as having potentially negative psychological effects on workers are on the rise.

Based on nationally representative surveys, the first findings from the 6th EWCS provide an up-to-date overview of the working conditions faced by European workers. These findings point to a structural composition of work that is increasingly shaped by post-industrial work with the level of professional occupations up from 13% in 2005 to 19% in 2014, and sales and service workers up from 13% in 2005 to 17% in 2014, alongside reduced levels of craft workers and plant and machine operators. Perhaps the most important working condition in terms of effects on psychological well-being is autonomy at work due to its potential to augment a sense of personal control over work events (Ross and Mirowsky 2013). According to Eurofound (2015), job autonomy has seen another slight increase for both men and women and has increased steadily since 2005. Just under a third of employees work in a 'high-involvement organisation' (high task discretion and organisational participation). A further 22% reported an increase in the influence they have over their jobs over the last 12 months. In terms of traditional job quality indicators, these findings are quite positive. However other findings from the 6th EWCS (Eurofound 2015) complicate this picture;

- Approximately one third of workers work 'all the time/almost all the time' to tight deadlines and at high speed .
- 16% of workers 'tend to agree' or 'strongly agree' that they may lose their job over the next 6 months.
- One third of workers have irregular working hours.
- 30% of workers divide work across multiple locations.
- 45% worked in their free time to meet job demands over last 12 months.
- 52% worked at least one Saturday per month.
- 14% worry about work in their spare time 'always' or 'most of the time'.
- 21% stated that they 'always' or 'most of the time' feel too tired to undertake household tasks.
- Always experiencing the feeling of work well done has decreased from 51% in 2005 to 40% in 2015.

These figures depict an experience of post-industrial work typified by autonomy, intensity, insecurity, and increasingly indistinct work-life boundaries. All of which are interlinked, and pivotal to work-life balance and psychological well-being (Cottini and Lucifora 2010). Employee well-being is maintained by balanced working lives - characterised by increased levels of discretion and involvement combined with reasonable workloads (Boxall and Macky 2014). On the one hand work involves more discretion, participation, and influence. On the other, it demands more of workers' time, minds, and lives. A central paradox here is that working conditions seem to be improving whilst becoming increasingly more hazardous in terms of psychosocial risks (Green 2006). Autonomy is consistently viewed as a key indicator of job quality and a positive force in the relationship between work and well-being (Gallie and Zhou 2013). Yet, in a context of increasing autonomy at work, psychosocial risks, intensity, and stress also seem to be on the rise. High levels of autonomous conditions (discretion, involvement, control) do not seem to protect from the stressful consequences of high intensity, work-life conflict, and insecurity. High autonomy may actually instil the psychosocial risks of high intensity and insecurity with further demands around responsibility and collaboration. The question arises as to whether autonomy functions unexpectedly in a transformed context of such intensity and insecurity? Are there conditions under which autonomy becomes a negative rather than positive force? Is it the core features of

work autonomy that matter, or are there different kinds of socially organised working life autonomy? These are the key puzzles driving this study.

In order to explore the post-industrial functioning of autonomy and its impact on stressor generation, this study will investigate the qualitative experience of autonomous working lives for men and women working in IT across the different societal contexts of Ireland and Denmark. The IT sector is usually at the leading edge of work organisation design and offers skilled workers high levels of autonomy usually in the form of flexibility, control, and skill discretion. However, it is also a sector at the coalface of the marketised intensity of global capitalism (Benner 2002).

Intensity & Insecurity

Gallie and Zhou (2013) use European Social Survey (ESS) data to examine trends in job quality pre and post financial crisis and note that a rise in work intensity affected all occupational classes between 2004 and 2010. Particularly striking rises in intensity occurred in the lower professionals/managers and lower sales/service employees, perhaps reflecting the crisis effect on increasingly prevalent professional occupations and service sector workers as outlined by Eurofound (2015). In attempting to explain the contradiction of more skilled, fulfilling, well-paid jobs alongside decreased job satisfaction, Green (2006) points to work intensification as a driver of both economic growth and detrimental work quality outcomes; '...the employer's interest is to extract the best performance from workers, not to generate their maximum well-being' (2006:166). Teamwork and 'participative' work forms have emerged as important organisational strategies and have also been correlated with an increase in the demands of work (Hodson 1996). More broadly, Rosa (2015) points to the acceleration and intensification of time as the defining aspect of modern society.

Deciphering a logic of accelerated temporal structures of modern society, Rosa (2015) outlines three internally related and mutually reinforcing types of acceleration: technical, social change, and pace of life.

Each of these types also has a related 'external motor' which further propels these within a spiral of acceleration. Technical (and technological) acceleration is driven by an economic motor i.e. 'time is money'. The acceleration of social change is driven by a 'social-structural motor of functional differentiation' (i.e. institutions such as the division of labour and professions which multiply arenas of social action). Finally, the pace of life is driven by the 'cultural promise of acceleration' (i.e. the secularization of society, contesting of eternal after-life, and acknowledgement of the limited time of life-spans). The acceleration society is evident in the point that technical acceleration should make more time available for leisure pursuits - thus a slower 'pace of life'- but often it results in a paucity of time. The combination of technological development and social engagement seems to have increased the pressure of time rather than alleviated it (Wacjman 2015), with Rosa warning against a qualitative experience of socially shaped time which leads to modern forms of alienation and loss of control within working lives due to the overarching power of a self-propelling acceleration. Those who have more time control often experience the highest levels of intensity (Schieman et al. 2006), while 'rushing' is linked to being a woman and work-life conflict (Strazdins et al. 2016). Temporal demands and practices are shaped by the different demands and expectations associated with occupational and traditional gender roles.

Rosa's (2015) theory illuminates the context in which time across work and careers is intensified in various manners. Techno-economic acceleration delivers tasks and demands to workers at a greater pace (Green 2006) while also permeating the boundaries between work and non-work life (extensification). Social change acceleration places more expectations on workers in terms of what an occupational role requires (e.g. networking, collaborating, professional qualifications, organisations, time required to meet responsibilities of management roles). This is particularly problematic for women where traditional gender roles conflict with the

ability to meet these expectations. An accelerated pace of life compresses the demands of balancing work and non-work goals over a career. The result is often a quantitative overload which leaves workers '...having too much to do, in too little time, at too high a pace, with too few resources' (Wichert 2002:97). Embedded in an accelerated global society, the temporal structures of working lives are becoming increasingly intensified as time is experienced socially, mobilised by individuals, and politicised by organisational goals (Ó Riain 2006). Macro level forces percolate down through the quality and experience of an intensified work time as organisational flexibility and networked production binds job security to firm competitiveness (Thompson 2003).

Wichert (2002) finds consistent evidence for the relationship between increased levels of both job insecurity and work intensification, and decreased levels of psychological well-being. It is the feeling of a lack of control which underlines the stressful effects of both insecurity and intensification. Highlighting the difference between control *in* work and control *of* work, insecure circumstances reduce feelings of mastery - even in conditions where workers have high levels of task and schedule control (Glavin and Schieman 2014). This distinction in control abilities emphasises the influence of the market and society rather than simply firm or individual level resources. Highlighting the effect of chronic exposure to both job insecurity and work intensification, Wichert notes that both are aspects 'we do not get used to'. Not only is job insecurity itself a stressor, but it can also enhance the stressful effects of other work pressures i.e. qualitative work intensification whilst meeting quantitative workloads and deadlines (Wichert et al. 2000, 2002).

Job insecurity taps into instability and uncertainty and directly challenges the qualities and effects of personal control. The psychosocial effects of such circumstances are evident in Standing's (2011) contention that 'the precariat' exposure to 'infinite flexibility and insecurity' as foundations of modern economic organisation results in the experience of the alliterative 4 'A's'; alienation, anomie, anger, anxiety. Against a backdrop of increased technological capabilities, a compressed global capitalism, neoliberal individualism, the valorisation of

shareholder value, and vertically disintegrating organisational strategies of flexibility, the demands of work *and* employment have become more insecure and more intense. The IT sector, underpinned by the Silicon Valley model, represents the paradigmatic context for such post-industrial work processes and career trajectories (Benner 2002).

Post-industrial work has replaced the static, nine-to-five, machine led, limited autonomy but high security workplace bargain, with one based on an expanded set of controls, tasks, skills, and demands, combined with a reduced or conditional job security (Thompson 2003) which offers little protection from the vagaries of the ever-present and abstract market (Ó Riain 2010). Working conditions are broadly typified by high levels of autonomy, an array of demand types (cognitive, quantitative, emotional, boundary-management), an intensification of work time, an extensification of work's reach, and decreased job security. Firms have become responsible for providing opportunities and experience rather than security; '...You can give lifetime employability by training people, by making them adaptable, making them mobile to go other places to do other things. But you can't guarantee lifetime employment' (former GE CEO Jack Welch, cf. Davis 2012:19). Flexibility is now a required capacity (Sennett 1998), and inevitable context, for many workers (Wickham and Bobek 2016). The result is often a deleterious combination of intensity and insecurity; 'The image that emerges from the last quarter of the twentieth century for all employees is one of increased organizational flexibility at the expense of employee well-being' (Crowley et al. 2010:430). As the stressors arising from work tend to reflect the balance of power between employer and employee (Gordon and Schnall 2009), the broad shifts in these structural circumstances and workplace bargains signify two decisive, and linked, aspects: a complication of the balance between employer control and worker autonomy, and the subsequent changing nature of the stressors of working life.

Control in Context: The Post-Industrial Work Bargain

A Changing Context

Fordism represented the zenith of vertical integration as the Taylorist production process from raw materials to final output took place in one location (e.g. Ford River Rouge Plant). Standardised products were mass produced and mass consumed. The workplace bargain was one of unionised protections and agreements (United Autoworkers Agreement of 1941), security, and relatively high wages in return for hard, routine, and often alienating labour. Essentially worker autonomy over the labour process was relinquished in return for the security of pay, long-term benefits and protections ensured by the employer. This context of machine-centered bureaucracy underlined the post-War boom in the US. However, in the 1960s, Fordism came under pressure from the lean production methods prominent in Japan (Toyotism) and the centrality and significance of theoretical knowledge and information (Bell 1973).

Global competition and a demand for more customised products meant industrial manufacturing had to find new ways of organising production systems so that they could react to the market and change product lines in a swift manner. Influenced by the success of Japanese lean production and technological development, new flexible production involved practices such as just-in-time manufacturing (JIT) (cutting back on fixed costs, reducing waste materials on hand, and managing resources on a product basis), quality circles (groups of workers brought together sporadically to solve problem and generate ideas), job expansion, and the organisation of work in teams (Smith 1997). The optimistic discourse of the post-Fordist era claimed flexible production was an end to alienated, constrained, and routine labour with an increasing emphasis placed on the participation and involvement of workers in the labour process (Blauener 1964, Piore and Sabel 1984). Critics pointed to new forms of alienated labour (Braverman 1974) and bureaucratically convoluted control mechanisms (Edwards 1979, Harrison 1994, Sennett 1998).

Bureaucracy applies to the exercise of control through an administration legitimated by a system of rational rules (Weber 1978). It is impersonal, calculable, and efficient - three virtues highly regarded by capitalism. The more successful bureaucracy is the more indispensable it becomes. Bureaucratic administration was instrumental in the vertical disintegration of organisations and networked production, themselves relying on processes and practices that require high levels of calculability and efficiency, thus the need for further bureaucratic methods. Techno-economic developments have thus improved the capabilities, reach, and power of bureaucratic control as it is augmented in line with improved ICT (Simpson's 1999). Considering the importance of ICT for knowledge labour processes, it isn't difficult to envisage how electronic technology now defines tasks, evaluates performance and rewards or disciplines; 'It effectively marries performance and disciplinary monitoring, the very issues that Taylor's scientific principles addressed' (Simpson 1999:69).

During the transition from the traditional organisational hierarchies of Fordism to the flexibility of globally networked production, control in the workplace for most workers has moved from one based on an imposed control to a more internalised version which seeks to elicit commitment (Walton 1986). Smith (1997) notes that an inherent expectation of flexibly organised firms is the convergence of firm and worker interests. This normative (ideological) form of control attempts to merge workers behaviours and beliefs, not just actions, with firm interests - usually via a 'responsible autonomy' (Friedman 1977) management technique. Goldthorpe (1982) notes that these techniques involve skilled and trusted workers within a 'service relationship' with their employers where commitment moves beyond pay to upskilling and career expectations. However, the success of such control requires firms to have advancement opportunities for employees so that their long-term perspectives can comply with the firms' short-term goals (Cushen and Thompson 2012). Paradoxically, normative control seems to be more prevalent at precisely the time when internal labour markets are dissolving. This has seen a shift from traditional structures of control (e.g. time and pay) to more modern normative forms (e.g. individual career responsibility and organisational culture). As working

conditions are influenced by the relentless search for profit, control mechanisms are shifting away from the use of pay. Normative control becomes more suitable as seeking continuous innovation and profit usually means keeping fixed costs low, thus pay-related firm control mechanisms are avoided in order to eschew the use of financial incentives (Kunda 2006). Where financial incentives are used, they are often conditioned by future individual and organisational performance e.g. vesting of shares or stocks (Thompson 2003). In circumstances where ties to firms are weak, normative control revolves around occupational prestige and employment security concerns (Smith 1997).

Discussing the role of roads, rivers, railways and telegraphs for the establishment and functioning of bureaucracy, Weber (1978:973) noted that these ‘...specifically modern means of communication enter the picture as pacemakers of bureaucratization...’. The current means of communication carry information between destinations at a considerably greater pace than those identified by Weber. Green (2006) points to technological innovations and subsequent work reorganisation as the two primary reasons for the increase in intensity of work. On the demand side, technology has consistently improved the efficiency with which work tasks are delivered to workers, the optimisation of all time at work, and the monitoring and accountability of production rates and performances. The internet, email, instant messaging, live video conferencing, and the smartphone are the current, intimate (Gregg 2011), and less regular ‘pacemakers of bureaucratisation’. Pacemakers which reflect new ‘technologies of power’ which normalise the rhythms and practices of workers minds and bodies in line with the cadence of the market (Foucault 2003). For Foucault (2003), this reflects the institutional power dynamics of neo-liberal ‘biopolitics’ which have taken control of the social and psychological processes of workers. The major feature of the rhythm of knowledge work labour processes is their unpredictability (O’Carroll 2015). Linking Davies (2015) work on capitalism’s interest in the subjective state of workers, Rosa’s (2015) depiction of modern society as accelerated, and Foucault’s (2003) focus on the mechanisms of power, Berardi (2009) highlights an autonomous form of alienation for the ‘cognitariat’. These are workers whose labour is entirely mental, and whose

cognitive behaviour is increasingly set by ICT capabilities and the economic imperatives of the market. The practices of autonomous working lives represent the shifting results of a wrestle between employer control and employee autonomy, shaped by forces as global as capitalism, and as local as a smartphone.

Sociological Trajectory of Workplace Control

Much classical sociological theory has focused on the technical and social organisation of work. Whether that be the division of labour (Durkheim 1984), the social relations of production (Marx 1964), bureaucratic rules (Weber 1978), or the governmentality of labour forces (Foucault 2003), classic sociological analyses have often been based on work. Underpinning these landmark studies of the specialisation of functions and solidarity, the conditions of alienation, the control of impersonal rules, and institutional power mechanisms, is an interest in the balance between the regulation of social structures and the autonomy of individuals. The relationship between job control, working conditions, and the broader socio-economic context is a complex one. Labour process literature takes these themes and locates them within specific working contexts and processes.

Investigating the sequential development of technology across four different industries, Blauner (1964) illustrates how meaning and freedom at work are at their highest under craft technology, decrease under machine and assembly line technology (textile and automobile industries) before increasing again under continuous process technology (chemical industry). Translating Marx's (1964) dimensions of alienation into social psychological terms – powerlessness, meaninglessness, isolation and self-estrangement - Blauner notes that the new technical requirements of production will reduce these experiences as workers will be required to have higher skills, discretion, and control opportunities. Although writing before the onset of flexible work organisation, Blauner seems to overestimate the freeing power of technological development and underestimate the potential for these new capabilities to be adapted to economic needs within a capitalist system of organisation. While skill levels and discretion might improve

within the workplace, they are embedded within the incessant strive for efficiency and surplus value ethos of capitalist production. For Braverman (1974), under a capitalist system, automation will actually lead to the de-skilling and deterioration of labour. The purpose of new industrial technology was to extract more value from workers through systems which relied on standardization and repetition – with the systematic organisation of Taylorism playing a central part in this process. According to Braverman (1974), Taylorism enabled the separation of task conception and implementation with conception becoming part of the management control over the production process. Under capitalism, management control over the labour process delineates mental from physical tasks and creates working conditions which negatively impact on workers' self-initiative and autonomy. Much of the discretion, control, and skills Blauner lauded become the remit of management rather than workers.

Piore and Sabel (1984) resuscitated Blauner's (1964) hopeful predictions of freedom inducing techno-economic development, pointing to how work organization based on advanced technology and a flexible specialization of production would break open traditional hierarchies and provide increased opportunities for autonomous work. However, Hodson (1996) asserts that under five types of workplace organisation and control (craft, direct supervision, assembly-line, bureaucratic and participative) job satisfaction and pride at work never actually reach the initial levels of craft industry rendering Blauner's (1964) freedom graph curve a reversed 'J' rather than a 'U'. Perhaps providing an explanation for this, Hodson (1996) also claims that effort levels in the modern 'participative' workplace actually exceed those of craft industry.

While Blauner (1964) and Braverman (1974) focused on the technical organisation of production, Buroway (1979) and Edwards (1979) relocated the analytical spotlight on the social organisation of production. For both authors, the central force shaping working conditions was the struggle for control between owners or managers and workers. Edwards (1979) conceptualises the development of

production methods in stages determined by the type of control used over workforces. The three types of control defining these stages are:

- Simple: direct supervision, personal in nature i.e. a foreman.
- Technical: an impersonal labour process is written into the technology or work design i.e. a machine led pace and process.
- Bureaucratic: where control of the work process (and legitimacy) is written into a set of comprehensive, impersonal, and dehumanised (Weber 1978) rules.

These control types - all of which occur to a different extent within a modern economy - shape the environment or 'terrain' in which capitalists and workers struggle for their goals. Edwards, unlike Braverman (1974), recognises the agency of workers, in the form of resistance. Production systems represent the 'contested terrain' of the workplace between managements striving for increased control (and efficiency and value from labour) against workers various strategies (latent and explicit) of resistance. Working conditions are the outcome of this clash. With the more recent advent of bureaucratic control came an increase in the stratification of jobs, pay-scales based on position, internal labour markets, and the use of employment-related benefits (mainly pensions) to encourage employee commitment to the organisation. This formalisation of economic organisation on the one hand serves to protect workers in the shape of formal rules and regulations, while on the other restrict autonomy within the labour process - due to 'the rule of rules' (Bell 1973:119).

Burawoy's (1979) Marxist interpretation of the 'contested terrain' between management and workers highlights the key concepts of 'consent' and 'making out'. Consent refers to invested workers engaging with their jobs through their own meaningful action within particular workplace contexts (i.e. factory floor). 'Making out' describes the process through which workers on the factory floor would choose levels of effort to exert in order to meet the minimum organisational, and pay-related, targets. In highlighting the strategies of workers responding to the structural conditions of work, Burawoy's argument is that 'making out' is essentially

another form of consent as it functions within the rules and goals of the 'hegemonic' organisation, and is aligned with the goals of capitalism. Workers consent to exert labour is also unintentional consent to the broader goals of the structural system (especially the internal labour market) in which the work is organized. In essence, worker consent is structural legitimation. Burawoy's line of reasoning is not without its critiques.

Lee's (1995) ethnographic study of the politics of production in an electronics enterprise in Shenzhen and Hong Kong notes that the collective characteristics of workers impose limits on management techniques and strategies - even in 'despotic' production regimes (Burawoy 1979). Differences in management control strategies are not only the result of regulation and organisational policy (Burawoy 1979) but a response to the social organisation of labour markets and the characteristics of the workers. Workers arrive in the workplace with their own histories, resources, and experiences (Sherman 2007). These socio-historical factors help define the legitimacy of management and control strategies employers can use as a requisite amount of enthusiasm, commitment, and effort is required to ensure adequate productivity levels. Hodson (2001) and Sherman (2007), while noting the importance of the critical labour process perspective, critique Burawoy's (1979) approach for underestimating the influence of a structurally shaped worker agency that is central to the creation of meaning at work. Work cannot be reduced to the binary aspects of control and resistance as workers also engage in action which is positive and productive; '...like resistance, consent highlights workers' agency...to think of workers as using their agency to participate in work rather than to refuse to participate' (Sherman 2007:16). In an ethnographic study of 2 different luxury hotel settings Sherman (2007) notes the role of contextual resources available to workers to develop '...strategies for managing their own subordination...' (2007:62). These do not equate to resistance but do enable the workers to reclaim some control over their work. Hodson highlights opportunities for 'citizenship' i.e. the purposive act of investing and taking initiative in work as one of the most powerful contributors to job quality, dignity, and well-being in the workplace; 'It is through active agency that workers realise dignity at work in the face of the many challenges they

confront...’ (2001:50). Technical, structural and organisational influences are only one side of the story as workers' characteristics and agency in utilising their contexts to create meaning, autonomy, and hierarchical systems of their own, also condition the experience of work. The dynamics of autonomy at work take place at a number of different levels i.e. task control, work organisation, employee resistance, and individual strategies of engagement which are shaped not only by the 'contested terrain' of management and control, but also by the characteristics of workers and the 'situated agency' of the organisational (Hodson 1996, 2001, Sherman 2007) and institutional (Hobson 2014, Zimmerman 2006) context.

Worker autonomy is the core of the labour process problematic of control. It is what is at stake in the traditional control-resistance binary. It is key to dignity, engagement, and 'citizenship' at work. It is also demanding, consent generating, and often aligned with organisational goals. Developments in flexible working conditions have moved the 'contested terrain' (Edwards 1979) beyond the workplace. New forms of 'responsible autonomy' within the 'service relationship' (Friedman 1977, Goldthorpe 1982) present new opportunities for the extraction of effort by employers (Thompson and Smith 2010), and new demands and dilemmas for employees. Due to the increased porosity of work demands, autonomy is also increasingly shaped by its institutional context. Whether studying the impact of technical development, the remit of management, the social organisation of production, the consent of workers, or the individual strategies of workers, autonomy represents a complex, contested, and context-influenced aspect of working life.

A Post-Industrial Work Bargain Framework

Extending the labour process literature, in particular Burawoy's (1979) worker games as consent to structural circumstances, and re-locating this approach within an expanded and complex employment relationship of post-industrial work, Ó Riain, Behling, and Byrne (2016) identify three interlinked bargains for individuals working in the IT sector in Ireland and Denmark (see Figure 2.1):

- Effort Bargain: the relationship between the organisation of work tasks, effort extracted from workers, and the rate of compensation (e.g. control, intensity, demands, salary).
- Boundary Bargain: the time required and allocated for work tasks and responsibilities (e.g. standard and non-standard working time, density and porosity of work time, work-life balance).
- Employment Bargain: the link between compensation and time in relation to income security, labour market prospects, and career decisions (security, training and education, career, sustainability).

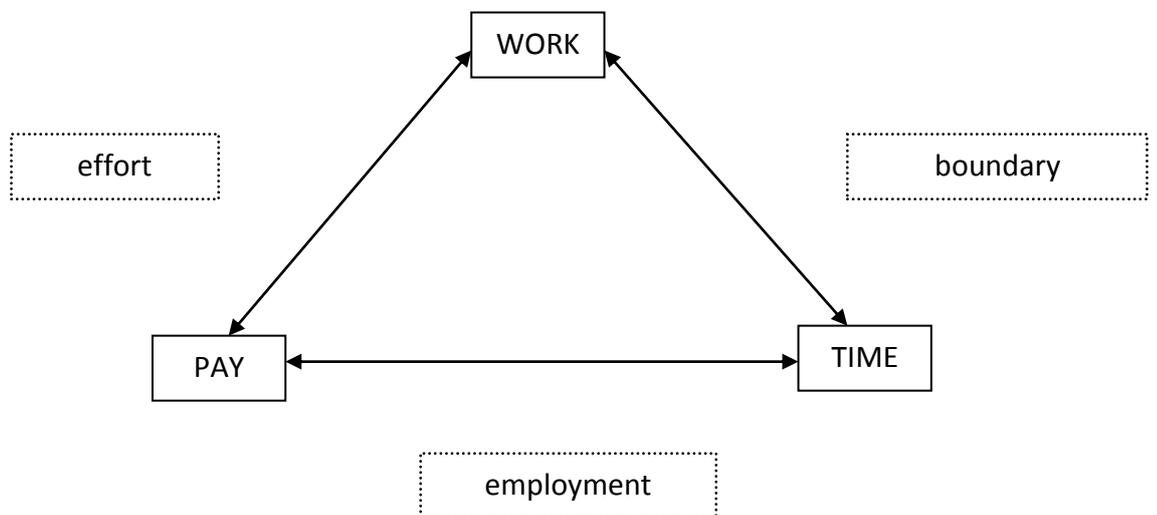


Figure 2.1: Post-Industrial Work Bargains.

This framework relocates the labour process literature discussed within a more current 'service relationship' (Goldthorpe 1982) and provides an explanation of the key features of post-industrial work. In traditional labour process analysis, the focus is usually on the effort bargain i.e. the trade-offs, struggles and contradictions occurring between employers and employees at the point of production and effort extraction. However, for knowledge workers, new forms of labour processes, flexible working practices, and fragile employment relationships have moved 'work' beyond one time, place, or firm. By including the boundary and employment bargain, it moves the analytical frame of autonomous work beyond a workplace-located labour process and captures other key bargains which shape, and are

shaped by, autonomy. Encapsulating the connection between the conditions of production (effort and time bargain) and social reproduction of the labour force (employment bargain), this conceptual approach gives the study a dynamic frame from which to analyse workers' interests within a broader 'contested terrain' (Edwards 1979) of autonomous work. Seeing work as more than 'job-related tasks' (Budd and Spencer 2015), the 'bargain' approach allows the analysis to capture non-work based resources and demands which nonetheless impact on the experience of working life. In a sense, moving the labour process literature from a focus on working conditions to conditions of working life. Essentially these bargains address the exposure to pivotal conditions which shape autonomy at work, and its impact on well-being, i.e. the distribution of control (Bosma et al. 1997, Marmot 2004), the distribution of time pressure and intensity (Wacjman 2015), and the distribution of security and stability (Anderson and Pontusson 2007, Standing 2011). The study will consequently link the dynamics of autonomy at work, and the stressors emerging, in line with these bargains.

The post-industrial bargains framework thus represents an important and threefold conceptual tool for the structure of the thesis. It enables the study to:

- Explore the experience of autonomous work at the level of the labour process (effort bargain and internal relations), working conditions (time and boundaries bargain), and labour market (employment security and career bargain).
- Analyse the contradictions and complexities (antinomies) of autonomy emerging within each of these work bargains.
- Identify the stressors arising out of the mix of these antinomies, strategies, and capabilities available to manage work demands.

Autonomy is central to each post-industrial bargain. These bargains produce their own distinctive demands and dilemmas. Stressors emanate from the conditions of working life made up of these bargains, dilemmas, demands, and socially shaped strategies of working life. The following chapter presents a review of literature analysing the counter-intuitive demands and stressors of high work autonomy arising within each bargain. In addition, the qualitative analysis chapters will be

structured in terms of the key antinomies within each bargain. In expanding the perspective of Burawoy (1979) and Edwards (1979), this approach also importantly notes that the bargains are embedded in different social and institutional contexts which shape the decisions, actions, and capabilities (Evans 2002, Hobson 2014) of workers. Despite the compression of globalised capitalism (Harvey 1989), national contexts continue to shape the repertoire of possibilities available for employers and workers within these post-industrial deals. This is evident in the persistence of nationally coloured work organisation forms and well-being outcomes.

Working Conditions and Institutional Contexts

Taking a broad institutionalist approach which includes the shared norms and possibilities of 'sociological institutionalism', and the formal structures, policies and regulations of 'historical institutionalism' (Schmidt 2006), what work entails is significantly formed by the social context in which it is embedded (Ó Riain 2014). Different national systems shape workers' abilities to organise their lives. The distinct institutional structures (state policies, working regulations, employment relations, welfare regimes, and cultural frameworks) of different socio-political contexts translate the forces of liberalized global capitalism into domestic policies, practices, and conditions for workers (Bell 1973). As such, differing national institutional structures influence the experience of flexible working conditions through the capabilities offered in managing the demands of working life. The contours of autonomy and stressors of working life are determined by their social context. In the face of common macro trends and economic pressures throughout Europe, countries continue to vary across many dimensions of economic regulation, social policies, working conditions, and health outcomes. This is illustrated by the comparison of the case countries chosen for this study: Denmark and Ireland.

Denmark and Ireland are both small European countries with similar population size and important agrarian histories (Ó Riain 2014, Jespersen 2011). They are both open economies in which capital and labour are both heavily influenced by 'forces

beyond domestic control' (Esping Andersen 1990:15). However this is where the similarities end. The socio-politics of Ireland are dominated by the ingrained influence of the 'politics of informal consensus' (Carey 2007). This is typified by clientelism, social and economic conservatism (non-interventionist), a deference to men and the Catholic church, and weak left politics (Adshead and Tonge 2009). Notions of welfare, the state, and democratic values are thus built on an institutional context of patriarchy, clericalism, and conservatism (Coakley 2010). In its modern liberal format, non-interventionism has limited the size of the welfare state leaving issues of health and childcare largely within the remit of the home.

For Denmark, the social democratic ideals of equality, justice, representation, and redistribution are not just a political regime, they are the context of the countries' affairs (Jenkins 2012). This is evident in the term 'folk' (Dahl 1984) which comprises both the equality of political redistribution and the equity of an egalitarian and homogeneous society (e.g. Janteloven) . From the Grundvigian folkescoler principles of fellowship, participation, autonomy, and equality, through the creation of agricultural co-operatives of the late industrialisation era, Denmark's socio-political context is one of equality, homogeneity, co-operation, and mutuality (Booth 2015, Jenkins 2012, Jespersen 2011). The state intervenes in the lives of individuals throughout the life-course (naming of children, childcare, education, health, high tax rates etc.), evident in the CPR number given to every Danish citizen which is required when using many public services. Jenkins (2012) argues that the continued consent to high taxes is bound up with, and evidence of, the importance of the ideologies of co-operation, egalitarianism, and mutuality.

Indicated by Ó Riain's (2014) depiction of the complexity of institutional policies, which do not always follow the rationale of their 'variety of capitalism' context (Hall and Soskice 2001), Denmark and Ireland differ along a number of structural dimensions.

Table 2.1 Structural Differences of Ireland and Denmark.

	IRELAND	DENMARK
Primary Economic Strategy	Foreign Direct Investment (FDI)	Domestic Exporters
Macro-economic Regime	Low Tax, Fiscally Loose	High Tax, Fiscally Conservative
Geo-political Context	UK-US	Germany-Nordics
Agrarian Structure of Industrialisation	Smallholder Property	Medium Farms - Industry
Consensus Politics	Centre-Right, State-Centered Corporatism	Social Democratic Negotiated Economy
Union Density	Low	High (but decreasing)
'Variety' of Capitalism	Liberal	Social Democratic
Equality	Low	High
Production Regime	Low Investment Lean	High Investment Learning
Industrial Relations	Centralised, Employer and Market focus	De-centralised Collective Bargaining
Welfare Regime	Monetary Redistribution	Service Redistribution
Psychosocial Work Environment Regulation	State Legislation (macro)	State Legislation (macro), Inspectorate Body (meso), Workplace councils (micro)

Source: Adapted from Ó Riain (2014).

Table 2.1 identifies the key contrasts between the political economies of Ireland and Denmark. Both rely on external markets, but for mainly different reasons with Ireland focused on attracting foreign direct investment (FDI) via low corporate tax rates and incentive schemes, while Denmark relies more on the exporting of niche products (e.g. Lego, food products, wind energy). Denmark, in line with the coordinated market economy label (Hall and Soskice 2001) displays more economic regulation with high personal taxes, tied private and public sector wage developments, and decentralised collective bargaining reflecting a 'negotiated economy' (Mailand 2011). Despite a period of concentrated social partnership in the Irish public sector in the early-mid 2000's, Ireland's industrial relations is one of

state-centred corporatism with a centralised legislation and employer focused form. According to Jørgensen (2015) union density in Denmark is approximately 67%, falling from 75% in the mid 1990's. Ireland's union density rate is exceptionally low at 28% (Prendergast and Farrelly 2015) and has been steadily declining over the last decade. The redistribution methods of both country's welfare regimes also contrast with Denmark's high tax rates funding a universal public services form (healthcare, education, transport links, childcare) whereas Ireland's regime is based around the more individually, and liberally, orientated monetary redistribution.

Although not perfect (e.g. the front page of Politiken on 17th April 2015 focused on the issues of work stress and the inability of Work Environment Authority to catch these problems), the regulation of the psychosocial work environment is much more comprehensive in Denmark. The Danish Working Environment Act (2010) was recently amended to acknowledge the importance of the psychosocial work environment bringing it in line with the physical environment (Act no. 356 of 9 April 2013). Additionally there is an inspectorate body (Work Environment Authority) whose remit is to assess workplaces for risks (including psychosocial). At the workplace level, work environment councils can be set up to deal with local issues. In Ireland, the Safety, Health and Welfare at Work Act (2005) identifies the employer's role in minimising the health risks (mainly stress and anxiety) associated with work, including psychosocial work environment hazards. However the legislation does not explicitly make physical and psychosocial risks equivalent. This is evident in the role of the Health and Safety Authority (HSA) of Ireland, an informative rather than inspectorate body, who provide information and guidance on work stress for employers and employees, and note; 'Stress is not reportable to the HSA...There is no duty on employers to report absences due to stress. There is no method for investigating stress on a par with investigating accidents...' (hsa.ie). The full range of psychosocial work environment determinants and risks remain underdeveloped within regulatory discourse in Ireland. These institutional differences highlight the contextual intricacies which shape responses to post-industrial capitalism.

Socio-economic differences are also reflected in prominent modes of work organisation and the working conditions faced by workers in Ireland and Denmark. Using national aggregate data from the EWCS, Arundel et al. (2007) and Holm et al. (2010) investigate how work organisation types are linked to innovation and labour market regulation respectively. The authors identify four clusters of work organisation – discretionary learning, lean, Taylorist and traditional. Table 2.2 describes the main conditions that characterise each cluster. ‘Discretionary Learning’ is associated with the highest levels of autonomy, learning opportunities, and in-house innovation. Strikingly ‘Lean’ is identified as having greater pressures on workers than Taylorism as the shift from Fordist design to more flexible and participatory conditions seems to have left these workers with increased responsibility, expanded roles, limited autonomy and high levels of constraints. The authors identify significant differences in the extent of each typology across European nations; ‘...the way work is organized is highly nation-specific...’ (2007:1200). ‘Discretionary Learning’ is most prevalent in the Netherlands and the social democratic countries of Denmark, Sweden and Finland. ‘Lean Production’ is linked closely to the liberal countries of the UK and Ireland, and Spain and France. ‘Taylorism’ and ‘Traditional’ work organisations are most common in the southern European countries of Greece and Italy. The most common forms of work organisation in each country seem to cluster along socio-political lines.

Table 2.2 Work Organization Types

Discretionary Learning	Lean	Traditional	Taylorist
<ul style="list-style-type: none"> • High autonomy • High learning opportunities • High responsibility • Complex tasks and problem solving • Low constraints 	<ul style="list-style-type: none"> • Below average autonomy • High teamwork/job rotation • High quality norms • High responsibility • Bureaucratic constraints 	<ul style="list-style-type: none"> • Low autonomy • Least learning opportunities • Least complex problems • Individualistic • Service orientated • Direct/Indirect customer interaction 	<ul style="list-style-type: none"> • Low autonomy • Low learning opportunities • Low wage & educational requirements • Low responsibility • Highly constrained

Source: Adapted from Arundel et al. (2007).

These structural contexts differentiate the types of working conditions encountered by workers (Gallie 2007) and the form of stressors arising across working lives. The OECD (2012) highlighted the increased rates of 'job strain' conditions faced by European workers over the last two decades. Based on Karasek's (1979) Demand-Control (D-C) model (which will be further discussed in Chapter 4) which contends that psychosocial strain is more likely in conditions of high demands and low decision latitude, the report notes that 'job strain' conditions increased in every European OECD country (except Finland) when comparing the 1995-2005 average with 2010 rates.

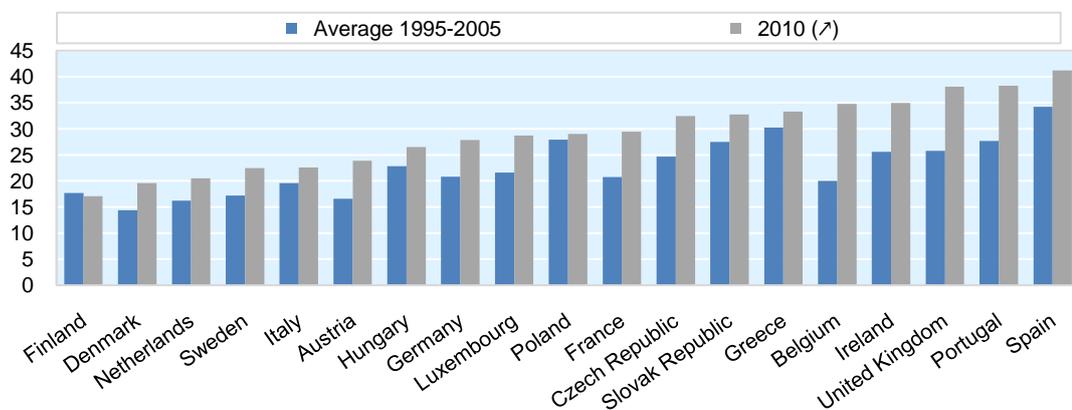


Figure 2.2: Job Strain % in Europe.
Source: OECD (2012) based on European Working Conditions Survey 1990-2010

According to Figure 2.2, the social democratic countries of Denmark, Sweden, and Finland, associated with the 'Discretionary Learning' cluster by Arundel et al. (2007), appear to have lower levels of job strain conditions and have seen less of an increase in averages from 1995 to 2010. The higher end of the distribution is dominated by the liberal countries of Ireland and the UK, characterised as 'Lean' by Arundel et al. (2007), Portugal, and Spain (which is also characterised as 'Lean'). Based on these findings, workers in Denmark face lower job-strain conditions than those in the Ireland. Arundel et al. (2007) and the OECD (2012) appear to complement each other in terms of the pressures and potential consequences of lean production. However it is worth emphasising that these job strain rates indicate *only* those respondents whose working conditions fall under the 'job strain' (high demands and low decision latitude) category, rather than the experience of

any strain. The rates are better read as the prevalence of job-strain type-stressors rather than the experience of strain at the individual outcome level.

Using the D-C model (Karasek 1979) with ESS data from 2004 and 2010, Gallie and Zhou (2013) find that Ireland was one of the countries with the highest proportion of high strain jobs, and Denmark one of the countries with the lowest (matching the OECD 2012 findings). Comparing job control levels across Europe according to 2004 and 2010 data paints a very striking contrast between Ireland (amongst the lowest levels) and Denmark (second highest). This discrepancy between working conditions and job strain in Ireland and Denmark appeared to grow between 2004 and 2010. Moving from Arundel et al.'s (2007) typology of working conditions (exposure), to the OECD (2012) job-strain rates (stressor type), further analysis of EWCS data shows that there is also some correspondence with the experience of stress at work.

In Figure 2.3 Denmark and the Netherlands show the two lowest rates for experience of stress at work ('always'/'most of the time'). Both countries have high levels of 'Discretionary Learning' organisation and low job strain rates. It is the countries where 'Taylorism' and 'Traditional' work organisations are most common that the experience of stress at work is highest. Despite the 'Lean' countries dominating the job strain rates, the levels of stress experienced are moderate. Thus the experience of stress at work in Ireland is not as high as may be expected based on the job strain rates (Figure 2.2). These figures point to the incongruity of stressors and stress. Although different timeframes were used, the representativeness of the country samples of the EWCS - used in all three figures - result in different countries appearing at the negative ends of the variables analysed. Two points are consistent across all three figures. Denmark and the Netherlands score most positively across all three aspects (organisation of work, job strain conditions, stress at work) as both offer working contexts with above average autonomy and therefore point to a relationship between the structural circumstances and psychological consequences of working conditions. Secondly,

and significantly for this study, Denmark consistently scores more positively than Ireland.

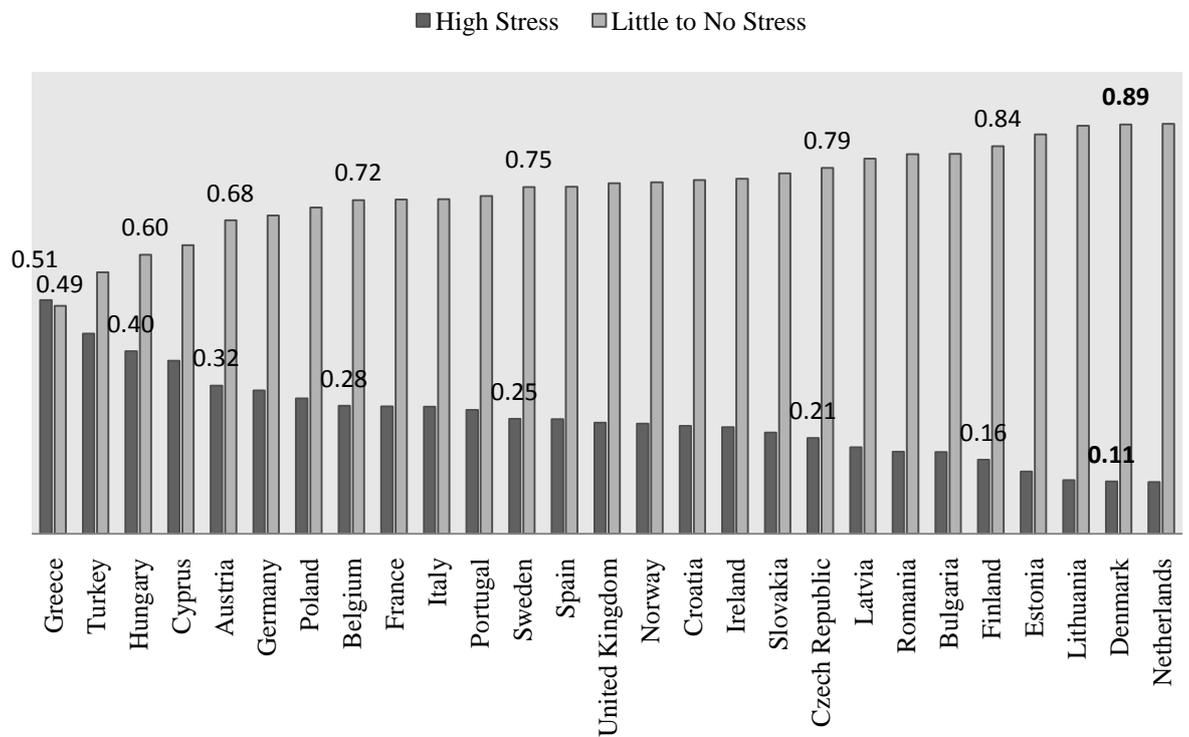


Figure 2.3: % Experience of Stress in Work Always/Most of the Time.
Source: Authors' analysis of European Working Conditions Survey 2010.

An OECD blog updated their previous findings on job strain rates (OECD 2012) across European OECD countries noting that 43% of workers report working in job strain conditions in 2015. Low-skilled, male, and young workers face more exposure to job strain conditions. Measuring job strain in terms of a deficit between job demands and job resources, time pressure and low levels of autonomy are identified as key mechanisms producing job strain conditions (OECD 2015). Scandinavian countries score most positively with Finland (28%) and Denmark (30%) reporting the lowest levels of job strain, closely followed by Ireland (34%). Greece (64%) and Spain (52%) report the highest rates of job strain conditions. Collating job strain data for 2005, 2010, and 2015 to highlight trends in working conditions across Europe, the OECD depict an interesting story regarding the scoring of Denmark and Ireland (Figure 2.4).

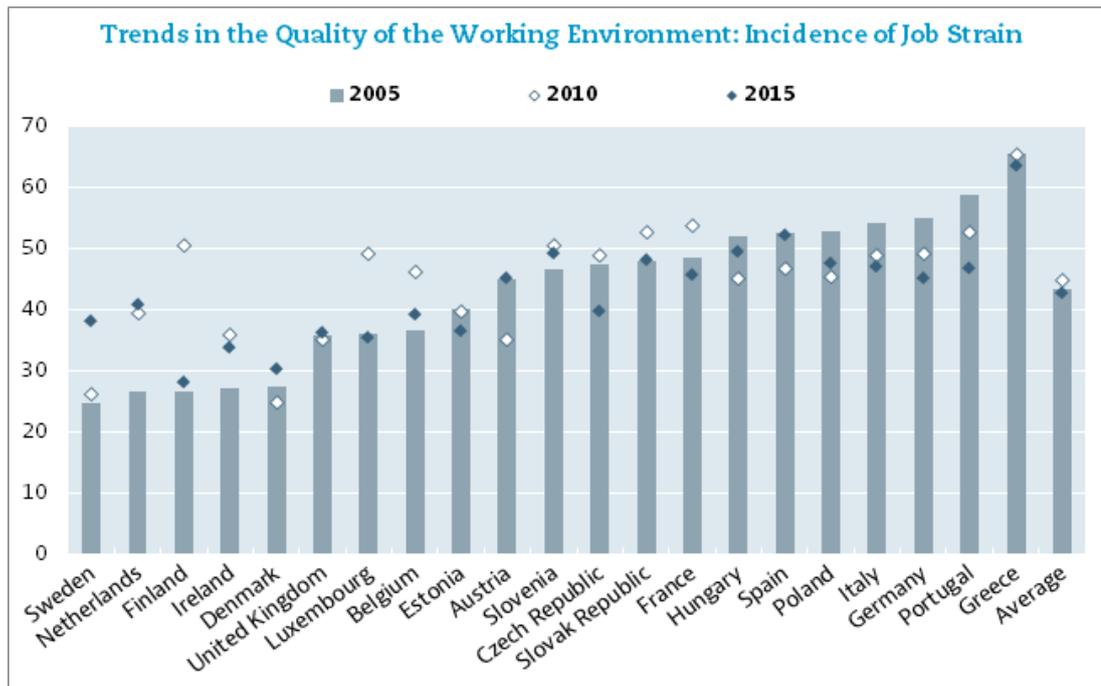


Figure 2.4: % Average Job Strain in Europe 2005-2015.
Source: OECD (2015).

In 2005, Ireland and Denmark had similarly low levels of job strain with Ireland breaking up the dominance of Scandinavia at the lower end of the scale. However, due to the impact of the economic crisis in 2008, Ireland sees a sizeable increase in job strain conditions in 2010 while Denmark's reduces slightly. The 2010 rates portray the largest discrepancy between both countries with Ireland significantly higher. Moving out of recession Ireland's job strain rate decreases slightly in 2015 whereas Denmark sees an increase. Post 2005, the job strain rates for Ireland and Denmark display similar levels but diverging trajectories. Unlike Denmark, and most other countries, the job strain rates in Ireland are higher for women than men (OECD 2015). A number of different variables shaping the experience of work underpin these job strain rates. Figure 2.5 presents data for Ireland and Denmark to illustrate what facets of work may be influencing these rates.

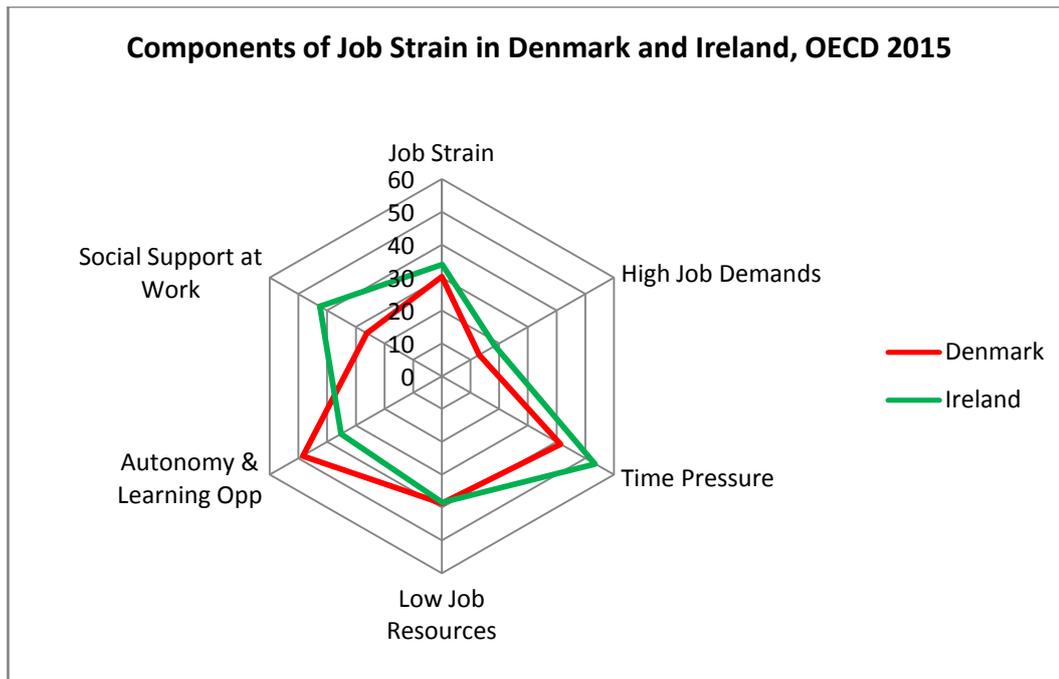


Figure 2.5: Quality of Working Environment in Ireland and Denmark.
 Source OECD 2015. Data extracted from <http://stats.oecd.org/Index.aspx?DataSetCode=JOBQ#>

Looking at the dimensions making up job strain rates, Ireland's higher scores are based on high job demands due mainly to a higher rate of time pressure (intensity and long hours) and lower levels of autonomy and learning opportunities. Denmark portrays lower strain rates due to a lower rate of job demands and a higher rate of autonomy. However Ireland does significantly outscore Denmark in relation to social support at work. At a general level these findings depict Irish working conditions as intense, lacking in autonomy, but collegial, whereas Danish working conditions are characterised by high autonomy and lower level of intensity. These factors point to the varying range and dynamics of the different aspects shaping work in Ireland and Denmark. Comparing the same occupation across these different societies thus presents an opportunity to explore how the social context matters for working conditions (autonomy), stressor generation, and psychological outcomes.

The discussion points to a clustering of countries based on the organisation of work, working conditions, rates of 'job strain', or experience of stress, along socio-political lines. The institutional context - in responding to the circumstances of globalised capitalism - shapes the contours not only of working conditions, but of the stressors

of working lives. Insecurity, for example, is crafted by the type of welfare regimes encountered (Anderson and Pontusson 2007, Pontusson 2009). High levels of insecurity are regularly linked to negative mental health outcomes (Wichert 2002, Wichert et al. 2000). Institutions affect the manner in which these uncertainties and insecurities are distributed and managed (Standing 2011). The socio-political environment plays a decisive role in shaping the stressors of working life in liberal and social democratic contexts.

Conclusion

Beginning with a perspective which emphasises the impact of working conditions on the conditions of workers (Schnall et al. 2009), this chapter has illustrated three broad environments of noteworthy effect:

- Current trends of increasing demands and psychosocial risks across Europe.
- The workplace terrain in which employers and workers have contested for control (Edwards 1979) as it was covered by evolving labour process literature.
- Differing and influential institutional contexts of Denmark and Ireland.

Each of these contexts shape the type of conditions faced by workers and have a bearing on the components and dynamics of autonomy in the workplace. Trends in working conditions point to increasing levels of discretion and influence at work, an intensification and extensification of working time, alongside considerable levels of job insecurity. Within the balance of employer and employee power, the nature of job control has taken on many faces in line with the technical and social developments in the organisation of work. Autonomy at work has become more complex due to techno-economic advancement, flexible work practices, and occupational employment structures. Yet, it remains a core feature of the dynamics of the labour process, the impact of working conditions, and the nature of the employment relationship.

This chapter extends the analytical frame of labour process literature in formulating a conceptual framework comprising three important and interlinked post-industrial work bargains: effort, boundary, and employment. At the labour process level, the effort bargain (linking work and pay) refers to the traditional labour process focus of the extraction of effort via work tasks, pay, and control techniques. At the level of the extraction of effort via work tasks, pay, and control techniques. At the level of working conditions, the boundary bargain (linking work and time) captures the negotiation and allocation of time and responsibilities for work and non-work time. Finally, at the employment relationship level, the employment bargain (linking pay and time) addresses the link between compensation and time in terms of contracts, security, and career expectations. At the core of this framework - influencing each bargain - is the contestation between worker autonomy and employer control.

This framework thus provides a conceptual foundation from which the thesis investigates the multi-dimensional nature of autonomy. The three bargains represent the theoretical pivot for the structure of the thesis, around which the demands, strategies, capabilities, and stressors of autonomous working conditions emerge for IT workers in Ireland and Denmark. These are bargains which are regularly negotiated by workers based on the individual, organisational, and institutional resources available to them. The macro trends, working conditions, and stressors are filtered through the different institutional contexts of Denmark and Ireland which show considerable variation across a number of dimensions shaping the conditions of working life. Before providing a sociological perspective on the stressor process, the following chapter will analyse literature on the counter-intuitive conditions and demands of high autonomy knowledge work - structured by the three bargains of effort, boundaries, and employment.

Chapter 3 The Antinomies of Autonomy I: The Demands of Self-Regulation

Introduction

Autonomy and control are fundamental constituents of working life. As the context of work has transformed over the last century, numerous scientific perspectives have attempted to capture the dynamics and effects of these changes on the organisation of work, working conditions, and well-being. Underpinning most, if not all, of these approaches is an analysis of the employers' methods of management, and employees' level of autonomy and discretion in meeting the demands of work (Gallie 2007). Following the literature review presented in the previous chapter, the question arises as to whether autonomy at work has changed along with the structural transformations of post-industrial society, and whether it always has a wholly positive effect. In order to unpack the dynamics of autonomy in post-industrial working life, the discussion presented here is structured around the key bargains presented in Chapter 2 in order to identify the demands and strategies arising within the negotiation of work time, effort, and employment. The focus is on knowledge work occupations as these are usually associated with high levels of control, discretion, and influence at work. The analysis depicts the unique complexities and contradictions which challenge the experience of discretion and self-regulation usually associated with autonomy - the antinomies of autonomy.

What is Autonomy?

In terms of psychological effects, the central fact of occupational life today is not ownership of the means of production; nor is it status, income, or interpersonal relationships. Instead, it is the opportunity to use initiative, thought, and independent judgement on one's work to direct one's own occupational activities...(Kohn 1976:113).

Autonomy is good. Whether used in relation to working conditions, life goals, health decisions, or ageing, it is a word which brings with it positive connotations. The psychological benefits of autonomy are undoubtedly a positive resource - often manifesting in a sense of mastery, self-efficacy, and personal control (Ross and Mirowsky 2013). Although 40 years old, Kohn's comments on the important psychological effects of 'self-direction' at work actually provide a prevailing depiction of autonomy at work. The sense of control at work provided by autonomy is vital to both the structure and effect of working conditions. However it is also one of those taken for granted terms that becomes less definite the more it is used. Autonomy fundamentally refers to 'regulation by the self' (Ryan and Deci 2006) and it is this definition which underpins the discussion in this chapter. Whether used in terms of job control, skill discretion, decision latitude, freedom, choice, or organisational influence, the opportunity to 'direct one's own occupational activities' is fundamental to the employment relationship, job quality, and the relationship between working conditions and well-being. Where specific aspects of autonomy are being referred to these will be identified, otherwise the basic 'regulation by the self' definition will apply.

While remaining fundamental to the employment relationship and the impact of work on well-being, the disposition of job control has transformed alongside the structural changes in work organisation. Emerging evidence from sociology of work literature has now begun to question the taken for granted positive effects of high levels of autonomy at work, especially within highly autonomous post-industrial occupations; 'For decades employee control has been seen as universal solution to work related psychosocial hazards, but this is now questioned...control is still as important but needs to be studied in new ways' (Lund et al. 2011:250). The following discussion presents some of the complexities arising in the unpacking of the demands of autonomous working lives. The antinomies of autonomy refer to the experience of aspects of high work autonomy which challenge or reduce a worker's sense of choice, freedom, and 'regulation by the self'. Based on the conceptual frame of key post-industrial work bargains (Figure 2.1), the discussion will focus on the antinomies identified in the literature within the *effort bargain*

and the *boundary bargain*. The complexities of the *employment bargain* will be analysed in the succeeding section.

The Effort Bargain: Autonomy & Interdependence

Job autonomy is the extent to which the worker controls his or her own work and relations with others at work, including both co-workers and supervisors (Hodson and Sullivan 2008:58).

The literature discussed in the thesis thus far suggests Hodson and Sullivan's (2008) definition of autonomy may be somewhat optimistic. Job autonomy is always constrained by colleagues, managers, market deadlines, occupational culture and expectations (O'Carroll 2015). Autonomy, while a resource in and of itself, is always dependent on other factors within most knowledge labour processes. It is here where complications can arise in the effort bargain.

Perlow's (1999) ethnographic study of the work practices of software engineers illustrates the chronic stressor of 'time famine'; '...the feeling of having too much to do and not enough time to do it'(57). However the source of this 'time famine' is the complexities that arise from the nature of knowledge work in IT which is both individual and interactive. The tasks involved in knowledge work can lead to positive interaction or negative interruptions. Benson and Brown (2007), defining knowledge workers 'on the basis of what they do' (135), illustrate three inter-related facets: variety, task interdependence, and autonomy. Variety refers to the range of tasks which often contain uncertain or unpredictable outcomes and processes (O'Carroll 2015). Task interdependence refers to a division of labour shaped by inter-team and intra-team co-dependency with tasks and processes occurring simultaneously. Finally, autonomy describes the typical level of discretion knowledge workers have over work tasks and the related need to make numerous judgements within work-flow processes. What is striking about this definition is the interrelation between these aspects. It is not hard to envisage circumstances where the uncertainty within task variety leads to negative feelings about autonomy. Or

how task, colleague, or even market interdependence actually serves to weaken autonomy. For knowledge workers, having a good relationship with a supervisor, co-worker support mechanisms, and adequate levels of autonomy lie at the base of attitudinal and behavioural commitment at work (Benson and Brown 2007).

Autonomous workers who have developed their own strategies to manage the demands and responsibilities of often global labour processes and working rhythms actually represent an interdependent working condition themselves i.e. the different rhythms of autonomous workers become a mutual working condition. The particular combination of individually and interactively shaped work can lead to other colleagues, and the project team becoming a 'controlling presence' in itself (O'Carroll 2015). Building on the work of Weber (1978) and Edwards' three forms of control (1979), Barker (1993) points to a fourth stage of employer control termed 'concertive'. This refers to the organic evolution of project teams' norms and values which become reified into objective rules for future team tasks. Barker (1993) found that the more autonomous team structure was experienced as more stressful as team members were always present in teamwork and workers felt their actions were continuously observed; 'The teams had created an omnipresent "tutelary eye of the norm", with the team members themselves as the eye...' (Barker 1993:432). The shift to autonomous teams actually concentrated the power of the firm through what might be termed a panopticon of peers. This type of control is both less apparent and more restrictive because it is, to some extent, created, and guarded (legitimated), by the workers themselves. A decentralisation of control to the team level leads to an internalised social control in line with organisational demands.

In a study of 'post-bureaucratic' workplaces (general bank, savings bank, IT company, consulting house) Hvid et al. (2008) found that a combination of self-management and standardised processes resulted in restricted control and influence for workers. While self-management brought high levels of freedom it also brought low levels of control due to exogenously originating responsibilities and demands. Quality control, security, and performance systems meant new bureaucratic processes were introduced which - in conjunction with the

unpredictability of customers and flexible organisational strategies - often restricted levels of control. The authors posit the notion of worker 'rhythms' made up of a balance between the conceptual poles of repetition (Taylorism, low decision latitude) and differentiation (individualised, boundarylessness) to understand this ill-fitting combination of self-management and standardisation which depicts 'post-bureaucratic' work. In conceptualising these worker 'rhythms', the authors noted that these were interconnected and if lacking in any structuring or collective forces could lead to chaos.

Lund et al. (2011) draw on data from two case studies of Danish schools to examine the complex interaction between boundaryless work, time, and control. In line with regional transformations in school management, teachers in the schools were given more individual autonomy and responsibility for ensuring educational and administrative demands were met. However, this actually led to a de-synchronisation of individual working rhythms which, in turn, ended up placing more demands on workers' time. The authors noted the increasing porosity in the boundaries between work and leisure, management and employees, and professions and tasks. Starting times, finishing times, coffee breaks and lunches all followed individual patterns. ICT capabilities released the teachers from reliance on a particular location, yet their tasks often relied on each other. Paradoxically, and an example of Perlow's (1999) conflict between interruptive and interactive time, the time strategies of the teachers were often negatively affected by an inability to access colleagues when required, or being disrupted by other teacher's objectives. The combination of higher individual autonomy and increased labour process interdependence on other autonomous teachers brought a much wider range of demands. It was left to the teachers to find individual solutions to these conflicting working rhythms (Hvid et al. 2008). Alongside increased freedom and discretion came unpredictability, and the associated demands of increased interdependency on other teachers with their own rhythms. The new working rhythms of the teachers lacked a general fixed pattern and often led to new temporal demands; '...there is a de-synchronization of time-space-activity relationships' (Lund et al.

2011:253). The confluence of flexible work and interdependent labour processes can lead to a corrosion of control - even in conditions of high autonomy.

Hvid et al. (2010) studied different forms of bank work (specifically loan application processes) to explore the coexistence of standardisation and self-management and investigate whether the qualitative nature of job control has changed. According to their findings, modern bank work does not always allow workers full control over the content of their job due to the cooperative aspects of job control (colleagues, customers, market demands etc.) which shape its constitution; "'To be in control" is about being an active part of this larger fellowship or cooperation' (2010:650).

These autonomous working rhythms are made up of high task control and learning opportunities alongside low control over colleagues and demands, thus providing a critique of Hodson and Sullivan's (2008) definition at the beginning of this section.

The interdependence of knowledge labour processes emphasises the important role of synchronisation as too much can lead to repetition and limited innovation and too little can manifest into constant interruptions (Lund et al. 2011, Perlow 1999). Job control continues to be a pivotal aspect of working life but it has qualitatively altered, and therefore traditional theoretical models need to evolve past an individually bounded frame so as to capture the 'associational' (Hvid et al. 2010) aspects of autonomous work. One of the key associations which shapes the character of autonomous work is the manager.

Perlow (1999) noted the role of temporal and social context in shaping rhythms which may cause stress (e.g. crisis mentality, reward systems etc.) while also legitimating and reinforcing a lack of synchronised planning. Autonomous working conditions require some form of collectivity which 'must be developed from the inside, but supported from the outside' (Hvid et al. 2008:88). In a working context of individualised and unpredictable temporal rhythms, other mechanisms are required to shape a sense of collectivity and teamwork. Perlow's (1999) study highlights the importance of managers in providing a source of synchronisation of temporal rhythms in order to increase the effectiveness of interactive time and decrease the extent of interruptions. Moen et al.'s (2016) study of organisational

interventions which increase control also notes the role of the manager in influencing the effect of high job control, particularly in acknowledging the legitimate claims of workers' private lives which, in turn, improved a variety of well-being outcomes for workers. In a Guardian article from Adams (2016), he notes a tip from Professor Sir Cary Cooper, president of the Chartered Institute of Personnel Development in the UK, who recommends pinning the message ; “Your manager is potentially dangerous to your health” on every workers door. Where working conditions are shaped by de-regulated conditions and high levels of discretion, managers can have a fundamental affect on the nature of conflicting temporal demands, the level of synchronicity, and the relationship between working conditions and psychological well-being. Organic collective rhythms (norms developed, practiced, and maintained through reflection), whether manager or institution based, can ease the problems created by chaotic, unpredictable, and differentiated demands of autonomous and interdependent work (Hvid et al. 2010). Within the effort bargain of knowledge workers, interdependent labour processes made up of de-synchronised rhythms of colleagues, different management styles, and market imperatives, present a number of dilemmas which need to be negotiated by autonomous workers. Underpinning the complexity of these processes are working conditions which provide high levels of autonomy over work time. This combination of control, flexibility, interdependence, and responsibility can have unforeseen side-effects.

The Boundary Bargain: A Boundaryless Temporal Terrain

'Time continues to be a contested terrain' (O'Carroll 2015:147).

Based on a series of interviews with knowledge workers in Sweden, Allvin (2008) describes the porous nature of their work and non-work life and in doing so depicts the 'boundarylessness' of autonomous work. A context in which the deregulation of organisations means the deregulation of working conditions, in turn leads to objective working conditions becoming increasingly difficult to decipher. Making the distinction between constitutive rules (rules *defining* action as functional e.g.

rules of games) and regulative rules (rules *directing* actions e.g. individual defines rules as functional), Allvin (2008) contends that the de-regulation of jobs and working conditions has led to workers now needing to re-regulate their own working lives. A lack of clear directions meant they were often guided more by the interpretation of professional demands (occupational or organisational expectations) or the market (customer). With these de-regulated conditions and continuing responsibilities, the need to re-regulate actually entails additional demands due to the lack of constitutive rules of high autonomy work; '...work is both de- and re-regulated in various degrees and ways' (2008:28).

The shift from the constitutive rules of 'direct control' to the regulative rules of 'responsible autonomy' (Allvin 2008, Friedman 1977) often renders the individual worker responsible for the creation of functional work-life boundaries. What is 'functional' is often at the mercy of organisational imperatives and can offer further opportunities for extraction of effort from the worker (Thompson and Smith 2010). Put simply, managing what is work time and space and what is not has now become an additional task for workers in order to actually meet their work and non-work responsibilities. These conditions assist in blurring boundaries and intensifying demands i.e. when not to work becomes a new work demand! The invasion of work into private life was a common theme with one interviewee noting being "reachable all the way into the bedroom" (Allvin 2008:38). This reflects the newfound 'intimacy' of ICT capabilities for knowledge workers as depicted by Gregg (2011) in furthering this boundarylessness.

MacEachen et al.'s (2008) study of software workers in Canada illustrates the double-edged nature of autonomy at work where flexibility and responsibility are constantly negotiated through 'responsible autonomy'; 'Flexible work therefore leaves workers in a position where *all time* is potential work time. Being out of the office is not a reason to cease work as *any place* is potentially a work place' (2008:1028). This merging of personal time and space with flexible work conditions requires workers to do 'boundary work' (Allvin 2008). A further example is provided by Weckler (2015) in an article which discussed LinkedIn's decision to change the

definition of vacation time to 'discretionary time off' which is decided in cooperation with a manager. Here, holidays become part of boundary work also. The same article quotes the chief executive of Evernote who summarises these conditions as 'work-life integration'. These knowledge workers must therefore have to negotiate the boundaries between flexible work time and rigid work responsibilities.

Van Echtelt et al. (2006) illustrate how post-Fordist job design creates an 'autonomy paradox'; where workers who have the autonomy to choose their hours end up spending more time at work than they prefer. Within the flexibility of post-Fordist work organisation, high levels of autonomy bring with them high levels of responsibility, and commitment, and thus shift the focus of employees from time (working hours) to tasks (project deadlines). Due to the high levels of autonomy, showing one hundred percent commitment and dedication to the project, team or task becomes decisive in driving working time. As a result, these working lives no longer present a clear distinction between income and leisure, and workers, faced with increased responsibility, dedicate more and more time to work. Shih's (2004) identification of 'project time' for knowledge workers in Silicon Valley also illustrates the counter-intuitive dynamics of autonomy, time, and knowledge work. She emphasises how the temporal structure of work organised around project time (as opposed to the rigidity of clock-time) also creates a blurring of lines between work time and personal time as '...any time can be co-opted as work time' (2004:227). 'Project time' is embedded in an industry where 'time to market' is decisive and workers need to synchronise with a ceaseless 'market time' of the global high-tech industry. According to Shih (2004) consent to such work is achieved through the internalisation of the individualist ideology of 'workers as entrepreneurs' who are in charge of their own up-skilling opportunities and career paths; '...caught up in the ideologies of Silicon Valley, [workers] allow their work to pervade and subsume their private lives' (237). Control over work-time and the demands associated with autonomous positions present a complicated relationship.

Schieman et al. (2009) also point to the 'resource-stress' paradox of schedule control which, as a primary element of job control, is assumed to provide the flexibility required to deal with work and non-work life conflicts. However, paradoxically the authors found that authority, skill, decision-making latitude and earnings were associated with higher levels of interference; '...professionals report more interference because they have more authority, skill, and earnings' (985). In a recent study using German data, Lott and Chung (2016) note the preservation of gender discrepancies regarding schedule control which was associated with higher levels of pay and overtime for men, and only overtime for women. Even within contexts of high job control, traditional gender roles in the workplace can be maintained through the temporal demands, expectations, and logics of roles in the workplace and the home.

Supporting the 'stress of higher status' hypothesis of Schieman et al. (2009), and extending this analysis, Moen et al.'s (2013) qualitative study of workers in knowledge intensive occupations highlights how these workers consent to the 'temporal organisation of professional work' through the use of various 'time-work' strategies to deal with time strains e.g. intensified demands, permeating demands and boundary blurring. The strategies of 'prioritising time', 'scaling back obligations', 'blocking out time', and 'time shifting of obligations', all represent specific adaptation techniques to '...spiralling and increasingly intensive and unbounded time demands concomitant with rising workloads' (2013:91). Temporal demands are no longer bound by space or time. Although, as Ó Riain (2006) notes, these temporal demands often result in a paradoxical intensification of time and space for the organisation of local processes amongst interdependent knowledge workers.

According to Moen et al. (2013) the professionals illustrated a 'constrained agency', one limited by a reconfiguration of the temporal structures of their jobs and their consent to expectations of their profession. The adaptive strategies to manage these boundaryless demands were influenced by co-workers, managers, and institutional support. Women in traditional domestic contexts often found 'exit'

(Hirschman 1970) from the job as the only strategy of 'scaling back' work obligations. The inability to "contain work" was viewed as a personal failing. As was insufficient time allocated to the family. The female professionals essentially found themselves in between the expectations of marketised 'project time' and their role as caregiver. These competing temporal orders serve to proliferate the gendering of roles and organisations (Acker 1990). The 'stress of higher status' was therefore being institutionalised as the way things are as the participants sought strategies around it rather than challenge it. This leads to boundaryless work creating a 'new temporal regime' (Kamp et al.'s 2011).

Kamp et al. (2011) break down five different analytical dimensions of boundaryless work - temporal/spatial, organisational, subjective, cultural, and political - in order to posit the emergence of a new temporal regime, one which is compressed and accelerated (Rosa 2015). They find that working time for teachers has become de-synchronised i.e. many individuals have their own temporal orders which breaks down the traditional collective experience of routines such as coffee breaks or lunch. New temporal orders are shaped by the core tasks, professional norms, managerial norms, societal norms, and individual strategies (Moen et al. 2013). It is the conflicts between these different temporal orders which represents the crux of the self-management of time. For example, private time at home was often used to make up for the lack of 'slow time' in the workplace.

In a study of Irish software workers, O'Carroll (2015) similarly highlights the pervasive, and dissatisfying, effect of unpredictability on all aspects of the way work time is experienced within high-tech industries. The tension and work-life conflict arising within working lives is increasingly shaped by the juxtaposition of unpredictable working time demands and standard temporal structures. The key bargain places privately negotiated working autonomy in direct competition with publicly defined (and unchallenged) organisational goals and deadlines, leaving two competing temporal structures; 'a corporate one of boundary crossing and a private one of boundary maintenance' (O'Carroll 2015:92). It was only with experience that the developers learned strategies of 'time-work' and boundary maintenance with

one example involving bringing a briefcase home every day - but only for show! Her findings indicate that the long working hours of IT workers existed mainly in norm legitimating myths rather than reality. Organisational culture reinforced these myths with visibility in work synonymous with commitment. Fundamentally, time becomes a symbol of commitment. It is the task of re-regulating (Allvin 2008), or balancing, the temporal imperatives of the organisation and a private life, which represents the characteristic condition of these working lives. A characteristic which may reinforce gender discrepancies through the incompatible temporal logics of the roles of knowledge worker and caregiver.

Boundaryless work (Allvin 2008) not only converts resources (task control, flexibility) into demands (responsibilities, 'time work'), but also influences the qualitative experience of time. Knowledge workers must negotiate the unpredictable, intense, and limitless temporal order of the market, and the individual re-regulation of work time and boundaries; '...when work becomes more boundaryless there is a huge difference between "having control" and "being in control"' (Lund et al. 2011:256). If unmanaged, the high levels of flexibility and responsibility associated with positions of autonomy can result in a boundarylessness (Allvin 2008) which disintegrates the boundaries between work and non-work life and leads to both an intensification and extensification of work demands. These boundary regulation demands are further sharpened by a 'service relationship' (Goldthorpe 1982) which places increasing responsibility on the individual to maintain their own employability.

The Employment Bargain: Concentrated Control, De-Centralised Autonomy & Fusion

...the control embedded in organizational mechanisms intersects with the control exerted through employment practices (Smith 1997:333).

Describing the character of inter-firm relations within globally networked production chains, Harrison (1994) uses the term 'concentration without

centralisation' to conceptualise the accumulation and maintenance of corporate power and control amongst a small number of large firms and institutions. This was a pointed critique of the discourse of the 80's and 90's which claimed that with the vertical disintegration of big firms, small, agile companies would become the engines of growth and innovation as they are more adept at managing market fluctuations. For Harrison, the proliferation of networked production does not represent a new era of production. Rather, it highlights the dramatically altered (or 'lean') methods of managing networked production chains with a global reach, in a world where time and space are increasingly compressed by techno-economic developments. Firms take the 'low road' to profit by competing through cheap labour rather than innovation, which only serves to reinforce labour market segmentation between core and periphery workers. This is the 'dark side of flexible production' (Harrison 1994:211). Harrison (1994) limited his perspective to firms' external relationships but he did acknowledge that the same underlying principles could also apply to the restructuring of flexible working conditions; '...especially the consistency of decentralized activity with concentrated control over resources...' (1994:9). 'Concentration without centralisation' can be used to characterise trends in work and employment conditions also - as described by Sennett (1998).

Sennett's (1998) *The Corrosion of Character* elaborates on the 'dark side of flexible production' for the lives of workers and actually goes further than Harrison in portraying how mean 'lean' can be. He describes the consequences for individuals when flexible working practices create a disconnect between the requirements of working and succeeding under modern 'flexible' capitalism, and the attributes required to lead a good life. Underlining the corrosive effects of flexibility is a system of power comprised of three influential forces:

- 'Reinvention of bureaucracy': the creation of a system of fragmentation and an ideology of change and disruption as profitable.
- 'Flexible specialisation': mass production of a single product is discontinued in favour of diversified and quicker methods of production.
- 'Concentration without centralization': bureaucracy is still dominated from the top, it is just now in a more convoluted and shapeless form.

Sennett's (1998) forces of flexibility are evident in Barker's (1993) previously mentioned account of a manufacturing company's shift to a system of self-managing teams. The impetus for the transformation was cost reduction via flexible specialisation, which led to a reinvention of bureaucratic control amongst the teams, and resulted in the concentration of firm control within the decentralised autonomy of teamwork.

The concept of concentration without centralisation, used by Harrison (1994) to describe the formation of power and control *between* networks of flexible firms, can also be applied to characterise the form flexible working conditions can take *within* firms where the augmenting of firm power coincides with the decentralisation of work autonomy (Sennett 1998). In an era of globalised networked production, workers, like supplier firms (Herrigel and Wittke 2004), become more important and more disposable to firms. Hodson (2001) asserts that the most important change since the eras of Marx and Durkheim is the increased importance of employees for the success of organisations across all occupations. However, as described in the previous chapter, this importance has been accompanied by heightened responsibility, intensification, and insecurity; 'What's peculiar about uncertainty today is that it exists without any looming historical disaster...Instability is meant to be normal'(Sennett 1998:31). While Sennett's (1998) claims for bureaucratic standardisation as the foundation of character are over-estimated, the enduring aspect of his work is the illustration of the pressures and implications of insecure employment for working lives - even those in skilled professions.

Individualised & Insecure Employment

Cushen and Thompson's (2012) ethnographic study of knowledge workers in a global, leading-edge technology company in Ireland illustrates the contradictory processes of concentration without centralisation at the worker level. Exploring the quality of the relationship between HR practices and worker commitment, the

authors find that the workers have comprehensively rejected the organisational brand narrative which attempts to normatively link the interests of workers and firm. The organisation's attempts at engineering and sustaining cultural control (Kunda 2006) were a resounding failure as the workers explicitly acknowledged that the firm was only interested in profit. These workers were not sure of their long-term future in the company and expressed anger at the firm's attempts to conceal the tenuous nature of their employment through ideological brand messages suggesting togetherness, rather than actually ensuring job security through formal means (e.g. contracts). Yet, the workers were still performing well on the job and contributing to the success of the firm. Despite a disconnected attachment to the firm, and acknowledged lack of control over job security, the workers found a source of pride in completing their work efficiently and with quality. Their performance was based on a commitment to the work, professional knowledge, and skills. Thus normative effects were located in the labour processes 'at the heart of the effort bargain' (Cushen and Thompson 2012:89). These angry and autonomous workers were contributing to the success – and concentrated, legitimated, control – of the firm.

Thompson (2003) also notes that the legitimacy of organisational flexibility enables an unequal workplace bargain of unconditional investment of time and efforts from workers, for rewards from employers which are wholly dependent on performance in the market. In the constant flux of the modern global economy, the institutionalization of numerical and functional flexibility has tied workers and working conditions closer to market fluctuations while absolving employers of responsibility for the security of employees; 'By the end of the decade [1990s]...The corporation existed to create shareholder value; other commitments were means to that end' (Davis 2012:23). Production is organised to capture market share and labour becomes a (disposable) means to increased levels of financial capital. The increased importance of capital markets have resulted in heightened company rationalisation and downsizing with those still employed; '...left to bear the costs, not just of low morale but of increased workloads...' (Thompson 2003:365). Labour is no longer fixed due to fragile job security, and work is no longer left behind due

to an extensification of work demands and intensified effort and employment bargains. In response to this, knowledge workers commitment to firms is tied to specific tasks and projects. The social arena for work becomes the labour market rather than the organisation (Allvin 2008). The firm becomes an environment to learn, up-skill, make contacts, and acquire skills that might be useful in securing future employment.

New forms of work offer an expansion of jobs in the form of more involvement, autonomy and responsibility. However this is often experienced as intensified work in the context of a destabilised employment relationship. Smith (1996) illustrates workers consent to such an employment bargain in a study of 'Reproco' workers who agree to take up additional training programmes due to organisational restructuring. These programmes were only likely to increase workloads in terms of the time required to undertake the training, and the additional skill-set to be utilised by their employer once completed. However, for the workers these new skills increased their feelings of efficacy on the job and represented an attribute that could be used to secure future employment. As Smith (1997) asserts, employer control and worker autonomy intersect in organisational and employment practises in generating the structural legitimacy and worker consent (Burawoy 1979) to the post-industrial employment bargain. These institutional structures serve not to break down but conceal power and control within more participatory systems. Workers must bend to the requirements of organisational flexibility in a context where short-term perspectives, cost reductions, and change are profitable for firms but not always beneficial for workers (Sennett 1998). The dark side of flexible production has an effect on the nature of employment in post-industrial working lives.

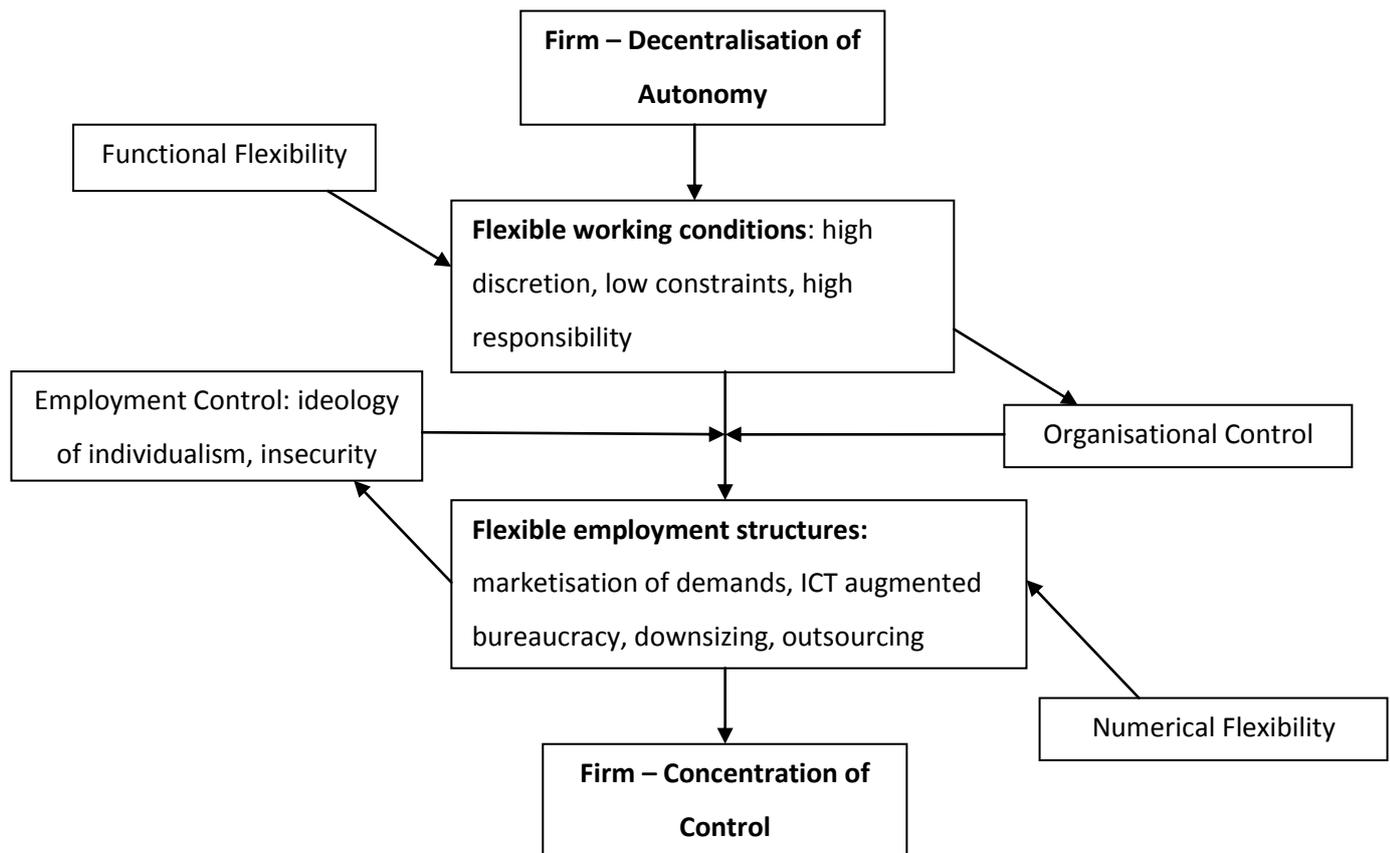


Figure 3.1 Concentrated Control & Decentralised Autonomy

Figure 3.1 summarises the contradictory processes described in this section. Harrison's (1994) concentration without centralisation is underpinned by organisational strategies of numerical and functional flexibility. Firm strategies of functional flexibility lead to diffusion of autonomy which offers workers more flexibility, increased levels of discretion, job expansion, responsibility, and pressure. The control structure utilised by firms has shifted from the technical-bureaucratic control of Edwards (1979) to an elicited commitment and internalised cultural control (Barker 1993, Kunda 2006). Firm strategies of numerical flexibility based on requirements of adaptability to market fluctuations (e.g. networked production, outsourcing) - underpinned by the hegemony of neoliberalism - have also led to more flexible employment structures characterised by increased competition and insecurity. In turn this legitimises an insecure, individualised, and conditional employment bargain (Smith 1997, Thompson 2003). Consequently these

employment structures intersect with organisational conditions and channel the concentration for firm power to the micro level also. As depicted in the preceding chapter, workers, particularly in knowledge intensive services, find themselves with high levels of autonomy, flexibility, and discretion at work, while at the same time ceding control over their employment to firm and market requirements.

Decentralised autonomy in work may actually facilitate greater firm control and consent to intensified work demands via job insecurity. Consider the following statement from Weber stated decades before the onset of flexible working practices;

The formal right of a worker to enter into any contract whatsoever with any employer whatsoever does not in practice represent for the employment seeker even the slightest freedom in the determination of his own conditions of work, and it does not guarantee him any influence on this process. It rather means, at least primarily, that the more powerful party in the market, i.e. normally the employer, has the possibility to set the terms, to offer the job "take it or leave it", and, given the normally more pressing economic need of the worker, to impose his terms upon him (Weber 1922:729-730).

Despite the huge contextual shift in work organisation marked by increases in ICT capabilities, teamwork, task control etc., Weber's claim still applies. Shih's (2004) interviewees have internalised responsibility for their own careers and therefore consent to demanding, erratic working conditions in order to strengthen their own career experience and use the flexible labour market to their advantage. It is the worker's responsibility to remain marketable. The level of autonomy afforded these workers, in reality, enables limitless labour through the ideology of individualism which pressures workers to perform. 'Project time' becomes the medium through which individual lives are linked to the cadence of the globalised capitalist markets of the high-tech industry. The ideology of 'worker as entrepreneur' functions as a mode of control which implies that the intensified, erratic working conditions of a 'condensed career' are in the workers own interests – thus providing a clear example of Smith's (1997) point regarding the intersection of controls in organisational mechanisms and employment practices; '...the life span of many workplaces is shortened due to its intimate connection to the ebbs and flows of

financial markets' (O'Carroll 2015:104). The success of projects and companies are not wholly contingent on the conduct and performance of the workers.

Consequently, notions of security are located in the networks and reputations of external labour markets, and notions of the ideal worker are based in an ability to respond to unpredictable temporal demands, intensified working patterns, and constant availability. Here the effect of competing temporal logics for women seeking to balance family and work demands again comes to the fore and produces different forms of opportunities and stressors for women in knowledge work.

Incompatible Expectations: The Gendering of Opportunities

Truss et al.'s (2012) study of 'knowledge intensive firms' (KIFs) in Ireland and the UK analysed the experience of women in the software and pharmaceutical industry. Although women had similar levels of education to men, they earned significantly less, were less represented in senior roles, worked shorter hours, experienced lower levels of job security, and had a more negative view of career prospects. This reflects the incompatibility between knowledge work expectations and norms, and balancing working demands with family responsibilities. In traditional domestic contexts, women with childcare responsibilities may be faced with a choice between knowledge work behaviours associated with promotion and career advancement (e.g. visibility as commitment, unpredictable availability, crunch time) or a work-life based on the prioritising of familial responsibilities and childcare. The temporal and autonomous demands of knowledge work often belie its flexibility; 'Flexibility, which is often seen as a family friendly feature of the workplace, can also be a trap, as it makes non-working time available to the company' (O'Carroll 2015:145). Consequently, creating incompatible expectations around the temporal logics of the workplace and boundary maintenance in the home. The role of available, committed, technically proficient knowledge worker may not be gender neutral (Acker 1990, Lott and Chung 2016).

Significantly, the inequality identified by Truss et al. (2012) can also extend into the type of work roles available to women. Women experienced lower levels of job

autonomy, variety, and 'innovative work behaviour' but equal levels of task interdependence. Thus women were likely to face different bundles of opportunities, controls, and demands when compared to men in KIFs (Crowley 2013). Holt and Lewis (2011), in what could be viewed as a post-industrial version of Acker's (1990) work, noted similar patterns in articulating the 'gliding gender segregation' within Danish workplaces. This refers to a self-fulfilling process where women with similar levels of education and experience to men end up in more routine positions within organisation. In a context of Danish social policies and workplace regulations which aim at reconciling work and family life (heavily subsidised childcare, collectively bargain working hours, generous maternity leave, flexible working policies etc), the authors' focus on workplace practices points to the resilience of gendered allocation of tasks. Women, in the same workplace with the same levels of education, were allocated tasks which are predictable and routine and were rarely found working on development type tasks. Consequently, their opportunities for up-skilling and career advancement were limited by this gendered allocation of tasks. Grosen et al. (2012) find similar gender naturalisation processes in the context of administrative work within a Danish bank.

The temporal logics and boundary maintenance required of knowledge workers is underpinned by gendered structures and processes. The conflation of the valued worker with ideals such as visibility and availability to work long and unpredictable hours is implicitly viewed as male, due to the traditional male breadwinner model. The more silent corollary of this process prevents those using flexible policies (women) from accessing development type work or opportunities for career advancement and ensuring future employability. 'Gender-neutral' flexible policies at the state and workplace level, do not always reflect implementation or practices and can have severe repercussions for employment security. Even though women in KIFs have similar levels of education and experience, their segregation into more routine roles mean that they are not able to convert these skills into innovative work behaviours on the job thus leading to a decrease in future career potential. The result is a 'cycle of disadvantage' for women where segregation within teams and firms reinforces unequal career opportunities (Truss et al. 2012). The

endurance of these gendered structures is an effect of the opportunities, demands, and expectations within the employment bargain of autonomous working lives.

Maintaining Emotional Boundaries

The literature presented in the previous section depicts how decentralised worker autonomy has enabled firms to impose their market-dictated interests and objectives upon the worker. The ultimate control to shape working conditions lies with the employers but it is also reinforced by the insecure nature of flexible employment; 'Cognizant of their dispensability, and aware of scores of contingent workers seeking full-time and permanent jobs, permanent workers may be more disposed to learning how to work, and working intensively, within the demands of the participative and flexible model' (Smith 1997:333). As Harrison (1994) noted in relation to firms, it is only the methods for managing this control which have changed. For some of the workers described in this section it could be argued that the 'terrain' now being contested between firms and workers (Edwards 1979) is in fact the autonomous working lives of individuals. In such a 'terrain', workers must continually negotiate a distance or boundary between work and non-work selves.

Interference in the capacity to distinguish between the requirements of the self and the demands of a work role can lead to 'fusion' and an increased risk of burnout (Hochschild 1983, Wharton 1999). Although originally used in the emotional labour literature of service work, this process also applies to the psychosocial consequences of the post-industrial work bargain. Underlining an autonomous, intensified and insecure employment bargain is the risk of diminishing sufficient distance between the demands of the job and the sense of self; '...any workers who are too identified with their work role – are at risk precisely because the feelings expressed at work are inseparable from the self' (Wharton 1999:162). The boundarylessness (Allvin 2008) and interdependence (Benson and Brown 2007, Perlow 1999) of autonomous working lives have increased exposure to such processes as working conditions and living conditions become a constant re-regulative negotiation. Task progress increasingly relies on other people who are

often not present in the same physical or temporal space, and managing to find security and stability in often fragmented and mobile careers is an increasingly individual endeavour (Benner 2002, Smith 1997). Under conditions where layoffs are a constant threat, ensuring employment security becomes a demand in itself. High job demands and job control can lead to a demand centred psychological strain (Schieman et al. 2006) in a context of workplace bargains where ‘...the re-mobilization of workers requires an increase in the duration and intensity of work and the investment of more of the “whole person”’ (Thompson 2003:363). Thus the 'fusion' (Hochschild 1983, Wharton 1999) of a work and non-work self, becomes a psychosocial risk for autonomous workers seeking to meet the demanding expectations of work and constantly maintain networks and opportunities in order to ensure future employment prospects.

Conclusion

The self-direction and self-regulation which depict autonomy at work are generally perceived as positive working conditions. However the character of the modern working world has complicated the dynamics of autonomy. Autonomy remains fundamental to the nature and effect of working conditions and the employment relationship, yet may present dilemmas and demands which challenge the experience of self-direction and self-regulation at work - the antinomies of autonomy.

Building on the post-industrial work bargain framework presented in Chapter 2, the literature review has explored the complex dynamics of autonomy arising for knowledge workers within the effort bargain, time bargain, and employment bargain. Each bargain presents its own distinctive form of antinomies of autonomy:

- The Interdependence of the Effort Bargain: Knowledge work labour processes, typified by task variety and interdependence, become complicated by the multitude of individual temporal rhythms which require some form of synchronisation. The demands of autonomous workers are often increased by

other autonomous workers who have their own tasks and objectives. In a context of organisational de-regulation, the relational demands of co-workers and managers add to organisational imperatives and become working conditions in themselves. Psychosocial risks emerge in the irregular and potentially limitless interdependent demands of colleagues, customers, and managers which impinge on the experience of autonomy at work.

- The Boundaryless Time Bargain: Linked to the effort bargain, ICT enabled and market defined demands have led to organisational de-regulation which, in turn, has resulted in workers with high levels of autonomy having to develop their own strategies of re-regulation. Working conditions of autonomy, flexibility and freedom carry with them a level of responsibility which blurs the boundaries between work and non-work life. This experience of autonomy is therefore influenced by the psychosocial risk of boundarylessness (Allvin 2008) as it is left to workers to re-regulate what is and is not work time and space.
- The Fusion of the Employment Bargain: Individualised employment security intersects with high levels of autonomy at work to limit the amount of freedom and self-regulation experienced. In effect, low levels of job security, market volatility, and individualised strategies for ensuring career progression can lead to a reduction in the distance between work and non-work selves. This can result in the psychosocial risk of 'fusion' (Wharton 1999) as boundaryless and interdependent working demands combine with an individualised employment bargain leading to the rhythms of working lives becoming synchronised with market and organisational forces.

Combining the macro shifts in the nature of autonomy in work with the post-industrial bargains framework thus provides a conceptual basis from which to identify the unique demands emerging for knowledge workers. Within the interplay of high levels of autonomy and the negotiation of effort, time, and employment, antinomies of autonomy - which challenge the experience of self-regulation and freedom - emerge within the requirements of each bargain. These antinomies present their own distinctive and linked psychosocial risks. This analysis extends labour process and work psychology literature in illustrating how autonomy at work is experienced, contested, and impinged upon, at the level of the labour process, working conditions, and the employment relationship. This conceptual perspective guides the qualitative analysis of stressors later in the thesis.

Before moving on to the methodology and data analysis, the following chapter addresses the link between work and psychological well-being more directly by presenting the most prominent theoretical models linking working conditions and well-being outcomes. Building on the linked antinomies of autonomy emerging within post-industrial work bargains developed thus far, the chapter will highlight how the dynamics of autonomy at work extend beyond the hypotheses of these models. How workers respond to the antinomies of autonomy and emerging psychosocial risks are shaped by the institutional context in which these bargains and workers are embedded. The manifestation of stressors is linked to the contextually defined 'capability-set' (Hobson 2014) of resources from which workers can draw. The chapter thus presents a sociological framework which incorporates post-industrial working conditions and the antinomies of autonomy, and highlights the stressor-capability link in shaping the impact of work on psychological well-being.

Chapter 4 Old Models in a New Context: The Social Structures of Stressors

Introduction

Understanding the relationship between working conditions and psychological well-being is a complex and multilayered task. Research in psychology, particularly its occupational health and organisational sub-disciplines, has produced a number of substantiated models addressing the connections between working conditions and well-being. Four of the most influential theoretical models in this field will be highlighted in this chapter; the Demand-Control (D-C) model (Karasek 1979), Effort-Reward Imbalance (ERI) model (Siegrist 1996), Job Demands-Resources (JD-R) model (Bakker and Demerouti 2007), and the Vitamin model (Warr 2007). Each model is based on various aspects of control and autonomy at work. However, due to the necessary but limited frame of these models - which may be now incompatible with the contradictions of autonomous working conditions discussed thus far - the chapter will highlight the potential for a more sociological focus on stressors of working life to shed light on the dynamics and consequences of autonomy in post-industrial work. The chapter will relocate these work-strain models in a conceptual framework which prioritises the social antecedents of stressors within autonomous working lives. In doing so the implication is that job autonomy is not always impervious to negative consequences and that the institutional context in which it is embedded can alter its shape and effect.

The Models Linking Work and Psychological Well-being

The Job Demand-Control Model

The demand-control (D-C) model of job strain devised by Karasek (1979) highlights the combination of job demands and decision latitude as the aetiological features accounting for strain on the job; '...psychological strain results not from a single aspect of the work environment, but from the joint effects of the demands of a work situation and the range of decision making freedom (discretion) available to the worker facing those demands' (1979:287). Job strain is hence a result of high working demands combined with low decision latitude (Figure 4.1). This model restricts its focus to the effort bargain as it is fundamentally interested in the impact of conditions inherent in carrying out work tasks at the point of production.

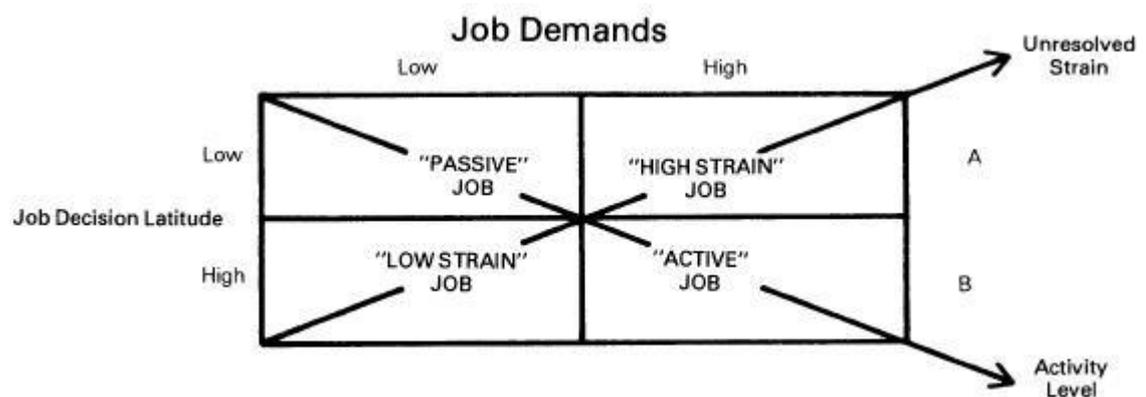


Figure 4.1 Job Demand-Control (D-C) Model.
Source: Karasek (1979)

A key element of the model is the positing of decision latitude - made up of skill discretion and decision authority - as a protective buffer from the negative effects of high workplace demands. Karasek also suggests that when job demands and decision latitude are both high it should be termed an 'active' job which '...leads to the development of new behaviour patterns both on and off the job' (1979:288). An expansion to the D-C model was developed by Karasek and Theorell (1990) with the introduction of social support as an additional resource to combat work demands

and iso-strain, the result of working in high strain conditions with low social support. Due to the concise nature of the D-C model and its ability to capture decisive correlates of working conditions, the model has proved popular with many studies using it as a theoretical guide for measuring trends in working conditions across Europe (Gallie and Zhou 2013; OECD 2012) and investigating various worker well-being outcomes (Calnan et al. 2000, de Jonge et al. 2000, Gallie and Zhou 2013, Mausner-Dorsch and Eaton 2000, Stansfeld and Candy 2006, Van der Deof and Maes 1999). Most studies found evidence supporting the 'job strain' hypothesis, however the functioning of decision latitude as a buffer has received more mixed evidence with Stansfeld and Candy's (2006) meta-analysis of psychosocial stressors at work pointing to an ambiguous interaction between decision latitude and demands. It is here where the current nature of autonomous working conditions discussed in the previous chapters may present issues for the D-C model (de Jonge and Kompier 1997). Grönlund (2007) finds that high levels of control do not moderate the impact of high demands as workers with high control cannot meet high demands without working longer or an increase in work intensity. Karasek's (1979) 'active' jobs (high demands and high control) which lead to positive learning opportunities seem '...to be more of a fixation than a fact' (Grönlund 2007:423). Thus, Grönlund (2007) calls for a thorough analysis of the various dimensions of high control at work.

The model is significant in shifting the lens away from characteristics of the individual and their 'job fit' (e.g. Caplan et al. 1975) and onto the role of working conditions in the strain process. However, due to its origin in the industrial work of the late 70's, the limited scope simplifies the nature of autonomy (decision latitude) as wholly positive and protective. It also simplifies the levels at which autonomy at work may operate (working hours, location, influence, social relations, security). A focus only on the conditions of task production (effort bargain) ignores the features and effects of autonomy as they arise within negotiations of time and boundaries, and employment and careers. Joensuu et al.'s (2012) longitudinal study of Finnish forest workers distinguished between the skill discretion and decision authority aspects of decision latitude within the D-C model. Strikingly they found that higher

levels of skill discretion led to lower negative health outcomes but higher levels of decision authority was associated with a higher risk of negative outcomes. The structure of working conditions in post-industrial society has fragmented and complicated the nature of, and relationship between, demands and autonomy (Hvid et al. 2008; 2010). Approaches using the D-C model can be prone to misinterpretation via a conflation of conditions with experiences of these conditions i.e. an assumption that working conditions which fall into the 'job strain' quadrant (high demands, low decision latitude) actually result in some form of psychological strain. Job strain conditions - usually measured by finding the median across various measures of autonomy and demands in work and then splitting the sample into high and low (e.g. Gallie and Zhou 2013, OECD 2012) - do not actually mean stress or negative psychological outcomes are experienced. It merely describes working conditions where this is more likely to occur. As noted by Anderson-Connolly et al. (2002) workers experience structures first and it is these conditions, shaped by the social, occupational, organisational, and workplace contexts, which present the types of strain experienced by workers. The D-C model clarifies the key conditions within the effort bargain which influence the development of a job-related strain. However, crucially, it oversimplifies the dynamics and demands that decision-latitude itself can bring within a post-industrial working context, and ignores the dilemmas arising for workers in negotiating the boundaries of work and security of employment - both of which influence the experience of autonomy and demands at work.

The Job Demands-Resources Model (JD-R)

Building on both the strength and weakness of the D-C model - its simplicity - the Job Demands-Resources model (JD-R) (Bakker and Demerouti 2007) provides a broader frame to capture the different types of demands exerted and resources required across a multitude of workplaces (Figure 4.2). Unlike the D-C model, the JD-R states that resources are not only used to cope with demands but are important in their own right, often leading to motivation and engagement, or what Hodson (2001) referred to as citizenship. The model identifies two different

psychological processes occurring in the development of strain and motivation. In fact, when demands are very high, it is the resources available which influence motivation and engagement. In effect the JD-R model broadens the applicability of the D-C features by replacing decision latitude with the broader notion of resources and specifying that these resources can have motivating effects of their own volition. The critical argument of the model is that strain develops in contexts where demands are high and required (i.e. compatible) resources are limited. The JD-R model therefore attempts to distinguish the relationships between particular demands and resources inherent within the D-C model. Due to its broad nature and attempt to capture the universe of workplaces, the JD-R model has proved to have wide applicability (Drobnič and Rodríguez 2011, Hakanen et al. 2008, Sardeshmukh et al. 2012). In providing such a broad approach, this model potentially covers dimensions within all three work bargains (effort, boundaries and employment). However, in attempting to specify demand-resource relationships across different types of workplace, the model resides at quite a general level of analysis with little on the levels at which resources may be found (individual, workplace, institutional). In addition, the model does not explicitly address circumstances in which high resources and motivation may also lead to strain. The reciprocity required between demands and their linked resources may not be able to address the complex circumstances in which autonomy (as a resource) presents its own dilemmas and stressors.

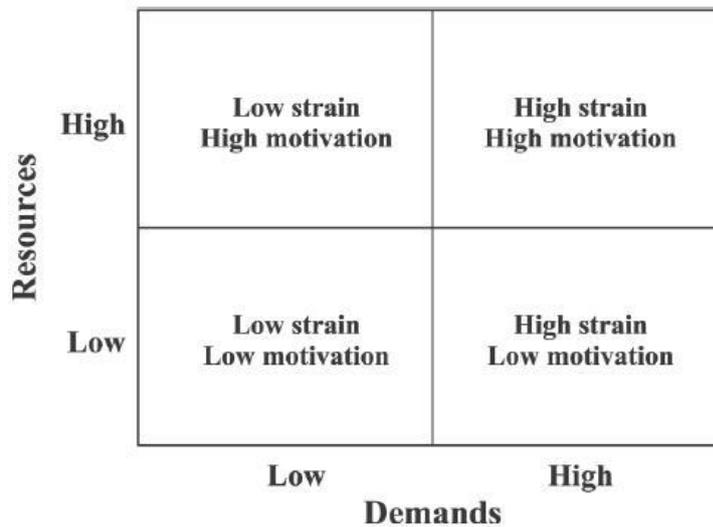


Figure 4.2: Job Demands - Resources (JD-R) Model.
Source: Bakker and Demerouti (2007).

The Effort-Reward Imbalance (ERI) Model

Siegrist's (1996) effort-reward imbalance (ERI) model posits an equilibrium based theory based on social reciprocity and an equalization between efforts and rewards at work. Importantly, unlike the D-C model, the ERI model extends beyond the limits of a work 'place' (and thus the effort bargain) and accounts for the roles of both extrinsic and intrinsic demands (Figure 4.3). Extrinsic demands refer to externally generated demands such as customer, market, or general employer demands while intrinsic demands refer to the cognitive and motivational patterns of certain workers, especially in relation to over-committed workers who may perceive the prevalence of inappropriate demands and rewards. Rewards typically mean pay, esteem, and job security or career opportunities (also referred to as 'status control'). Employees exposed to circumstances characterised by a sustained deficit between high efforts and low rewards are at risk of strain reactions with both external demands and intrinsic personality characteristics playing a role. Unlike the previous two models, the ERI model's use of extrinsic and intrinsic effort alongside rewards can potentially account for the well-being effects of the antinomies of autonomy arising within the effort (interdependence of demands), boundary ('time-work') and employment (negotiating security) bargains.

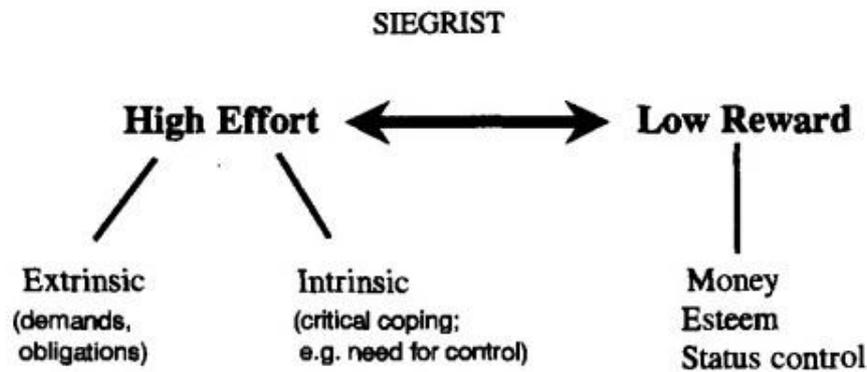


Figure 4.3: Effort-Reward Imbalance (ERI) Model.
 Source: Siegrist (1996)

Research utilising this model has found corroborating evidence for the role of ERI based strain, while the role of over-commitment has found mixed support (Calnan et al. 2000, de Jonge et al. 2000, van Vegchel et al. 2005). In a meta-analysis of psychosocial work stressors Stansfeld and Candy (2006) found that working conditions associated with both job strain and effort-reward imbalance were risk factors for common mental disorders. The most important contribution of the model could be the implied acknowledgement that high autonomy at work can also produce negative outcomes - through excessive levels of commitment to work which create an imbalance towards efforts. Ultimately, it appears negative strain outcomes are a result of individual interpretations and behaviour in response to working circumstances. As such, the model seems to underplay the independent role of structural demands in shaping commitment requirements through organisational or corporate culture (Kunda 2006). Again the key features in the model have become fragmented and complicated in the modern working world, particularly regarding the relationship between extrinsic and intrinsic demands.

An important, but very often underplayed, concept within the model is "status control". Linked to mastery and self-efficacy, low status control refers to a threat to continuity of an occupational role or social standing. More commonly this refers to

job insecurity and the potential for career sustainability or advancement. However Siegrist (1996) also notes that occupational change, and fragmented careers and lives may also lead to low status control. Under such conditions status control becomes more important than task control (i.e. D-C model) for the development of strain reactions. Sociologically equivalent arguments are presented by Sennett's (1998) 'corrosion' of character and Standing's (2011) 'precariat'. Stability and security are increasingly the responsibility of the individual and as such become demands which need to be constantly negotiated by workers - even those in high autonomy positions (Glavin and Schieman 2014). In the current context of incessant demands for worker flexibility, the dearth of indefinite contracts, and increasingly porous work-life boundaries, it is not difficult to see the significance of status control as a key mechanism in the development of strain within the modern demands of working life. Maintaining secure and sustainable working lives now asks more of the individual worker and less of the employer. This individualised post-industrial employment bargain has also made the institutional context much more important for the ability to maintain some form of status control. However, the focus of the model underplays the role of structural factors in limiting status control and consequently ensuring an imbalance across different dimension of work i.e. insecure employment structures which increase extrinsic demands on workers. The limited outcome types of the D-C, JD-R, and ERI models also restrict the effect of work on workers to 'strain'.

The Vitamin Model

In *Work, Happiness and Unhappiness* (2007), Peter Warr posits a vitamin analogy in order to explain how nine common work environment features can account for the psychological effects of employment. These are;

- (1) opportunity for personal control
- (2) opportunity for skill use
- (3) externally generated goals
- (4) variety
- (5) environmental clarity

- (6) contact with others
- (7) availability of money
- (8) physical security
- (9) valued social position.

Warr notes that happiness is shaped by environmental features in much the same way that vitamins affect the physical condition. For certain vitamins, a low intake level leads to a deficiency which can cause ill-health. However, after the recommended amount is taken there is no benefit from taking additional quantities (e.g. vitamins C and E). Whereas other vitamins when taken in large quantities can become harmful (e.g. vitamins A and D). Based on these vitamin types, Warr groups the environmental features into two abbreviated categories; AD (additional decrement) and CE (constant effect) (Figure 4.4). The model suggests that environmental features one to six are AD features and have a negative or toxic effect when increased beyond a certain level while features seven to nine are CE features which have no effect when increased beyond a particular threshold.

Interestingly, features that characterise autonomy (1) 'opportunity for personal control' and (2) 'opportunity for skill use' and demands (3) 'externally generated goals' (resembling Karasek's demands and decision latitude) are labelled as AD features which can become noxious when increased beyond a certain level.

According to Warr (2007:97) this is because;

...an "opportunity" becomes an "unavoidable requirement" at very high levels; behaviour is then coerced rather than encouraged or facilitated. Environments that call for unremitting control (a very high level of feature 1) through difficult decision making and sustained personal responsibility, or that demand continuous use of extremely complex skills (2), can give rise to overload problems as very high demands exceed personal capabilities.

Warr's (2007) vitamin model thus presents a curvilinear critique of the D-C model (de Jonge and Kompier 1997).

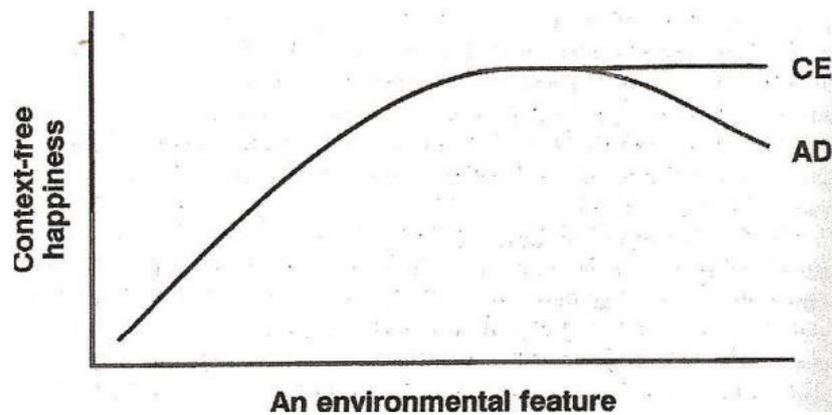


Figure 4.4: The Vitamin Model.
Source: Warr (2007).

Evidence for this curvilinear effect has been supported by a range of studies (de Jonge and Schaufeli 1998, Jeurissen and Nyklíček 2001, Meyerding 2015). Other studies have also argued that past a certain level, autonomy actually functions more as an additional demand rather than a protection (MacEachen et al. 2008, Shih 2004, van Echtelt et al. 2006). Anderson-Connolly et al., in their multi-dimensional take on the impact of workplace transformation on well-being, state that working in intense conditions produces harmful stress outcomes for both managers and non-managers while increases in autonomy for those who already have considerable levels of discretion in work can also generate harmful mental health outcomes; 'There may be a point at which individual responsibility and accountability in a situation of complex interdependencies becomes stress-producing rather than empowering' (2002:408). Rather than preventing strain, high levels of autonomy can, in certain circumstances produce strain. Warr's (2007) vitamin model may provide a glimpse of the antinomies of autonomy involved in the conditions of 'project time' (Shih 2004), the 'autonomy paradox' (van Echtelt et al. 2006) and 'responsible autonomy' (MacEachen et al. 2008) which potentially create an oversupply of work demands and produce negative mental health outcomes for workers. Considering the bargain-based antinomies of autonomy discussed in the previous chapters, Warr's (2007) vitamin model captures a simple

but vital factor which is generally ignored by the other models presented - autonomy has multi-dimensional effects, and some of these are not wholly positive.

What these models depict is the multifaceted nature of work, and its effects on workers' well-being through specific correlations of conditions. However their analytical frames are generally limited to the conditions of the effort bargain within the workplace. As the previous two chapters have described, the dynamics - and counter-intuitive pressures - of autonomy within post-industrial work permeate beyond the organisation of tasks within a workplace. Autonomous work, particularly in knowledge-based industries, is often boundaryless and brings its own re-regulation demands which must be managed by the individual (Allvin 2008, Moen et al. 2013). Taking heed from the multi-dimensional impact of work environment features (Warr 2007), there is a need to relocate aspects of the D-C, ERI, and JD-R models in the 'boundaryless' literature which emphasises the new fluid boundaries between work and life, and identify the mechanisms which transform autonomy from resource to threat.

Just as autonomy has moved beyond the workplace, so has security. Status control for many autonomous workers relies on maintaining skills and experience within an employment relationship which requires comprehensive investment from workers for conditional rewards from employers (Thompson 2003). Ensuring employment security often requires a 'worker as entrepreneur' (Smith 1997) approach which can lead to a reduction in the distance between work and non-work selves (Wharton 1999). As noted by Hvid et al. (2010), the nature of control and autonomy at work itself is changing. If autonomous work is individual, interdependent (Perlow 1999), and boundaryless (Allvin 2008), and the responsibility for employment security is placed increasingly at the individual worker's feet (Smith 1997, Wichert et al. 2000), job autonomy moves beyond the work environment and becomes a working life terrain to be negotiated and managed on a regular basis. The demands and pressures arising for autonomous workers as they negotiate the boundary bargain (work and non-work time, work-life balance) and employment bargain (career expectations, employment security), as well as the interdependence of the effort

bargain, are weakly understood within the literature and frame of these models. Thus potentially missing out on key mechanisms of autonomy, which may generate stress outcomes for workers.

Additionally the models discussed do not address the role of the socio-economic context in shaping the composition and strategies associated with the antinomies of autonomy. The dynamics of high autonomy within working life are increasingly influenced by institutionally shaped bargains (e.g. employment and organisational policies and norms) (Allvin 2008, Grönlund 2007). The importance of the institutional context becomes evident in shaping the resources available for autonomous workers to manage their work time (Moen et. al. 2013), and ensure 'status control' (Siegrist 1996) or 'solid enough futures' (Stinchcombe 1997) within insecure economic and organisational environments. A more sociological take can assist in clarifying the social structures and resources at play in negotiating the bargains of post-industrial work, the antinomies of autonomy, and any stressors arising out of their interplay. Stressors can emerge as autonomous workers attempt to balance the expanded requirements of job control (i.e. the vitamin model critique of the wholly positive function of decision latitude in the D-C model), including constructing boundaries, with low levels of status control (i.e. stabilising fragmented and insecure career patterns).

The Stressor Process

An article by Tim Adams (2016) in the Guardian entitled; "Is there too much stress on stress?" points to the ever-popular but equally ever-camouflaging nature of the term 'stress', especially when used in relation to work. Noting the seminal work of Hans Selye (1956) on the stress process, the article argues that the focus on stress is actually leading to the ignoring of more complex work and employment issues. This ambiguity around the term stress actually originates in Selye's (1956) classification of the 'general adaptation syndrome' (GAS) as the common biological response to environmental threats of various kinds, in that he used the term stress to refer to

both cause and effect (Adams 2016). Such liberal use has led to the term being used to refer to aspects of exposure, process, and outcome (Bamberger 2013). In other words, job stress has been used to characterise working conditions, a biological process as response to working conditions, and discrete health outcomes as a result of the previous two. Considering the structural transformation of autonomous work demands, the subsequent changing nature of job control, and the flaws of the prominent models, the relationship between working lives and psychological well-being requires a sociological clarification. One which moves past a biomedical approach to work-related stress which pathologises the individual (Turner and Samson 1995), and emphasises the resources and constraints of the context in which workers are embedded.

In a special issue of the *Journal of Health and Social Behavior* on outcomes in the sociology of mental health, Horwitz (2002) notes the need to develop more sociologically appropriate measures as the sociology of health and illness has often relied on outcome measures from other disciplines (e.g. psychology). The fundamental question sociologists of mental health ask is; 'what are the psychological consequences of particular social arrangements' (2002:144). Underlying this question is not only a focus on context, but also the assumption that systems of social structure and culture have an effect on the psychological well-being of the people who make up these systems. Schwartz (2002) highlights the unintended constraints on outcomes used in the sociology of mental health due to the hegemony of the stress paradigm - which encourages questions where the outcome of interest to researchers (consequences of social structure) is conceptualised only in terms of psychological distress. In essence, the unit of analysis and variance to be explained is at the individual level. Thus neglecting social causes and consequences, and social groups as units of variance. A mismatch can then arise between sociological goals and outcomes used to achieve them (Schwartz 2002). Studying single outcomes across different social groups can be troublesome as they may respond to the same stressors with alternative outcomes, which can of course distort the comparison between different groups, especially where different national cultures are considered.

In line with Schwartz' (2002) argument, the most common consequences of stressful circumstances are likely to be '...continuous and generalized rather than discrete and specific' (Horwitz, 2002:146). Therefore, a focus on discrete disorders (e.g. depression, anxiety) may not be the most appropriate measure for sociologists. It is the continuous, everyday feelings which are relevant to this study as it is the psychosocial risks (i.e. stressors) that are of interest rather than the prevalence of disorders. At a very basic level, this requires an analysis of how individuals manage the demands of their working life, and simply how work makes people feel. Emma Seppala (2016) writes in an article in Harvard Business Review that the cognitively demanding nature of modern work can lead to mental exhaustion through both positive and negative high intensity emotions. It is the highly intense nature of these emotions - which involve the same physiological process whether they are positive or negative - that 'tax the body'. Stress outcomes and job satisfaction do not capture the continuous impact of work on workers and thus offer little information relevant to the manifestation of stressors; '...the concept of job satisfaction does not adequately encapsulate the whole range of emotional responses to jobs...' (Green 2006: 153). Hence, the core elements of empirical assessment within this study relate to how workers negotiate and manage the conditions and demands of the everyday realities of working life.

It is the stressors emerging from these everyday realities, contexts, and demands which play a major role in shaping the impact of work on workers. Yet, due to the ubiquity of the stress term, and their between-field position as psychosocial entities, stressors remain somewhat ill-defined and underestimated. Critiquing Selye's (1956) reductionist treatment of stressors within his biological model of stress, Wheaton (1999) asserts that stressors can affect mental health without necessarily causing an immediate physiological response. The purpose here is to delineate stressors from outcomes. Wheaton (1999, 2013) uses an engineering analogy to define a stressor in terms of an external force applying pressure to the internal integrity and capacity of a structure. A stressor is;

... a condition of threat, demand, or structural constraint that, by its very occurrence or existence, calls into question the operating integrity of the organism... Threats involve the possibility or expectation of potential harm. Demands involve the load component of stressors, also commonly referred to as "burden", or "overload". The sense of being "pushed" by current life circumstances reflects this component of stressors. Finally, structural constraints stand for reduced opportunities, choices, or alternatives resulting from severe or non-self-limiting social disadvantage. The structural constraints referred to here are features of social structure... (1999:281).

Furthering the engineering analogy, Wheaton (1999) notes that a stressor must be a situation or event that challenges the configuration of an organism '...applied at levels beyond the current elastic limit of the organism' (281). This definition implies that conditions of threat, demand, or constraint only become stressors when an event or, importantly, continuous circumstances, impress with such force that they threaten the 'elastic limits' of the individual. This articulation of stressors captures a number of significant aspects: (i) varying individual resources account for instances of similar stressors and different worker outcomes; (ii) the inclusion of a 'load' facet addresses the continuing intensity of cognitive demands associated with autonomous work; and (iii) the inclusion of 'structural constraints' points to the resources of the organisation and institutional context in alleviating or intensifying the composition of work-related stressors. The combination of internal resources and structural pressures, constraints and opportunities offers the opportunity to qualitatively explore the varying sets of resources, demands and practices which make up the everyday realities faced by similar workers in different contexts (Irish men and women in IT versus Danish men and women in IT) managing autonomous working lives. Wheaton's definition of stressors serves to clarify how social structures shape both the forces and resources of the work and psychological well-being relationship.

While the term 'stressor' maintains a psychological connotation, the definition provided by Wheaton offers a more psychosocial perspective which can be read in sociological terms. Building on the post-industrial work bargain framework, the antinomies of autonomy, and the models outlined, the key mechanisms of sociological stressors refer to the rules, responsibilities, and requirements, (Allvin 2008, et al. 2011, Warr 2007) transmitting the pressures associated with the

antinomies of autonomy to the worker, as well as the resources (Hobson 2014, Zimmerman 2006), providing tools from which context-defined strategies can be created to manage them. Allvin's (2008) analysis of the shift from constitutive rules (defining actions as functional) to regulative rules (directing action, individual defines rules as functional) within boundaryless work provides an example of the sociological nature of stressors. These rules represent psychosocial mechanisms which conjoin occupational and organisational requirements and expectations with the behaviour and action of individual workers. Rules, requirements, and responsibilities associated with work roles can become social forces which are reproduced by working practices (Giddens 1984). The potential stressors of the antinomies of autonomy discussed in the previous chapter are often composed of responsibilities and requirements. It is via these four R's (rules, requirements, responsibilities, and resources) that the dynamics of the post-industrial work bargains can become the external forces of stressors for workers with high levels of autonomy. A sociological framework can therefore capture the key mechanisms through which the dilemmas (e.g. antinomies) arising within each work bargain are managed or become dangerous stressors. Framing the problem of noxious working conditions and psychosocial risks only in terms of mental health disorders (or discrete outcomes) does not reflect the full reality of the pressures and demands of working life. Placing stressors at the centre of the approach offers a more structural perspective of the continuous and embedded strategies and practices used by workers to manage the demands of autonomous working lives (e.g. managing work time, ensuring career security, managing social relations at work etc.). Thus, a more sociological perspective which can account for differing and dynamic antecedents of stressors brings the models discussed previously in this chapter closer to the post-industrial work bargains presented in Chapter 2. However, this is an entirely structural account of stressors. To give workers agency in this process we turn to the 'situated agency' (Zimmerman 2006) of the capabilities framework (Sen 1999, Hobson 2014).

Contexts and Capabilities: Bringing Structure In

...future research should explore the possibility that institutional differences between countries could affect the level, the nature and the consequences of job control (Grönlund 2007:424).

Institutions define the choices available to actors, who in making these choices 'enact' and change institutions. In other words institutions and actors shape each other (Streeck and Thelen 2005). The investigation of actor's behaviour in terms of the rationale behind choices made has produced three broad themes: rational interests (rational institutionalism), norms (sociological institutionalism), and path dependent rational choices (historical institutionalism). There is also a demarcation between old and new institutionalist approaches. Old institutionalism prioritised formal regulations, bodies, and actors - what Stinchcombe (1997) referred to as 'the guts of institutions' - as the focus of analysis. New institutionalism takes a broader, more informal lens of analysis stressing the important influence of phenomena such as norms, legitimacy, and local practices. Pointing to the conflation of institutions and actors within rational and sociological institutional approaches Streeck and Thelen (2005) define institutions as regimes. These institutional regimes refer to a legitimate set of rules defining expected and undesirable behaviour which is enforced by a social context made up of rule-makers and rule-takers. This definition conceptually distinguishes between the rules and their enactment;

...institutions may be defined as building-blocks of social order: they represent socially sanctioned, that is, collectively enforced expectations with respect to the behaviour of specific categories of actors or to the performance of certain activities. Typically they involve mutually related rights and obligations for actors, distinguishing between appropriate and inappropriate, 'right' and 'wrong', 'possible' and 'impossible' actions and thereby organising behaviour into predictable and reliable patterns (Streeck and Thelen 2005:9).

How institutions are enacted and change is a topic of much debate. For the purposes of this study, the capabilities framework provides a theoretical bridge connecting institutional contexts with actor's behaviours and stressor manifestation for autonomous workers across different social contexts.

Workers are not just passive receivers of structural demands (Hodson 2001). The capabilities approach articulated by Amartya Sen (1999) offers a theoretical space for capturing the divide between the aspirations and actions of individuals and stresses not only what individuals do but what choices are available to them. Sen's (1999) oft quoted example is that of a person fasting compared to a person starving i.e. the combination of biologically similar processes and very different reasons and contextual choices. Differentiating between 'capabilities' as the means and 'functionings' as the ends, this approach emphasises the possibilities (capabilities) for choosing alternative ways of living (functionings) – their 'opportunities to be and do'. Agency freedoms represent the opportunities individuals have to achieve things of value to them (Sen 1999). Sen's framework is not without its critiques whether that be a lack of a universal list (Nussbaum 2000), epistemological limits (Robeyns 2005), inadequate attention to societal relations, power structures, or 'collectivities' (Miles 2014, Evans 2002), and the 'situated agency' (Zimmerman 2006) of interactive individuals seeking to enhance their freedom options. Capabilities are certainly 'context-dependent' but they are also hugely influenced by extra-individual forces, which are left unspecified by Sen.

Hobson (2014) utilises a more institutionally oriented capabilities framework. Her focus is the analysis of indicators of worklife balance and quality of life as functionings (outcomes), and the economic, social, and normative (institutional) contexts which enable or constrain the possibilities for achieving them across different societies; 'Within the context of work-life balance (WLB) and better quality of life, this entails greater control over one's time, less daily stress and overwork, and a greater sense of security and wellbeing' (Hobson 2014:5). The agency and capabilities framework thence becomes 'a lens from which to view alternatives' across different institutional settings. Vital aspects of working life - income and employment security, work-life balance, career sustainability, and mastery over non-economic aspects of working life - all represent functionings which Hobson (2014) points to as being shaped and defined by specific institutional contexts. This framework tracks the processes through which entitlements and options are built

into national policy frameworks are mediated through occupational and workplace contexts and filter down to individual working lives. Thus this multidimensional approach investigates how resources are converted into agency for work-life balance and what capabilities are available to achieve this. In articulating the composition of these resources, Hobson (2014) identifies three key 'conversion factors': individual (personal and domestic resources), institutional (welfare regimes, policies, rights, laws), and societal/cultural (norms around gender, care, work and employment). Together these factors provide workers with a 'capability set' from which agency freedoms can be utilised to achieve work-life balance.

The conditions of working lives represent a package made up of these capability sets and the three key post-industrial work bargains outlined in Figure 2.1 (effort, boundary/time, and employment). The effective choices and options available for managing the demands of autonomous work are thus shaped by these capabilities and bargains and may offer different ranges of resources and possibilities for similar occupations across different social contexts. This highlights '...the importance of taking into account how an individual's practices are embedded in an institutional context, in terms of policies, regulations, and norms' (Fahlén 2014:51). These structurally shaped choices are also a crucial element in the stressor process as they can enable or constrain particular goals in managing the demands of work and non-work roles. As such, they are social conditions which influence the effect of the conditions of working life on the psychological well-being of workers. Limited capabilities reflect structural constraints. For Wheaton, structural constraints are part of the stressor process. These constraints are very similar to what Hobson (2014) terms the agency-capabilities gap i.e. what workers would like to do in contrast to what they can do in terms of managing their working life. Thus the resources available for workers to shape how they respond to the various demands of autonomous working life represent a key facet in the stressor construction process. These capabilities also introduce an element of worker agency which is somewhat lacking in the models discussed in the first section.

Burchardt et al. (2013) conceptualise choice as one aspect of an intrinsically valuable autonomy, also made up of self-direction, active decision-making, and a wide range of - perceived and realisable - options. For the authors autonomy represents a more relevant analytical subject for public policy to pursue. Choice, or the act of choosing, is important but so is self-direction and control over key aspects of life. Choice is necessary but not sufficient for, and therefore equal to, genuine autonomy. However autonomy is a multi-dimensional condition and in order to prove useful must include intrinsic and extrinsic aspects; 'An adequate concept must encompass the internal (mental) and external (situational) aspects of autonomy, and the interaction between them' (19). Subsequently the authors employ the capabilities perspective (Sen 1999) as a framework which can account for situational facets of autonomy while also highlighting inadequacies in public policy provision. Using survey data from the UK, Burchardt et al. (2013) note an unequal distribution of this conceptually expanded autonomy with low socio-economic status and lack of education associated with greater constraints on autonomy. Therefore, those with low education and socio-economic status tend to face more impediments to their freedom to lead the types of lives they value - almost mirroring the status-stress inverse relationship (Pearlin 1989). However the picture is often much more complex than these associations. Burchardt et al. (2013) also found that employment and work-life balance were aspects in which respondents felt they had the least control. It is important to distinguish levels of job control from an ability to manage work-life conflict. It is increasingly feasible for an individual to have high levels of job control but low levels of control over work demands - typifying the complexity inherent in the post-industrial bargain of modern working lives.

Drobnič and Guillen Rodriguez (2011) use the capabilities approach to highlight how workers, particularly female workers, may not always be able to convert institutional resources into capabilities for managing work - non-work interference. Using Voyandoff (2005) to conceptualise between time-based demands (long hours, overtime, time expectations) and strain-based demands (overload, pressure, insecurity), they find that long hours systematically increase tension in work-life

balance. Their evidence points to autonomy not always translating into a positive, and the importance of the institutional context in converting job control into a capability for managing the stressors of work life. Lott and Chung (2016) provide an example in highlighting the 'gender discrepancies' in flexible work and hours where increased schedule control leads to overtime and pay increase for men yet only an increase in overtime for women. Similar levels of job control (in this case schedule control) do not always equate to the same opportunities for autonomous male and female workers due to gendered notions of organisational tasks, roles, and expectations (Acker 1990, Holt and Lewis 2011). Thus the relationship between capabilities and stressors is contoured differently for men and women - even in similar occupations and organisations.

The antinomies emerging for workers in autonomous positions represent a disjuncture between post-industrial, knowledge-based working demands and the models presented in the first section of this chapter. Unlike the assumptions of the D-C, ERI, and JD-R models, autonomy, when unpacked, is influenced by a number of work and employment dimensions. The conversion of job control or working life autonomy into a range of capabilities and demands is based on a number of structural contexts (work environment, organisational practices, occupational expectations, employment legislation, institutional context etc.). Fundamentally, the dynamics of autonomy within working life are dependent on its particular context. The conditions deemed vital to the psychological well-being in these frameworks - control, autonomy, choice, discretion - are not - and never can be in such a globalised and interconnected world - completely the property of the individual worker.

Polanyi (1944) highlighted the liberal illusion that individual volition exists independently and can shape all aspects of the world. According to his thesis, individual freedom is never completely free due to the interdependent reality and complexity of society. Work autonomy, just like Polanyi's (1944) freedom in a complex society, is not ring-fenced for an individual - it is always in contact with other demands, processes and structures. Rather than acting as an independent

buffer to other workplace features (e.g. the D-C model), autonomy is conditioned by its various contexts. Autonomy, individual choice, and freedom are profoundly social (Stinchcombe, 1997); '...the very founding concepts of liberalism - rational choice by autonomous individuals - depend on conditions that can extend well beyond an individual's autonomous understanding of the world and the choices he or she makes in it' (Ó'Riain, 2014:13). However, freedom and autonomy are central to well-being, and choice is central to a sense of self-determination;

...it is not an exaggeration to say that our most fundamental sense of well-being crucially depends on our having the ability to exert control over our environment and recognizing that we do...choice enables people to be actively and effectively engaged in the world, with profound psychological benefits (Schwartz 2005:103).

Schwartz highlights the 'paradox of choice'. Individuals who feel in control are generally better off psychologically (Ross and Mirowsky 2013), yet the excessive efforts and expectations that often accompany high levels of control are also contributing to negative mental health outcomes. To breakdown this paradox, Schwartz (2005) suggests a distinction is made between what is good for an individual and what is good for society, between the *psychology* and *ecology* of autonomy. These concerns seem to complement Polanyi's (1944) points in that a sense of personal control is positive for psychological well-being but autonomy is always intertwined with the concerns, choices, and demands of other actors. As such, the capabilities, strategies, and practices of these working lives are shaped by the structural context in which they are embedded i.e. the different ecologies of autonomous working life. At the intersection of the psychological and ecological aspects of autonomy is capabilities, themselves constructed by organisational and institutional contexts, and vital for workers' sense of autonomy and well-being. The structural context of autonomy, capabilities, and post-industrial work bargains is integral to their interplay and impact. Thus a more sociological account of the mechanisms linking work autonomy and stress is required. One which can build on the weaknesses of the models previously described by accounting for the various bargains negotiated by post-industrial workers, the contradictory pressures and social influences on high levels of work autonomy, and the role of the institutional capabilities in shaping the nature and effect of these dynamics.

A Re-Contextualised Theoretical Framework

...psychosocial exposures are complex phenomena that do not exist independently of macro-level societal structures and meso-level social contexts (Rugulies 2012:622).

In analysing the relationship between psychosocial experiences and health outcomes, structure and context matter (Rugulies 2012). Bringing the institutional context into analyses of the relationship between work and psychological well-being requires a frame which views work as more than just a set of job-related tasks (Budd and Spencer 2015). As noted in the introduction, working lives are made up of a package of institutionally shaped bargains which affect working conditions, stressor generation, and psychological outcomes. Through the four R's mentioned previously (rules, responsibilities, requirements, resources) the antinomies of autonomous work can present stressors for workers via each of the interlinked work bargains (effort, boundaries, employment). These are the processes which can get lost in discourse focused entirely on stress, satisfaction and health outcomes. The epistemological problem for Allvin (2008) is that the increasing "boundarylessness" of work means there is a need for frameworks which can take into account the link between individuals and their institutional contexts as the problems of working life are now moving beyond the work environment.

The interlinked dynamics of post-industrial work bargains and the antinomies of autonomy emerging within them, present difficulties for the workplace defined scope, and positive autonomy hypotheses of the D-C, JD-R, and ERI models. Theoretical frameworks seeking to analyse the impact of work need to move beyond a limited focus on the effort bargain to the broader features of working conditions, work-life balance, career expectations, and security. Importantly the structural context also influences these conditions and the strategies available to workers to manage them. The influences on, and impact of, work cannot be compartmentalised when it comes to psychological well-being (Warr 2007). As post-industrial work bargains - and the dynamics of autonomy within them - have become more complex, so too have the processes through which work impacts on

the psychological well-being of workers. Figure 4.5 builds on the analysis of macro contexts, post-industrial work bargains, autonomy, and well-being models analysed thus far, and presents the theoretical framework underpinning this study.

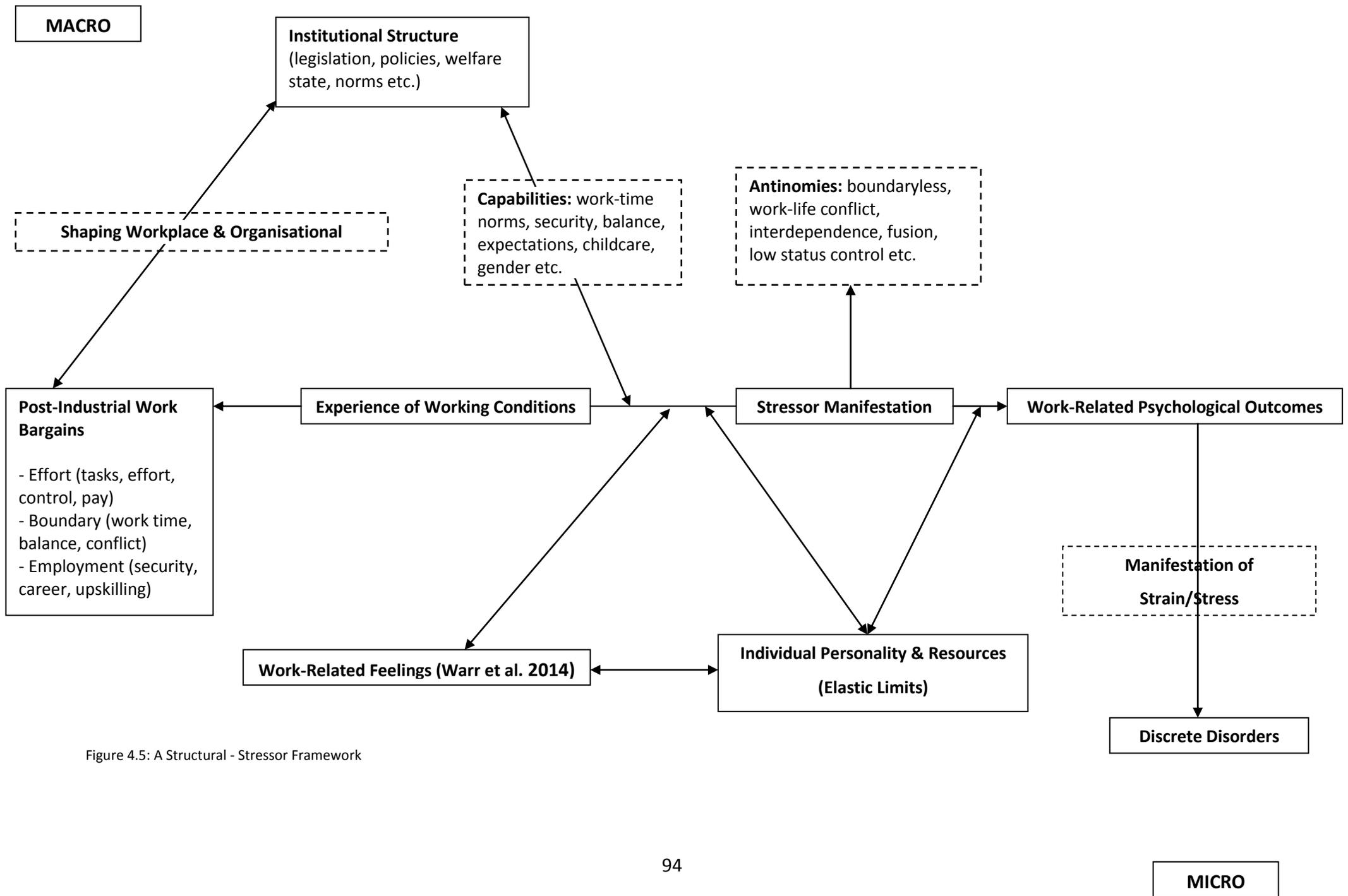


Figure 4.5: A Structural - Stressor Framework

This framework, in which the dynamics and effects of autonomy are shaped by its context, constructs a theoretical pathway linking the institutional context of work with psychological well-being outcomes for workers. However, in line with the thesis discussion thus far, the emphasis is on the structure-capability-stressor link which moves beyond the scope of the organisational psychology models to sociologically investigate stressor manifestation within the antinomies and strategies of the effort, boundary, and employment bargains. The structural context is captured in its effect on both the organisational and legislative features of work, as well as the range of capabilities provided to workers in managing the demands of working life. Including both structural aspects thus broadens the analytical lens beyond just workplace conditions.

The 'capabilities' (Hobson 2014) frame accounts for the 'ecology of autonomy' (Schwartz 2005) and how it shapes the dynamics of autonomous working lives across different institutional contexts. Typical capabilities shaping the conditions of working life emerge from old (e.g. childcare policies, health and safety legislation, tax regime, income security etc.) and new (e.g. work-life balance policies, occupational expectations, legitimate (dis)engagement with work, 'time-work', 'status control' etc.) institutionalist perspectives. Working lives are shaped not only by formal regulations and policies, but also more sociological norms which legitimate particular working practices and choices within societal and organisational contexts. 'Capabilities' thus reflect the 'situated agency' of workers (Sherman 2007, Zimmerman 2006) in creating strategies to manage the various demands and rhythms (Hvid et al. 2008) of autonomous working life.

The emphasis of this framework is the conditions, demands, and stressors which are continually negotiated by autonomous workers based on the personal and social resources at their disposal. The framework hence links the 'elastic limits' and stressor process (Wheaton 1999) with a more continuous vision of work-related affects through the use of Warr et al.'s (2014) affect-quadrant circumplex to capture the everyday feelings associated with work. This will be further elaborated in Chapter 6. This process allows for the manifestation of different stressors and

outcomes for the different individuals facing similar working conditions. Work-related feelings and the 'elastic limits' of the individual play a key role in shaping the type, intensity, and consequences of work-related stressors experienced. The framework thus brings the extended scope of the post-industrial work bargains, and the antinomies of autonomy emerging through them, to the forefront of the analysis of the stressors of working life. How individual workers respond to these antinomies represents a key mechanism of sociological stressors. Utilising such a multidimensional framework advances the literature discussed through an integration of work bargains, antinomies, and capabilities to illustrate the distinctive stressors and strategies arising for autonomous workers.

Conclusion

This chapter has presented some of the key models linking working conditions and psychological well-being. Contrasting these with the structural transformation of work, counter-intuitive dynamics of autonomy, and key bargains of post-industrial work discussed in the previous chapters, presents problems for the reach and premise of these models. The interplay of institutional contexts, post-industrial work bargains, and antinomies of autonomy, illustrate the gaps in the scope and hypotheses of the D-C, JD-R, and ERI models. Distinctive stressors and strategies emerge for knowledge workers as they negotiate their efforts, boundaries and employment security. Furthermore the sociological mechanisms shaping both pressures and resources within these processes are also kept in the dark, despite playing a key role in the experience and impact of work.

The discussion builds on these gaps to present the theoretical framework underpinning this study which brings the role of structure into the work and psychological well-being relationship. Linking the bargains of autonomous work with the capabilities framework and the stressor process, the framework presents a sociological perspective of how the interplay of these dimensions can present particular stressors, and how context-defined resources matter in managing these

pressures of these antinomies. Expanding on this framework, the thesis will now present the methodology utilised in the comparative analysis of the stressors of autonomous working lives in Ireland and Denmark.

Chapter 5 Methodology

This chapter describes the research design undertaken to study the social structure of stressors across autonomous working lives. To clarify the rationale behind the methods used, the chapter will discuss the ontological and epistemological positions underpinning the study i.e. what I think of the nature of reality and what can we learn about it. The discussion will then move on to how this philosophy informs and influences the overall approach taken i.e. what it is trying to achieve. As advocated by the realist ontology taken, such an approach should help describe the conceptualisation and operationalisation of the dimensions of psychosocial stressors of working life investigated. Finally, the chapter will depict the methods used i.e. how the investigation is going to achieve its aims.

Critical Realist Roots: Ontological and Epistemological Foundations of the Research

Sociologists take up lines of investigation based on their perspectives and assumptions about the nature of reality (ontology) and what can be learned about social phenomena (epistemology) in this reality. These 'philosophical underpinnings' (O'Leary 2010) play a major role in framing analyses of the social world and determining methodological approaches. Even the topic of a research project implies a researcher's interests and viewpoints to a certain extent. The ontological question asks whether reality is 'out there', independent of social actors (positivism) or constructed and revised through the perceptions, experiences and meanings of individuals (constructivism). Acknowledging the complexity of social phenomena and the important role of context in attempting to explain it, the realist response to this is: both. A critical realist approach posits a reality that is mind independent *and* socially constructed. It is therefore a reality that can only be fallibly known. Detailed by the pioneer of the philosophy of critical realism, Roy Bhaskar (1975, 1979, 1998), the reality of the natural and social world can be

stratified into three congruent realms: the real, the actual, and the empirical (Figure 5.1).

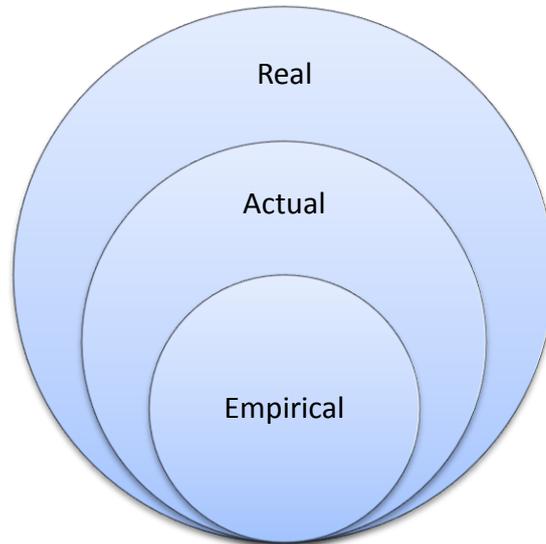


Figure 5.1: Stratified Ontology of Critical Realism.
Source: Bhaskar (1979)

The real, encompassing the actual and empirical realms, refers to everything existing in the natural and social world including all objects, structures, powers, causal processes or 'generative mechanisms' producing events - irrespective of these mechanisms being active or experienced. The actual, encompassing the empirical realm, consists of actions and events occurring due to the enacting of powers and structures, whether experienced or not. Finally, the empirical realm is constituted by everything we experience. This stratified ontology implies a number of important aspects; forces with the potential to produce events or outcomes may be dormant; material and structural contexts enable and constrain such defining forces; and these may not always be visible but are nevertheless real. A critical realist ontology thus considers the social world as a stratified and multi-layered reality, some of which lies beyond human consciousness and is therefore not equivalent to our knowledge of it (Castro 2002). For Bhaskar social reality needs to be 'de-anthropomorphised' as it is not people or concept exhaustive; 'The critical realist position is to say of course social reality is concept dependent, of course it is people dependent; but it is not concept exhaustive; it is not people exhaustive...'
(2001:28). Research founded on this stratified ontology can thus avail of a clarified

perception of reality provided by critical realism functioning as a 'philosophical underlabourer' (Bhaskar 1989:2).

Bhaskar (1989) delineates this philosophy further by theoretically demarcating the domains in which a mind-independent reality and our representations of it reside. The intransitive ontological dimension (reality) refers to all the constituents of the 'real' realm (objects, structures, powers, generative mechanisms etc.). The transitive epistemological dimension (scientific and non-scientific interpretations of reality) denotes scientific attempts to uncover the existence and impact of these generative mechanisms as underlying structures and processes leading to events. In essence, activities within the transitive dimension seek to draw attention to, and analyse, where the three realms of the real, actual, and empirical interconnect. The intransitive-transitive distinction also serves to illustrate the propensity of other research paradigms (empiricism, constructivism) to conflate the world with our experiences of it - what Bhaskar terms an 'epistemic fallacy' i.e. where claims relating to knowledge of being are transformed into statements of being. The critical realist stance warns against conflating the empirical with the real.

For Bhaskar (1975), the task of social science is to explain what reality must be like, or what conditions are required (Mackie 1965, 1980), to make the existence of social phenomena possible. Due to the complex nature of social reality, which critical realism takes as its starting point, causal conditions occur in a multitude of combinational packages and paths, often to the same outcome - made up of what Mackie referred to as an *INUS* condition; "an *insufficient* but *necessary* part of a condition which is itself *unnecessary* but *sufficient* for the result" (Mackie 1965: 246). In fact, Freeman and Freeman (2013) contend that psychological disorders are the result of multiple, interacting causes and as such are an excellent example of *INUS* conditions in that the same outcome can derive from different causal combinations. *INUS* conditions are an insufficient (by themselves) but necessary element of unnecessary (outcome can come from other causes) but sufficient combination of conditions - to create outcome; 'This is the level of complexity we often face when trying to explain mental illness' (Freeman and Freeman 2013:208).

Realists seek both necessity and possibility within the complexity of the world (Sayer 2000). In the 'open system' of society which denies researchers 'decisive test situations' (Bhaskar 1979), context is key in trying to identify and explain pivotal INUS conditions. In contrast to methods such as a randomised control trial, critical realism puts context at the forefront of the analysis of conditions shaping generative mechanisms and outcomes. Causality is therefore viewed in terms of tendencies involving underlying generative mechanisms and contextual triggers, rather than determined effects or regularities.

Maxwell (2012, 2004) illustrates the significance of processes and context in relation to qualitative research's claims for causal analysis. Highlighting how the hegemony of the positivist view of causation - based on Humean regularities - has limited the scope of causal claims to quantitative or experimental methods, Maxwell (2004) notes how causation within social science research is defined solely by positivism. Consequently the dominant view of causation is that it can only be reached via quantitative methods. Qualitative methods can be used for causal explanations when underpinned by a realist approach which sees causality as made up of mechanisms and mental and physical processes which may or may not produce regularities (Maxwell 2012, 2004). Contexts are intrinsically involved in the causal process, as are mental events and processes such as meanings and beliefs. Qualitative methods are the most suitable approaches to aspects such as contextual influence and meaning processes at the micro level. An approach based on a realist ontology stresses the existence of a real but not 'objectively knowable' world. Thus methods which analyse processes are equally able to make causal claims as those using variables and correlations. Essentially what Maxwell, and critical realism, is calling for, is the plausibility of causal claims based on context rather than regularity;

Realism replaces the regularity model with one in which objects and social relations have causal powers which may or may not produce regularities, and which can be explained independently of them...establishing the qualitative nature of social objects and relations on which causal mechanisms depend (Sayer 1992:2-3).

Recognising the stratified reality of the social world and emphasising the importance of contextually shaped processes, a critical realist ontology advocates epistemological pluralism. The epistemological question asks; how can we acquire knowledge about reality? Perspectives on the nature of social reality inevitably shape the most suitable methods to learn and understand social phenomena. A critical realist ontology implies a certain amount of epistemological eclecticism as the realist approach is led more by the stratified nature of reality than by a particular methodological emphasis. Knowledge can be gathered in a number of legitimate ways but ultimately this knowledge is always fallible as it resides in the transitive epistemological domain distinct from the intransitive ontological domain.

Within this transitive domain, 'fallible' knowledge about the social world can be accrued through a prioritisation of causal processes, meanings and experience - but not as sole constructors of reality due to the influence of a context-bound independent reality. The eclecticism of critical realist philosophy seems defined to some extent by the perspectives of the three 'forefathers' of sociological research - Emile Durkheim, Karl Marx, and Max Weber. For critical realists, an 'objective' reality does shape social outcomes (Durkheim 1982), but it is not always empirically available or knowable. Social action must be understood via the interpretative understandings (*verstehen*) of individuals (Weber 1978), however these interpretations do not exhaust reality. The dynamics and reproduction of structural relationships (Marx 1964) are key facets of the generative mechanisms shaping power structures and social outcomes. The search for knowledge about the social world depends on the type of generative mechanisms being sought and, most importantly, the careful conceptualisation of the objects and outcomes of study.

The task facing researchers involves defining 'unobservable' causal criterion or processes based on observable effects or outcomes - that can only be explained by certain context based causal processes (Sayer 2000). A simple implication here is that something is real if it can bring about social consequences. A pertinent example is provided by Jenkins' position in *Being Danish* when discussing the *real* impact of a belief in 'Danishness'; 'If a phenomenon is believed to be real, that

belief will have some influence on behaviour, and it therefore has real consequences, and some reality' (Jenkins 2012:13). The answers to 'how' and 'why' are context-bound processes; 'Realists seek substantial connections among phenomena rather than formal associations or regularities...the ways in which the operation of causal mechanisms depends on the constraining and enabling effects of contexts' (Sayer 2000:27). Abstraction entails identifying the substantial properties of the object of study in terms of the effects it can produce in the world (Castro 2002). In turn the concepts used by individuals (researchers and research subjects) to describe social phenomena are context dependent (Sayer 1992). Hence, despite a lack of methodological preference, critical realists view rigorous and clear modes of context-dependent abstraction and conceptualisation as pivotal to the research process.

While advocating pluralism, critical realism does reside more comfortably within qualitative methods - indicated by the focus on context and process, and the subsequent causal claims that can be made by methods; '...seeing context as intrinsically involved in causal processes...' (Maxwell 2004:247). The focus on process is also highlighted by Abbott (2005) who notes the often overlooked variety of forms an 'outcome' can take and how preconceived, and often implicit, definitions of outcomes influence decisions regarding 'outcomes' of interest. Much sociological research is focused on the 'final outcome paradigm' even though most of the outcomes studied are not really outcomes at all due to the transitive nature of sociological analysis - as previously posited by Bhaskar (1989). Thus, for Bhaskar and Abbott, it is the processes or mechanisms which are key to understanding social phenomena; 'It is the whole walk that is the outcome, and for us as sociologists, understanding that walk is a crucial matter...' (Abbott 2005:421). Functioning as a philosophical "underlabourer", a critical realist perspective clarifies the 'walk' to be understood within this study; that of the contextually (institutional, occupational, and workplace) shaped, or socially structured, stressors of working life for high autonomy workers in Ireland and Denmark.

De-conflating Structures, Stressors & Stress: CR, Contexts, and Continuous Outcomes

Founded on a critical realist ontology, the study seeks to explore the stressors of working life across different national settings in order to analyse the role of context in the social structuring (generative mechanisms) of psychosocial risks. However, as noted by Naswall et al. (2008) and emphasised by critical realism, the path linking work and well-being is far from one-dimensional and requires careful conceptualisation in order to frame the analytical scope of investigation i.e. what are the key conditions and processes? What are the of outcomes of interest?

Just as critical realism warns against conflating the world with what we know about it, studies of work and psychological well-being often run the risk of amalgamating structures, psychosocial stressors, and mental health 'outcomes'. For example the subject work-related stress can become vague within '...the morass of the stress-terminology, where (work) stress is often used synonymously with exposure, process and outcome' (Bamberger 2013:15). Due to the proliferation of literature on work-related stress (Adams 2016), the term has been spread thinly across a number of analytical approaches from stress as a job condition (Tausig and Fenwick 2011) to epidemiological studies using stress as an outcome. Similarly, disregarding societal contexts can also result in a conflation of structures and stressors (Anderson-Connolly et al. 2002). Studies utilising the D-C model (Karasek 1979) often equate 'job strain' working conditions with the experience of strain (e.g. OECD 2012), neglecting the influence of institutional and individual resources in shaping the impact of 'strain'. Taking heed from critical realism's stratified reality - the same structures do not always result in equivalent stressors. Similarly, the manifestation of stressors is not the same as the manifestation of stress. The same working conditions can produce different types of stressors for similar workers. However this does not deny the presence of generative mechanisms which could produce emergent stressors for workers. There are a number of contextual conditions required, some of which are not visible (including individual personality types), for a stress related outcome to occur. A critical realist ontology provides the

tools to clarify the multi-layered relationship between work and psychological well-being and focus the analytical frame on the phenomena of interest.

The thesis focuses on the generative mechanisms underlying the interplay of post-industrial work bargains, the antinomies of autonomy, and institutional capabilities, in order to illustrate the social structure of stressors encountered by IT workers in Ireland and Denmark. The analytical frame is targeted at two particular components of the work - psychological well-being spectrum: (a) how the structural context shapes the construction of capabilities and stressors, and (b) differentiated experience and management of stressors (i.e. psychosocial risks). Particular attention will be paid to the role of the social and occupational context in Ireland and Denmark and how this shapes the type of stressors emerging. The conceptual framework in Figure 4.5 represents a sociological and critical realist perspective of the work-stress relationship.

Ensuring the content validation of any study around work and well-being requires clarity as to the form of well-being studied, and how the measures used fit with this form. This helps to distinguish the conceptual definitions (meaning independent of any measures) and the operational definitions (in terms of measures applied) utilised. Similarly, in attempting to 'explicate how qualitative researchers think about validity', Maxwell (1992) outlines a 5 item typology (descriptive, interpretive, theoretical, generalizability, evaluative) of validity, derived from the types of understanding which qualitative research attempts to achieve; '...validity pertains to the kinds of understanding that accounts can embody' (284). Based on a realist conception of validity, this perspective sees validity not in terms of methods but in its relationship to phenomena 'it is intended to be an account of'. Validity thus relates mainly to accounts and conclusive inferences, not data or methods. Building on the descriptive and interpretive validity of the phenomena of interest, theoretical validity refers to the abstraction and explanation processes undertaken by the researcher (Maxwell 1992) and thus represent a significant element of critical realist research. Maxwell (1992) illustrates the composition of theoretical validity as the validity of the conceptual blocks used by the researcher to build a

theory (i.e. construct validity) and secondly, the way these blocks are put together (i.e. internal validity). When considering the multitude of contexts and features involved in the relationship between work and psychological well-being, the conceptual constituents utilised in building a theoretical frame are pivotal to the operationalisation of the research (see Figure 4.5 in Chapter 4 for the theoretical frame underpinning this research). On the topic of measuring psychological well-being, Warr (2013), much like critical realism, notes the importance of clear and explicit conceptualisation especially when studying any type of "well-being" and offers a number of guidelines to maintain a clear conceptual core. Considerations significant for this study include:

- Whether the well-being of focus is state (positional) or trait (dispositional) well-being?
- Is the scope of measurement most relevant for the study context-free (not limited to a particular setting), domain-specific (one aspect of life e.g. job, family etc.), or facet-specific (one aspect of one domain e.g. pay, hours etc)?
- Which measurement perspectives are key to the study: cognitive (thoughts, evaluations - reflection and mental processing) and/or affective (feelings-based, central to well-being in any setting)?
- Can the approach capture both positive and negative aspects of well-being?

Addressing Warr's (2013) guidelines, the analytical frame of the study focuses on positional well-being (i.e. social location and context) within the domain of working life, and utilises an affective-cognitive (evaluation of working conditions but also work related feelings) instrument which includes positive and negative core feelings (Warr et al. 2014). Building on the critical realist foundations with Warr's (2013) focus on conceptual and analytical clarification positions the study with a frame that can address the construction of stressors through measures analysing structural contexts, experiences of working life, and work-related feelings.

Going back to the ontological stance of critical realism, the psychosocial risks of working life contain numerous stratified and congruent layers such as individual personalities and experience, high levels of work intensity, ill-suited levels of job autonomy (too low or too high), increasing levels of job insecurity, work-life

balance, plus the broader circumstances of social, political, and occupational contexts. Underpinning these layers are generative mechanisms which may lie dormant (but nevertheless exist), or may produce outcomes with the help of contextual 'triggers'. Thus, in some cases, the interaction of these levels come together to produce conditions which may or may not manifest in psychosocial risks or stressors, which in turn may or may not result in negative mental health outcomes. Highlighting the three 'C's' of critical realism: the *complexity* of social reality, the importance of *context*, and the subsequent need for careful *conceptualisation*, the discussion illustrates how this approach can clarify the multitude of aspects involved in the work and psychological well-being relationship. The epistemological pragmatism of critical realism emphasises the importance of careful abstraction and conceptualisation in terms of the phenomena of interest and the relevant measures utilised, thereby avoiding the perils of methodological dichotomies which are, at worst, 'excuses for not thinking...' (Silverman 2000:11). Similarly, Stake notes; 'Good research is not about good methods as much as it is about good thinking' (1995:19). Critical realism requires this. As such it provides the study with a structure from which it can sociologically analyse the stressors of working life for autonomous workers with a focus on contextual rather than individual resources.

Qualitative researchers '...seek strategies of empirical inquiry that will allow them to make connections among lived experience, larger social and cultural structures, and the here and now' (Denzin and Lincoln, 1998:xi). The semi-structured interviews utilised in this study sought to explore the conditions of autonomous working lives. As indicated by Denzin and Lincoln (1998) this involved myself as interviewer and the workers as interviewees making connections among the experience of jobs, careers, working lives, institutional contexts and the experience of stressors. Packer (2011) and Kvale (1996) note that qualitative interviews are actually a joint production seeking the subjective interpretations interviewees assign to their conditions and experiences. The processes of description, classification and conceptualisation are thus joint efforts. 'Description lays the basis for analysis, but analysis also lays the basis for further description' (Dey, 1993:30).

Dey (1993) identifies thorough description as the first stage in qualitative analysis, which he notes must encompass the context of the action, the intentions of the actor and the process in which the action is located. Underlying this process of description is what Hammersley and Atkinson (1995) identify as the initial task of qualitative data analysis - generating concepts. These concepts may be employed to assist in making sense of the data, creating some sort of meaning for the scenes documented and serving to reinforce the strength of the description (again identifying a self-reinforcing relationship). Blumer (1954) labelled the concepts at this stage 'sensitizing concepts' with further analysis striving to convert them to 'definitive concepts'. Classification attempts to assist this development; '...classifying the data is an integral part of the analysis: it lays the conceptual foundations upon which interpretation and explanation are based' (Dey, 1993:40)

The broad range of aspects of interest to this research - careers, jobs, psychosocial work environments, demands, and job related feelings - required a thoroughly thought out integration of *New Deals* project and PhD aims. The purpose of the semi-structured interviews was to explore the conditions and demands of the working lives of these highly autonomous workers. A flexible topic guide was constructed prior to fieldwork commencement based on a review of relevant literature and the three key bargains of working life - effort bargain (working conditions, autonomy, demands etc.), time bargain (intensification - extensification), employment bargain (security, career etc.). Within each 'bargain' stressor type questions, based on the work - well-being models discussed in Chapter 4, were included to move the conversation from conditions of working life to the demands and strategies of management in and out of work. Further topics included; workplace tasks and coordination, responsibility, freedom, management, working hours, deadlines, pay, flexibility, work-life balance, demands of working life, income and employment security, career expectations and development. Similar to Moen et al.'s (2013) study of professionals working in high performance organisations, the goal of this approach was to explore the way these workers describe their autonomy and demands at work, how these dynamics shape the

conditions of working life, the interplay of these conditions with institutional resources, and the stressors arising from these dynamics.

Methods

As a researcher situated in the social world I am studying, I already come to the topic with a set of experiences, perceptions, and views. This inevitably shapes the study's line of approach right from the subject topic of the research question through to what I think it is possible to find out about it (Mason 1996). More specifically, the ontological and epistemological stance to a large extent shape the data collection and analysis process. The research design should present a coherent narrative running right from ontology, epistemology, methodology, methods, analysis etc (Denzin and Lincoln 1998). Having discussed how the ontological and epistemological perspective informs the approach to the subject matter, the chapter will now delineate the methods used.

Comparative Case Study

This PhD was undertaken as part of a European Research Council (ERC) funded project called *New Deals in the New Economy*. This project, comprising two postdocs, three postgrads, and a principal investigator (supervisor) seeks to link political economy and sociology of work in order to identify emerging post-industrial workplace bargains across Europe. The research undertaken by the project was split into two broad work packages and teams; a macro perspective using EWCS data to identify regimes of working condition types across Europe, and a comparative case study of working conditions and institutional contexts in Ireland and Denmark. My PhD was conducted as part of the comparative case study work package of the project. Denmark and Ireland were initially identified as case countries by the project PI as they both represent small, open economies of similar population size, with a shared history of prominent agricultural production. However both are regularly placed in different categories of political economy and

welfare state with Denmark identified as a social democratic welfare state and co-ordinated market economy, and Ireland liberal. The project investigates the influence of these different institutional contexts on the composition of workplace bargains in both countries. Underlining this approach is a preoccupation with social context, and how it continues to influence the working conditions and working lives of post-industrialism. In line with Bell's (1973) articulation of the three forms of service work (producer, personal, social) of post-industrial society, the sectors chosen for comparison in both countries were IT, Retail, and Health.

As a member of the comparative case study team of the *New Deals in the New Economy* project, my primary duties were to assist in building a bibliography of relevant literature, undertake literature reviews, particularly in relation to the IT sector in Denmark, contact key interviewees of interest, conduct "expert" interviews, conduct interviews with IT workers and managers in Ireland and Denmark, analyse interviews, and produce presentations and papers based on project findings. Generally the project's aims aligned well with my own, however my research did expand the focus of the New Deals project in accessing "experts" on the psychosocial work environment, and investigating the effect of industrial relations, working conditions, and welfare regimes on the well-being of workers. The project provided access to locations and individuals who provided additional institutional and contextual information and learning regarding working lives in Denmark.

Importantly, throughout this work, I was able to maintain responsibility for the design, conduct, and analysis of my own PhD within the scope of project activities. I was able to integrate my research goals into the project aims through regular planning meetings with my supervisor, particularly prior to fieldwork. The sampling of the *New Deals* project prioritised organisational case studies. My primary focus was IT workers with high levels of autonomy at work. Where individuals within these case studies were suitable for my study, they were interviewed using the research instruments outlined in this chapter. Additionally, in constructing the semi-structured topic guide for interviews with workers, a series of meetings were

held with my supervisor and the project team in order to suitably merge questions and topics that were required for my research with those of importance to the broader project. Ensuring the aims of the broader research project did not impinge on those of my own research within the content of the interview topic guide was of paramount importance in this process. This resulted in the introduction of psychosocial work environment and job related feelings surveys as well as specific stressor related open-ended questions into the structure of the interview topic guide that would be used for interviews with workers (see Appendix A: Research Instrument for Worker Interviews). Importantly, while the *New Deals* project maintained an organisational frame, my perspective was more at the level of the individual working life.

Conducting my doctoral research within the frame of the *New Deals* project proved relatively easy as the key comparators align perfectly with the aims of my doctoral research. Firstly, the role of social and institutional context are at the forefront of both lines of investigation. Software development and other IT based roles represent occupations which usually have both high levels of autonomy at work (discretion over methods, time, place etc) and intensity with tight deadlines regularly dictating the pace of work. These are professional occupations which bring with them a series of variegated freedoms, responsibilities and demands shaped by their autonomy. As such the various IT roles found in this sample present the ideal data to investigate the quality of the interaction between high autonomy, intense demands, work-life balance, and insecurity. Thus potentially presenting novel complexities in the relationship between control at work and psychosocial stressors.

In relation to working lives and psychological well-being, the country comparison presents an interesting opportunity to analyse why Denmark is famed for its consistently high scoring across a range of dimensions shaping working life (e.g. levels of autonomy, job quality, work-life balance) (Eurofound 2012) and analyse whether institutional contexts may have a role to play in the manifestation of stressors across the working lives of highly autonomous workers. Put simply, the

New Deals in the New Economy project structure enabled me to delineate my own research question of whether the stressors of working life for IT workers are the same in Ireland and Denmark, and if not, why?

Case studies are bounded objects or systems (Stake 1998) that can extend theoretically and spatially (Ó Riain 2009). Ragin and Becker (1992) note the ubiquitous but ill-defined nature of the case in social science, yet the conversation about what it represents is relatively sparse. The boundaries of the case study method have a history of alteration, shifting in terms of associated themes, and methodological and ideological meanings depending on which aspects of the method are emphasised (Platt 1992). Flyvbjerg's (2006) five misunderstandings about case-study research also highlight the confusion and complexity surrounding the method, albeit underpinned by the ill-informed distinctions made between qualitative and statistical methods, and linked to this the hegemony of the nomo-deductive causal reasoning of quantitative methods (Maxwell 2004).

This thesis represents a collective and instrumental comparative case study. It employs multiple bounded cases (occupations within countries) to understand something other than the cases themselves (Stake 1995, 1998) i.e. the functioning of autonomy and development of psychosocial stressors across working lives in different national contexts. Considering this instrumental approach, the cases (occupations and countries) are investigated in order to provide deep insight into the issue of interest - autonomy and the social structure of stressors. In order to unpack and analyse the composition of autonomy in post-industrial working contexts - IT was selected as the most suitable occupational case. Case country choices were made based on an expectation of advancing understanding (Stake 1998) in relation to the role of institutional context in shaping the conditions of post-industrial working lives. Denmark and Ireland are both small open export-oriented economies with populations of a relatively similar size. Yet they significantly differ in terms of socio-political structure with Denmark regularly identified as a social democratic welfare state (Esping-Andersen, 1990) and coordinated market economy (Hall and Soskice, 2001), and Ireland positioned as a

liberal welfare state and economy. Utilising these two countries as comparators facilitates an exploration of the role of socio-structural context in shaping not only the working conditions encountered in similar occupations but also the type of institutional resources often residing outside the workplace but used by workers to manage the demands of working life. Denmark and Ireland represent different structural contexts in which autonomous working lives are embedded. This represents a theoretical extension of the case study frame from working conditions to conditions of working life (Budd and Spencer 2015, Ó Riain 2009).

Likewise, the comparison of IT workers provides an opportunity to learn more (Stake 1998) about the nature of autonomy in post-industrial service work (business/production services). These occupations typically offer workers large amounts of job control, discretion, and influence at work but also represent jobs of increasing intensity and escalating demands - primarily due to the incessant and unpredictable market demands in the private sector. It also represents a profession which often demand large amounts of investment on behalf of the worker - in terms of time, cognitive demands, and often, lifestyles. As the issue of interest is the stressors of working life - filtered through the dynamics of autonomous work and the institutional context - the analytical frame considered most appropriate was one which captured the conditions of working life within their various influential contexts (see Figure 4.5). Subsequently, the organisation or company becomes one of the contexts of interest rather than the primary frame of the analysis. In line with Schwartz (2002), this approach also provides the opportunity to use social units i.e. working life processes of occupational and institutional contexts (rather than the individual) as the units of variance to analyse the impact of working conditions on psychological well-being. This comparative data thus speaks to the differentiating dynamics of autonomy across demanding post-industrial occupational contexts. Answering Ragin and Becker's (1992) key question of 'What is this a case of?', the thesis is a case of the stressors of autonomous working lives - in context.

Sampling and Data Collection

Theoretical and purposive sampling are often treated as synonyms. Indeed, the only difference between the two procedures applies when the “purpose” behind “purposive” sampling is not theoretically defined’ (Silverman 2000:105). This research employed theoretical sampling (with an element of snowballing where suitable). Data collection for the *New Deals in the New Economy* project generally followed theoretically purposive and snowballing sampling procedures. Within this project frame two theoretical aspects shaped the sampling procedure:

- Sector

In line with the theoretical framework of the *New Deals* project, the sectors viewed as most enlightening were those indicative of post-industrial society. In his social forecasting, Bell (1973) outlined three types of service sectors; producer/business, personal, and social. Consequently, following a number of meetings as a project team, the sectors viewed most relevant for research were IT, Retail, and Health.

- Working Condition

As explained in the literature review, work autonomy is perhaps the most important and well-evidenced aspect shaping the impact of work on health. From Taylorism through sociotechnical systems of Britain in 1940s and 50s to the labour process literature of the 70's and 80's to the "boundarylessness" of knowledge work, levels of job control play a decisive role in depicting the types of organisation and conditions faced by workers. Likewise, well-established models linking working conditions and psychological well-being (Karasek 1979, Bakker and Demerouti 2007) stress the positive effects of high levels of job control and decision latitude. In order to problematise the character and consequences of autonomy, the sampling needed to access individuals identified by the structural criteria of high autonomy, post-industrial service work which ‘...can purposefully inform an understanding of

the research problem and central phenomenon in the study' (Creswell 2007:125). With these theoretical purposes in mind, I contended that the IT sector offered an occupational context that could offer the most fruitful opportunities to problematise and unpack the functioning of autonomy across post-industrial working lives in Ireland and Denmark. The key sampling criteria was that interviewees must have at least 5 years experience in their 'IT careers'. As the positions of the interviewees shows, the level of experience is actually much higher than this. The following outlines the samples utilised in this study:

- IT Workers in Ireland

In the late 90's, my supervisor conducted interviews with a number of software developers in Ireland. Following up with these former interviewees offered the *New Deals* project access to a sample individuals who had made careers in the Irish IT industry. I also felt that this sample could be suitable for my study. They provided an opportunity to explore the demands of high autonomy working lives within the Irish context. Collaborating with my supervisor I began contacting these individuals by email. Positions held by participants ranged from senior tech writer to senior programmer to CEO (see Appendix B: Positions Held by Participants). In total 17 in-depth semi-structured interviews were conducted investigating interviewees' career trajectory, types of jobs held and different work environments encountered, and current conditions of working life.

- IT Workers in Denmark

In attempting to recruit small-medium start-up IT companies as case studies in Copenhagen, the *New Deals* project contacted a number of organisations, industry experts, and tech start-up collectives. Through snowball sampling the project was able to gain access to one small start-up and one medium sized tech company. The case study approach involved a series of tailored interviews with management (organisational data) and staff (individual working life data). Within both companies

were senior software developers who represented a comparable sample to those in Ireland. Despite making several contacts with developer collectives in Copenhagen, gaining access to organisations as case studies proved more difficult than initially perceived. Interviews with industry experts were easily accessed yet organisations were not in a position to grant access to entire teams and developers for a short period of time. These unexpected barriers constrained the sample size in Denmark somewhat. Responding to this, in collaboration with my supervisor, I decided to take a more individual approach and contacted an IT industry union in Copenhagen - who had previously provided an 'expert' sector interview - to assist in distributing a call for senior software developer as research participants. In order to match the experience levels with the Irish sample and discuss a prolonged career experience, the research sought participants with approximately 5-10 years experience in the IT sector. Snowball sampling was therefore used to augment sample size. The positions held by participants, like the Irish sample, ranged from full-stack developer to IT business consultants to chief software architects (see Appendix B: Positions Held by Participants). In total 14 in-depth semi-structured interviews were conducted investigating interviewees' career trajectory, types of jobs held and different work environments encountered, and current conditions of working life. Interviewees were identified through both organisational case studies and snowballing techniques. The Danish IT sample was stereotypically proficient in English and therefore no translation was required. Further demographic information on the participants in both countries is provided in Chapter 6 and 7.

Data

European Working Conditions Survey (EWCS)

The research uses data from the 2010 wave of the EWCS to provide a more representative contextualisation of the comparative cases. Since 1990, the EWCS has provided a random sample of survey responses from workers across Europe at country-level. Respondents are asked a series of detailed questions regarding their

work and employment conditions and the effects of these. Given the cases used in this study, the data from the Danish and Irish EWCS samples were analysed using descriptive methods so as to compare Denmark and Ireland in terms of working conditions and effects, and provide a more generalisable construction of the D-C model (Karasek 1979) to ground the Irish and Danish samples within this study. Using the EWCS data, composite demand and control variables were constructed which matched the survey items asked of this study's participants (discussed below in the research instruments section). The analysis of the EWCS sample and data allowed the research to question the working conditions of this study's participants using the D-C model - in light of the more representative findings for the same occupations in Ireland and Denmark in the 2010 wave of the EWCS. This process is elaborated further in the following chapter.

Semi-structured Qualitative Interviews

Interviews with Irish IT workers were conducted over the period of February - November 2015. The interviews with Danish IT workers were conducted during project research fieldwork trips to Denmark in November 2014, May 2015, October 2015, and December 2015. Interviews took place in a number of locations, with considerable importance placed on the interviewee feeling comfortable to discuss their current working conditions in an honest manner. As a result not all interviews took place in their place of work. Interview locations included; cafés, workplace meeting rooms, the interviewee's home in a small number of instances, and the National University of Ireland also provided a meeting room on a number of occasions. The duration of the interviews ranged from 80 to 180 minutes indicating the level of detail involved. Data collected through these semi-structured interviews was audio recorded and transcribed. The analysis of transcribed interview scripts was conducted using MaxQDA in order to explore the totality of data collected for the emergence of common themes and arguments. Coding exercises were consequently carried out to define, classify and refine salient themes. Interviews were initially coded using a broad coding system developed by the New Deals

project team. I refined this coding system further based on a review of the literature and the theoretical framework outlined in Figure 4.5.

While the New Deals project has an interest in career trajectories and organisational aspects of working conditions, my research focused on the psychosocial aspects of working lives and work-related feelings associated with the particular structural characteristics of positions, jobs, and institutional contexts. To provide the thesis with an analytical frame from which to compare the samples, link to the theoretical models outlined in the literature review, and explore the generative mechanisms underlying the stressors of autonomous work, the interview process was structured by a research instrument containing four main elements. These are; a career and employment history grid, surveys of the psychosocial work environments of interviewees' first, previous, and current jobs, job-related feelings surveys for these same jobs, and finally a more open discussion of working life structured by the three post-industrial bargains outlined. Interviewees were encouraged to discuss and elaborate on survey choices where appropriate. Such an approach ties together working conditions, job-related feelings, and a number of instances and environments in which interviews discuss the demands and stressors of working life.

- Career and Employment History (see Appendix A: Research Instrument for Worker Interviews)

This instrument was used to track the career trajectory of respondents in terms of types of positions taken to build their careers, key aspects of the different workplace bargains (pension, training, career planning), how expectations and aims developed, and why positions were taken up and left. The process allowed respondents to reflect on their professional career to date, elaborate on why certain decisions were made, while also charting in a more holistic manner, influential periods of their working lives. This element of the research instrument was used mainly for the broader purposes of the New Deals project. However, it

offered interviewees opportunities to discuss a broad range of instances in which work demands needed to be carefully managed during their career. Interviewees also often referred back to their employment history when discussing the employment bargain in the IT industry.

- Psychosocial Work Environment Surveys (see Appendix A: Research Instrument for Worker Interviews)

The psychosocial term refers to workplace demands, conditions, social organisation and interactions which impact upon the psychological functioning of workers (Knudsen et al. 2011). Building on the psychosocial models described in Chapter 4 (Karasek 1979, Siegrist 1996) and, in particular, the variables outlined and defined in the Copenhagen Psychosocial Questionnaire (Kristensen et al. 2005) and the EWCS, a short survey of key aspects of psychosocial working conditions was constructed based on items viewed significant for research purposes. The four main areas covered by the survey are autonomy, demands, security, and meaning. The variables also cover important facets of work autonomy (i.e. job control, decision latitude, influence, discretion) and demands (in quantitative, cognitive, and emotional forms). This enabled the research to replicate a D-C model (Karasek 1979) based on participant survey data in order to compare the working conditions of the Danish and Irish IT workers. Respondents were asked to complete the same survey in relation to three different jobs - their first full-time job (in terms of their own opinion regarding their career), previous job, and current job. However the data analysed in the thesis focuses only on responses in relation to the current job.

- Job-Related Feeling Surveys (see Appendix A: Research Instrument for Worker Interviews)

Warr et al.'s (2014) four-quadrant investigation of job-related affects and behaviours focuses on the importance of simple, non-reflective 'core affects' (feelings) which are central to the constitution of moods and emotions but not

equivalent to them. Emotions require core affects plus a cognitive or reflective processes. As the authors illustrate, different emotions (e.g. anger, jealousy) are built on the same high activation unpleasant feelings. In addition, these "core affects" are continuous, positive and negative, and often occur relatively simultaneously e.g. anxiety and enthusiasm. These feelings represent continuous dimensions of the impact of work on psychological well-being rather than validated scales designed to assess mental health as a discrete outcome. Building on previous work in the field of organisational psychology, the authors theoretically construct a four quadrant affect type circumplex framework consisting of 16 items which are based on high and low levels of the two primary attributes of feelings: pleasure and arousal. This instrument measures domain (job) specific feelings and introduces '...a structurally sound measure of affect which incorporates activation as well as valence' (2014:359). The core affects within the framework are: tension, nervous, worry, anxiety, enthusiasm, inspired, excitement, joy, depression, hopeless, dejection, despondency, at ease, laid back, relaxed, calm. The feelings were mixed into a non-coherent order while the question asked of respondents was: "For the past month, please indicate below approximately how often you have felt the following while working in your job" (see Appendix A: Research Instrument for Worker Interviews). The focus here, re-emphasised during the process, was on how work makes the interviewees feel, rather than an assessment of overall general mental health such as the WHO 5 index, which is a more context-free version of psychological well-being (Warr 2013). Despite having PWE and job-related feeling surveys for first, previous, and current positions, due to recall issues, the data presented in Chapter 6 only uses the data from the current job surveys.

In line with Warr et al.'s (2014) instrument guidelines, I calculated feeling quadrant scores based on the average of each respondents' values across the four feelings in each quadrant. Therefore, interviewees have a score for each quadrant. Negative values for feelings were reverse scored so that higher values always equal greater pleasantness. As discussed previously, this instrument was purposefully utilised to combine with the PWE survey in order to ensure a coherent operationalised link between perceived working conditions and the continuous work-related feelings at

the origin of emerging stressors of autonomous working lives. These measures provide a more process-oriented perspective of the impact of work on psychological well-being which should be of interest to sociologists (Abbott 2005) - particularly those of a critical realist ontology - rather the use of thresholds and discrete disorder outcomes (Horwitz, 2002). These issues were then further investigated and elaborated upon during a more open discussion of the conditions of working life.

- Semi-structured Interview Topic Guide (see Appendix A: Research Instrument for Worker Interviews)

A semi-structured topic guide was also used to qualitatively explore interviewees' conditions of working life. Framed by the post-industrial work bargains framework, and including stressor type questions arising from the organisational psychology models discussed in Chapter 4, these questions investigated the nuances and experience of autonomous work in terms of effort, time, career security, and the particular types of demands that arose. The topic guide is quite extensive and so it was not always possible to cover every question in every interview. However the three key bargains and their associated stressors were prioritised if time was limited. This more open discussion also allowed interviewees to reflect back on some of their survey responses with more substantive explanations.

Ethics

In line with the fieldwork of the *New Deals in the New Economy* project, I applied for and received ethical approval from the Maynooth University Ethical Approval Committee. Indicated in this application, before every interview respondents were provided with an information sheet to read (Appendix C: Information and Consent Forms) which outlined what the research would involve, and how the data would be recorded, stored and used. Interviewees were then asked to complete a consent form which specifically outlined questions relating to the use of their data. All interviews were pseudo-anonymised by the assignment of a unique ID number and

stored in secure, password protected cloud storage accessible only to relevant team members. Interviewees were made aware that they could withdraw at any point, and on request could receive a copy of the interview transcript. During conversations around topics such as stressors and feelings, I was always cognisant that an interviewee may have had a troubling experience or even been diagnosed with a mental health issue in the past. Although this issue never arose, I maintained that it was the interviewee directing the conversation about their experiences and thus it was absolutely fine if they did not wish to cover any topics or questions. If an interviewee became upset, the interview would have been immediately stopped, the interviewee comforted, offered any required assistance including the contact details of relevant support services, and offered the opportunity to withdraw.

Limitations & Reflections

It is important to remember that it is the researcher who decides what the case's story is i.e. what is required for the reader to understand the case (Stake 1998). As a male in his early thirties with no children and of working class upbringing, my own subjective position undoubtedly influences the 'case' presented in this study. The line of questioning and conversational routes taken are undoubtedly shaped by my own experience as well as that of the interviewee (Kvale 1996). In particular, my perception of the key demands and stressors faced in work, employment, and at home is undoubtedly tinged by my gender, age, and family circumstances. As such there may be an under-representation of the intricacies of the demands placed on women and older workers in the workplace and in managing work-life balance. However, where appropriate I have tried to emphasise and investigate the gendered nature of the roles in the IT sector and the reproduction of patriarchal power within IT working lives. Likewise my upbringing in a working class home leans my research towards an emancipatory perspective which seeks to identify and ameliorate imperceptible power structures and forces which lead to pressurised and harmful working practices.

The study's critical unpacking of autonomy is therefore shaped by my own subjectivity and thus reflects a critical perspective of 'healthy workplace' campaigns limited to a psychologically bounded relationship between work and well-being. My take on this subject focuses on the experience of structural conditions and therefore shifts the spotlight away from individual personality types - whilst acknowledging that these are significant in the work to psychological well-being path - towards contextual circumstances. By using different types of data - qualitative and quantitative - to discuss conditions of working life, the study averts common method variance whereby '...both exposure and outcome are self-reported by employees' (Bamberger 2013:12) and findings are the result of distressed employees rather than harmful conditions. In addition to this point, it is likely that the most severe cases of stressors were not accessible due to those individuals potentially being out of the workforce and/or unwilling to volunteer to discuss these issues. Although it is worth reiterating that the focus of this study is more 'upstream' i.e. the mechanisms underpinning the stressors of autonomous work which may potentially become unmanageable demands and lead to detrimental outcomes and absenteeism.

Sampling

The sampling techniques and number of participants limit the generalisability of the findings. However the specific semi-structured approach of the interviews (Appendix A: Research Instrument for Worker Interviews) offers the qualitative data emerging a much higher sample of stressor experiences, despite the small number of interviewees. Each interviewee discussed past and present instances where work pressures were particularly demanding and identified strategies used to manage these. This enables the study a more contingent type of generalisation where key mechanisms and stressors are based on an amalgamation of sufficient conditions rather than the number of interviewees. As the primary unit of analysis is the individual worker and how they manage their own autonomy within the Irish and Danish institutional context, there is to some extent a homogenisation of the organisational context (Truss et al. 2012). Arguably it is here where the *New Deals*

project impinged most on the methods of the thesis. To investigate the organisation of work and production in IT in Denmark, the approach initially undertaken was a comparison of organisational case studies, particularly in the start-up scene. Although this was rectified with further snowball sampling, it may have limited the range of organisational and working environments studied within the Danish sample. The *New Deals* focus on the production services of the IT sector in both countries also excluded the possibility of exploring autonomy within other occupational contexts. Nonetheless, the thesis distinguishes notable similarities and differences in the working contexts of the Irish and Danish samples.

The majority of the research sample are located in the private sector. However 4 interviewees in Denmark work in IT teams in large public sector organisations. Interestingly it is actually these public sector workers who are based in the largest organisational contexts within the Danish sample as the other 10 interviewees work in small-medium sized IT companies. All of the organisations within the Danish sample are indigenous. Following the organisational case study approach, I used snowball sampling to extend the Danish sample for my doctoral research. Thus, distribution of the call for research participants in Denmark was assisted by Prosa - the union for IT workers. Those union members who saw the information and responded to the call were then contacted. Consequently, 9 of the 14 interviewees came through this union call, and this undoubtedly has an influence on their perceptions of working life. However, when discussing union membership, most of these individuals noted that they had very little cause for seeking assistance, but it was good to have their support just in case. The unionised perspective was balanced by the other 5 non-unionised interviewees who were located in small to medium sized private sector software companies. The organisational context of the Danish interviewees was influenced by a Danish manifestation of the Silicon Valley model of software companies, and the more general Danish public sector.

The sample of IT workers in Ireland, contacted initially as follow-up to my supervisors' research in the late 90's, has suffered from attrition. Approximately 40 individuals were contacted via email, 20 responded, and finally 17 participated. All

17 of the interviewees are located in the private sector. 5 interviewees are independent consultants who work on specific contracts with organisations. In contrast to the Danish organisational context, the evidence of foreign direct investment (FDI) in Ireland is apparent as 10 interviewees worked in large multi-national corporations (MNC). 4 of these in Irish subsidiaries of software companies based in the US. None of the Irish interviewees were active members of a union. Thus the organisational context of the Irish interviewees is more influenced by the global supply chains of MNC's and a 'purer', imported Silicon Valley model of work organisation. The building blocks of IT sector work is similar in both countries. Likewise the levels of autonomy, flexibility, demands, and responsibility placed on the individual workers in both samples are comparable (further information on this is provided in a more detailed participant profile in the following two chapters). Yet, the organisational context of the two samples is influenced by different economic environments with the Danish sample shaped by the public sector and an indigenous organisation of software work, and the Irish context influenced by more traditional (in an IT sense) FDI resourced Silicon Valley models and MNC supply chains.

Gender Equality of Samples

Despite an effort to interview similar numbers of male and female IT workers in Ireland and Denmark, this was not achieved. 5 of the 17 interviewees in Ireland, and 2 of the 14 interviewees in Denmark, were female. Accessing females in the IT industry through purposive and snowball sampling techniques proved difficult in both countries. This could potentially lead to data regarding work demands, opportunities, stressors, role expectations, and work-life balance being weighted towards a male-centered perspective. However, to counter-act such an effect, an effort was made to note the role of gender as a structural feature of IT work and careers in every interview, rather than relating the gendered experience only to the female interviewees. For example, the analytical frame of post-industrial work bargains allows the research to investigate notions of security, career decisions, and work-life balance from a broader perspective. Inevitably, the issue of opportunities

available to women in IT was a natural topic of conversation for many of the women interviewed. Attention was thus paid to the influence of gendered roles and expectations in the reproduction of unequal opportunities and expectations whilst coding and analysing the qualitative data.

Individual Study within a Broader Project

Flexibility in time management was required in working within the fieldwork of a broader project. This often required a re-think of access methods where responses were not forthcoming. For example, the broader project was more interested in the organisational frame than my own research and therefore initial access to research participants was sought through this frame (e.g. start-up hubs and software companies). Where access through the organisation was not successful, I decided to take a more individual approach. Working within a broader project did slow the data collection phase. However it also assisted snowball sampling as other *New Deals* project members, who were aware of the aims of my research, flagged any potential participants whilst making their own contact enquiries.

In a small number of cases (5) data used for my research was generated by interviews undertaken by another member of the *New Deals* case study team (post-doctoral researcher and PI). Interviewers can approach the same topics in various different manners. However, the effects of different interviewers were curtailed through strict sampling criteria and the heavily structured nature of the interviews containing the four primary elements outlined which were used in all interviews.

Conclusion

This chapter has provided a detailed breakdown of the methodology of this research, the methods undertaken, and the reasons such approaches were deemed appropriate. The methods described, underpinned by a critical realist ontology, offer the thesis a number of advantages:

- A coherent philosophical foundation which not only clarifies the multifaceted nature of the research topic but also assists in the construct validity of the analytical approach due to its emphasis on the role of context, and conceptual and operational rigor.
- Internal reliability due to the different types of data employed and used i.e. the combination of this study's sample with the representative samples of EWCS, and qualitative experiences of working lives as described by interviewees, supplemented by surveys on psychosocial working conditions and job-related feelings.
- Coherency between the theoretical frame and methodological operation which focuses on the stressors of autonomous working lives with a sociological lens targeted at the role of context, processes and feelings rather than individual outcomes or discrete disorders.

The thesis will now use this methodological approach to compare the working conditions of IT workers in Ireland and Denmark.

Chapter 6 Working Conditions and the Conditions of Workers II: Contexts & Affects

Introduction

The analysis of literature in chapters two to four presents three broad points regarding the contexts of post-industrial work bargains:

- The simple but often side-stepped point that working conditions have a significant effect on the conditions of workers (Schnall et al. 2009).
- Despite a context of compressed global capitalism (Harvey 1989) and networked production (Herrigel and Wittke 2004), configurations of work organisation and capabilities continue to have a national hue (Arundel et al. 2007, Hobson 2014).
- While autonomy remains a fundamental aspect of post-industrial work, techno-economic transformations of organisational strategies and working practices have complicated its dynamics and effects (Hvid et al. 2010, Lund et al. 2011).

The chapter investigates these themes further by presenting a descriptive quantitative analysis of survey response data from Irish and Danish interviewees. As the number of elements in the sample are small, these findings are supplemented by an analysis of the more representative data of Danish and Irish workers provided by the 5th wave (2010) of the EWCS. Thus grounding the working conditions of this study's sample in a broader picture, and setting the context for a comparative analysis of working conditions encountered by IT workers in Ireland and Denmark. Framing the working conditions of these samples in the D-C model (Karasek 1979), the chapter uses EWCS data to identify differences in the patterns of autonomy and demands at work in Ireland and Denmark. Building on these patterns using survey data from this research, the analysis locates each Irish and Danish interviewee within a quadrant of the D-C framework. Thus providing a comparative frame from which to analyse the relationship between the autonomy and demands of IT work in Ireland and Denmark. As this data relates to various aspects of control and

demands at work, it is primarily located within the effort bargain of post-industrial work.

In terms of the comparative effects of these working conditions, the discussion focuses on job-related affects. Based on Warr et al.'s (2014) four quadrant affect circumplex framework the chapter investigates how these working conditions make the interviewees feel. As indicated in the methodology chapter, the focus on job-related feelings offers a more processual focus within the same conceptual level of analysis i.e. working conditions and work-based feelings. Rather than discrete measures which place individuals either inside or outside threshold based outcomes, which are often the result of contexts broader than the workplace. In using the D-C model as a comparative framework, identifying national differences in the relationship between autonomy and demands, and highlighting a relative lack of positive job-related feelings, the chapter forms a number of questions regarding the nuances of autonomous working conditions across different institutional context. These will be further articulated and explored in the proceeding chapters. The discussion will begin with a characterisation of working conditions in Denmark and Ireland.

Job Demands and Job Control in Context

Karasek's (1979) D-C model posits that psychosocial risks emerge for workers in circumstances where they experience an excess of job demands over job control. Although criticised in Chapter 4, the restricted scope of this model is useful for the purposes of this chapter. The focus on the components and correlations of control and demands at work present a concise comparative frame to investigate the nature - and affects - of the effort-bargain for the Irish and Danish IT workers. Broken into quadrants based on median levels of job decision latitude (skill discretion and decision latitude) and job demands, the model hypothesises that working conditions of high demands and low decision latitude lead to 'job strain' and that control has a 'buffer' effect in combating high demands. In a subsequent

formulation of the model, the level of social support at work was also added to the model (Karasek and Theorell 1990). Such is the prominence of the model that the European Working Conditions Survey actually included a variant of the demand-control model in their 2010 dataset. The OECD (2012) rates of 'job strain' across European countries, presented by in Chapter 2, use this EWCS data to identify those workers whose conditions fall into the high intensity, low autonomy ("High I, Low A") quadrant. Based on workers' responses to various questions about job control, support, and intensity, Eurofound constructed a variable which located each respondent in one of the four quadrants of the D-C model (further information on the EWCS D-C variable construction can be found in Appendix E: Eurofound (2012) EWCS Construction of Karasek Quadrants Variable).

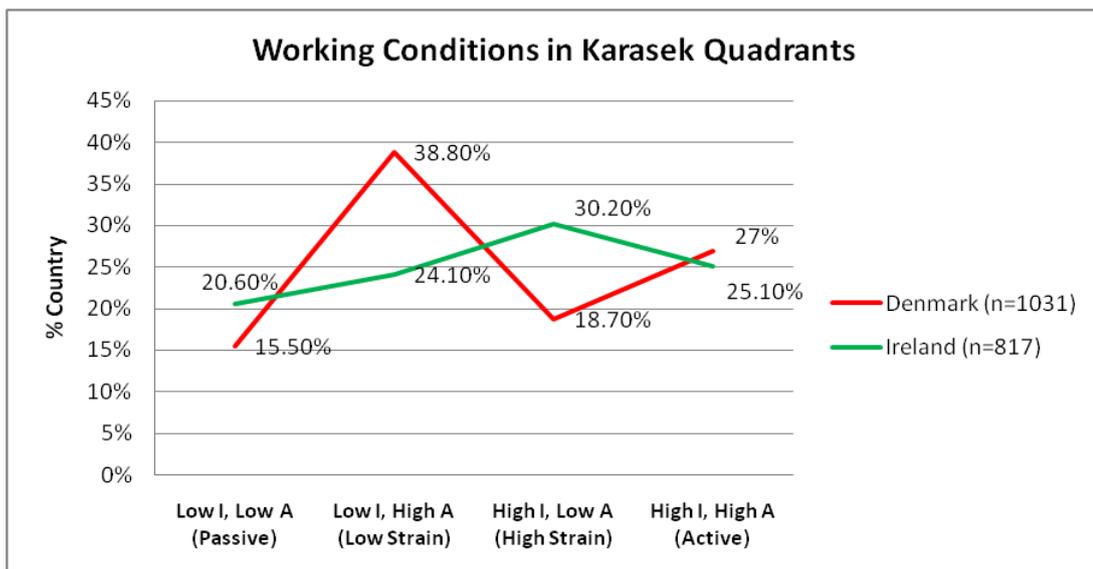


Figure 6.1: Irish and Danish Working Conditions by Karasek Quadrant. Source EWCS 2010.

It is worth noting that in constructing this variable, Eurofound focused on dimensions of job control and support, and the temporal intensity of work demands which has the advantage of getting more at the quality (rather than quantity) of working time (Lund et al. 2011) as 'intensified time cannot be revealed by a count of hours' (Strazdins et al. 2015:22). This data allows the thesis to compare the more representative samples of Irish and Danish respondents as they are distributed

across the four quadrants of the D-C model, while serving as a grounding for the analysis of the working conditions of this study's smaller sample.

According to Figure 6.1 Ireland has a relatively equal representation across all 4 quadrant condition types with Danish workers' responses depicting more variance. Working conditions depicted as 'passive' and 'active' are similar in both countries. Although it is worth noting that approximately a quarter of workers in both countries describe their conditions as 'active' - which '...leads to the development of new behaviour patterns both on and off the job' (Karasek 1979:288) rather than job strain. In terms of high levels of intensity, it is Irish respondents who report higher frequencies (55.3%) than the Danish workers (45.7%). Just under two thirds (65.8%) of Danish respondents describe their work as having high levels of autonomy whereas under half (49.2%) of Irish respondents report the same. These figures corroborate with other research indicating the high level of job quality, in particular the levels of autonomy, discretion, and influence, in Nordic countries (Gallie 2003, Gallie and Zhou 2013, Arundel et al. 2007). For Ireland, the highest frequency is found in the high intensity, low autonomy ('job strain') quadrant, the quadrant depicting working conditions with the highest potential for psychosocial risks. In contrast Denmark's distribution of working conditions is heavily influenced by higher frequencies in the high autonomy quadrants. Most Danish respondents' (almost 40%) working conditions fall into the 'low strain' quadrant (low intensity, high autonomy). This presents a striking contrast in terms of D-C model quadrants, as the majority of respondents in both countries fall into opposing D-C model quadrants. Most Irish respondents described their working conditions as 'high strain' while most Danish described their working conditions as falling into the 'low strain' quadrant. According to these findings more of the jobs in Ireland are at risk of causing psychological strain and negative health outcomes to workers. Looking at the distribution of Irish and Danish workers by gender provides further information.

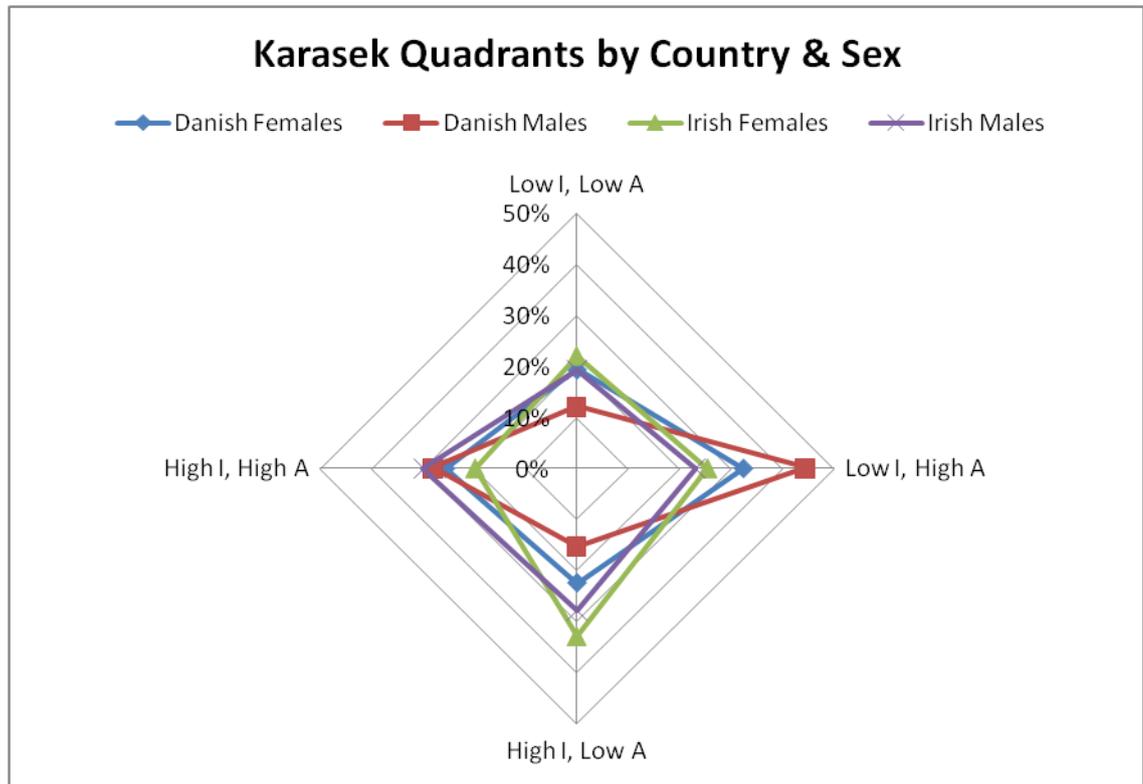


Figure 6.2: Irish and Danish Working Conditions by Karasek Quadrant and Gender.

Source EWCS 2010.

Figure 6.2 shows where the male and female samples for Irish and Danish respondents fall according to EWCS data. In terms of a typical job quality perspective focused on autonomy and intensity, it seems that Danish males take up a higher proportion of the more positive working conditions e.g. highest in low strain, and lowest in passive and job strain quadrants. Working conditions for men in Denmark seems highly influenced by high levels of autonomy. Males in both countries make up the higher proportions of the active quadrant. At the other end of D-C model logic are Irish females, who make up the highest proportions in the low autonomy quadrants - passive and high strain - and the lowest in the active quadrant. The high strain quadrant presents an interesting perspective on potential psychosocial risks encountered at work with the proportions from highest to lowest reading: Irish females, Irish males, Danish females, and Danish males. The low strain quadrant almost reads the opposite. On top of the country disparity, there seems

to be a distinction in the type of working conditions, and therefore psychosocial risks, encountered by males and females. These findings may go some way to explaining the difference in experience of stress at work in Ireland and Denmark, according to the same EWCS data.

Working Conditions & Experience of Stress

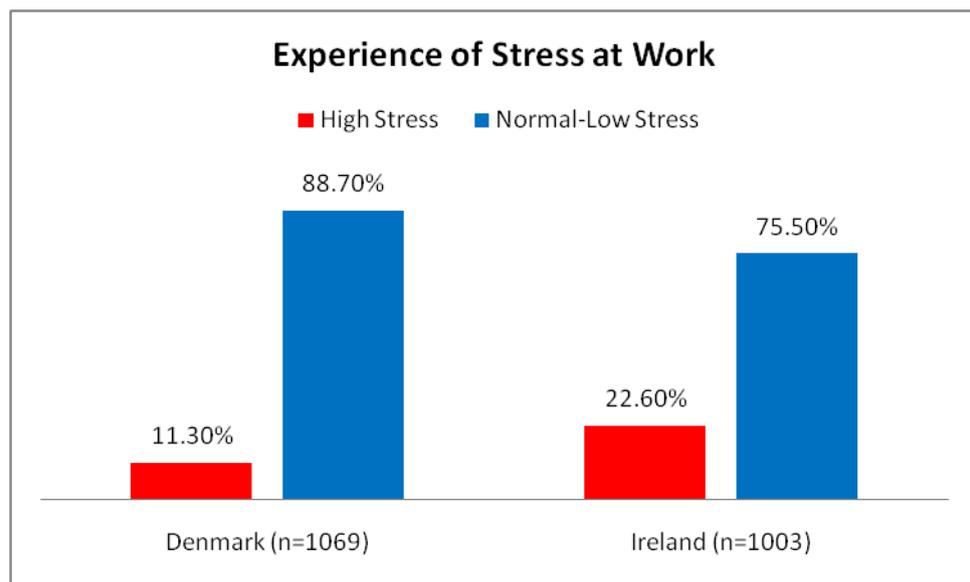


Figure 6.3: Experience of Stress at Work by Country.
Source EWCS 2010.

Figure 6.3 shows the percentage of respondents in Ireland and Denmark who experience stress frequently at work (defined as stress experienced at work 'always' or 'most of the time'). In line with the D-C model distribution, twice as many Irish workers report experiencing high levels of stress at work. The higher levels of intensity and lower levels of autonomy in working conditions in Ireland seem to result in higher levels of stress. However this does not identify where, or under what type of working conditions, this stress occurs within each country. Figure 6.4 takes this analysis further by identifying Irish and Danish workers who experience high stress at work within each D-C quadrant.

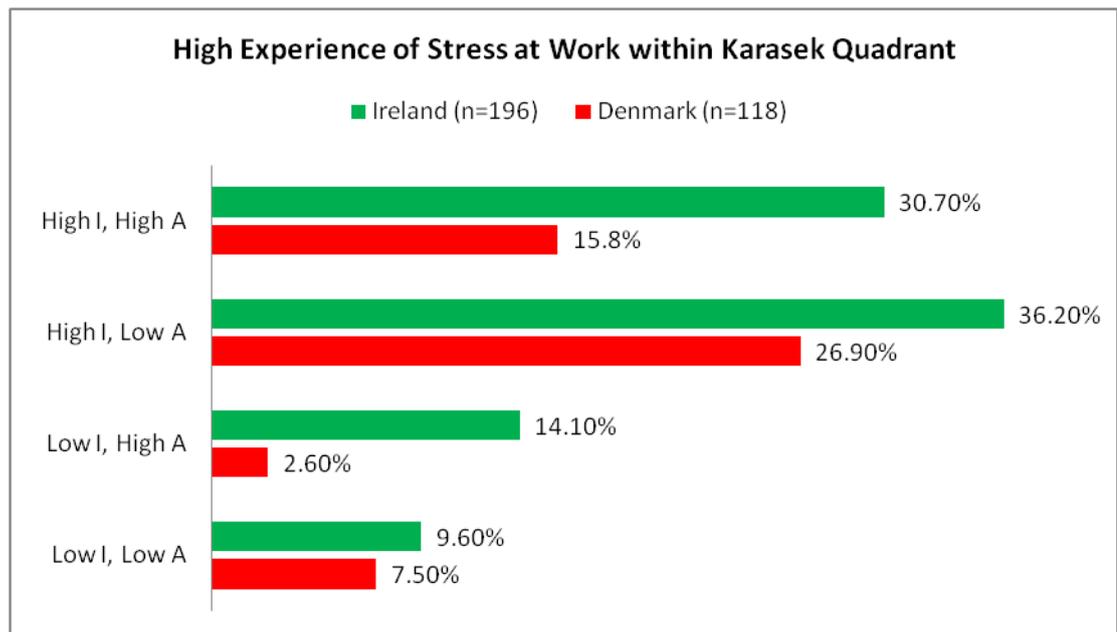


Figure 6.4: Experience of Stress at Work 'always'/most of the time' within Karasek Quadrant by Country. Source EWCS 2010.

Workers experience stress at work frequently across all four D-C quadrants in each country, although not entirely under expected circumstances. Karasek's job strain hypothesis is observed in both countries as the highest percentages of workers that experience high stress at work in both countries are located in the high strain quadrant (high intensity, low autonomy). This supports the D-C model argument that it is these working conditions which present the greater psychosocial risks for workers, particularly in Ireland where more than one in three workers who fall in the high strain quadrant experience stress at 'always' or 'most of the time'. For the Danish 'high strain' workers it is just over one in four. However, equally interesting is the number of workers experiencing stress at work who fall into the other quadrants. Almost one third of Irish respondents with high intensity and high autonomy working conditions also experience stress at work regularly. In Ireland, these 'active' working conditions, which Karasek (1979) depicted in a favourable light, seem to present a similar level of psychosocial risks as 'high strain' conditions. Interestingly, looking at the experience of stress across the D-C quadrants in each country, it is high levels of intensity which matter most for the experience of stress at work. Similar to much of the literature on the D-C model, these findings seem to support the job strain hypothesis. However whether high autonomy acts as a

protection is questionable. Most strikingly, autonomy seems to function differently in both countries. This presents a number of queries around the character, composition, and effects of autonomy across different institutional contexts. The social structure of working lives may play a key role in shaping the dynamics of autonomy across the bargains of post-industrial work.

Working Conditions in IT

Before moving on to the working conditions of the individuals who took part in this study, the EWCS 2010 sample also contains a number of professionals and technicians working in the IT sector in both countries. Figure 6.5 illustrates the distribution of IT workers (professionals and technicians) across the D-C quadrants in Ireland and Denmark.

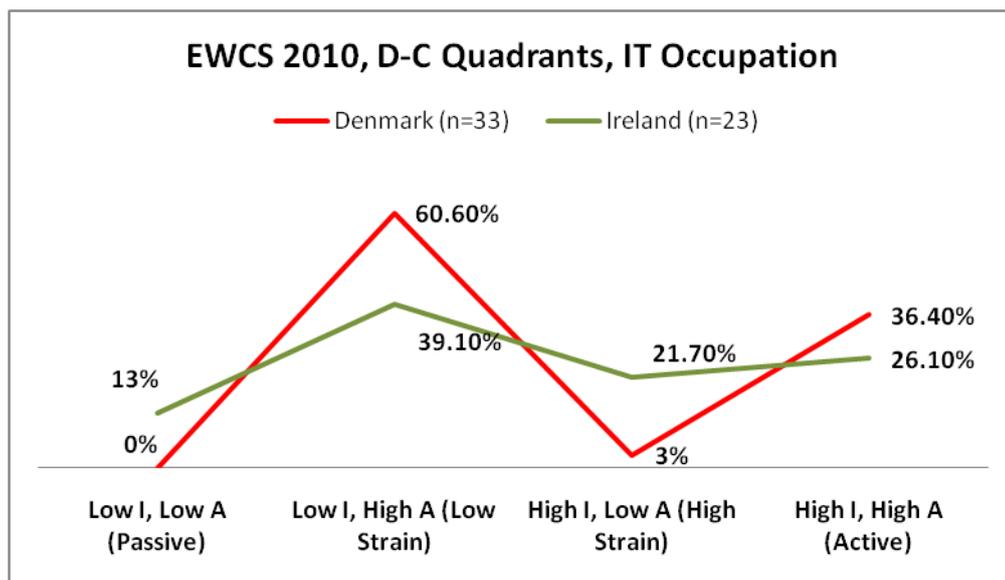


Figure 6.5: Irish and Danish IT Occupations by Karasek Quadrant.
Source EWCS 2010.

Although the sample numbers are low, it is still worth noting that the distribution of IT workers shows interesting similarities and differences to the overall picture presented previously. Figure 6.5 almost represents a slightly more extreme version of the distribution of the general working conditions in Ireland and Denmark. Again, Denmark dominates the more 'positive' quadrants with almost all of their IT

professionals working in conditions of high autonomy (97%), and only 3% in the high strain quadrant. The proportion in the active quadrant is higher than the national sample. These conditions are an improvement on the already relatively positive depiction of Danish working conditions. The working conditions of Irish IT workers seem to be slightly more favourable than the full national sample. In contrast to the full sample, Irish IT professionals and technicians are also primarily located in the low strain quadrant, however not to the same extent as Denmark. A considerable proportion of the Irish IT professionals work in circumstances of high intensity with over a fifth located in the high strain quadrant. Despite the slight improvement, there remains a noticeable difference in proportions in the high strain quadrant for workers in IT.

In summary, the EWCS data enables a more generalisable perspective of working conditions in Ireland and Denmark. In line with much of the literature (Gallie 2003, Holm et al. 2010, Arundel et al. 2007) the picture presented by the descriptive analysis is one of more favourable circumstances - higher levels of autonomy and lower levels of intensity - in Denmark compared to Ireland. The EWCS variant of the D-C model consistently shows a higher proportion of Irish workers describing their working conditions as high in intensity and low in control. According to the D-C model (Karasek 1979) hypothesis, this translates into more Irish workers facing psychosocial risks while in work. This perhaps accounts for the finding that twice as many Irish workers as Danish experience stress at work regularly. Also, within both countries, a higher proportion of women are located in the high strain quadrant and thus potentially face higher levels of psychosocial risks, especially in Ireland. IT workers in Ireland encounter slightly more positive conditions but the country divergences seem to broadly track those of the national samples. The analysis will now investigate the working conditions of the Irish and Danish IT workers who participated in this study in order to see whether the same country trends are found amongst this sample.

The Research Participants

The data collection process for this study involved face to face semi-structured interviews with IT workers in Ireland (17) and Denmark (14). During each interview, participants were asked to complete a psychosocial work environment survey in relation to their current working conditions. Based on these responses I constructed a D-C model so as to locate the participants' position across the four quadrants and compare country distributions. Before proceeding to the construction of this model, a description of the characteristics of the participants is required.

Participant Profile

Table 6.1: Participant Profile

	Total (n=31)	Denmark (n=14)	Ireland (n=17)
Age (mean)	48	49	48
Women (%)	23%	14%	29%
Children (% Yes)	81%	79%	82%
Third Level Qual. (%)	74%	50%	94%
Post Grad Qual (%)	35%	7%	59%

Table 6.1 provides a descriptive review of participant characteristics in Ireland and Denmark. The average age in both countries is similarly high for a sector perceived to be heavily influenced by the capacities of emerging technologies and the skills of up-and-coming technologists. This relatively high mean age is the by-product of a theoretical and purposive sampling strategy which sought IT workers with considerable work experience who could discuss autonomous work in different environments and the types of demands that come with highly skilled and experienced positions as well as career progression within a sector which is often portrayed as the archetype of post-industrialism. Thus the highly skilled nature of the sample is evident in the type of positions held by participants in both countries. Positions such as, 'Chief Tech Architect', 'Enterprise Specialist', 'Tech Lead' and 'IT

Project Manager' in Denmark, and 'Head of IT', 'CEO', 'Chief Information Officer' in Ireland (see Appendix B: Positions Held by Participants for full breakdown of positions held by participants) indicate professionals with high levels of experience, discretion, demands, and responsibility in their roles, many of whom are responsible for the functioning of departments or even companies. Some of these individuals may actually be at the apex of their career trajectory. The sample therefore provides an interesting source of information on the trade-offs required to reach, and inhabit, such autonomous positions.

Perhaps linked to the above point, it must be acknowledged that the number of women studied is lower than expected, especially in the Danish sample. Although more than a quarter of the Irish sample are women. The small female sample may be a result of the barriers that women encounter working in an industry characterised by working conditions and job expectations which tend to be incompatible with domestic or caring duties (Acker 1990, Moen et al. 2016). Nonetheless this does limit the ability to make strong connections between the women in this sample and those in the EWCS. Despite the small numbers, the research presents an opportunity to qualitatively explore the employment experience of women facing 'cycles of disadvantage' in Ireland (Truss et al 2012) and 'gliding gender segregation' in Denmark (Holt and Lewis 2011). Interestingly the proportion of workers with children is very similar in both countries - approximately 80% in both samples. Although not represented in the participant profile, 79% of Irish workers with children have children 16 years of age or younger. For the Danish sample this proportion is 54%. Thus, a large proportion have young children who may be still at home and dependent. Balancing the demands of family life with a highly demanding work life is typically identified as one of the major stressors of working life (Hobson 2014, Wajcman 2015, Moen et al. 2015), particularly for women working in institutional contexts where the male breadwinner model is still dominant (Ciccia and Verloo 2012).

The education profile displays an interesting contrast between the two samples. A significantly higher proportion of Irish workers have third level qualifications with

only one worker not having a third level qualification and over half (59%) having a postgraduate qualification. Only half of the Danish sample have a third level qualification. In terms of raw numbers, there are more Irish workers with a postgraduate qualification (10) than there are Danes with any form of third level qualification (8). In addition, 5 Danish participants began undergraduate courses but never completed them. Less than half of the Danish sample (5) have a vocational level qualification, which is a more popular educational path in the Danish education system. In general, the education and training underpinning the career trajectories of the Danish workers seems much more influenced by on the job learning rather than the more formal education of the Irish sample. This reflects the education and skills distinction between the job or firm related training of coordinated market economies (CME's), and the more general transferable training of liberal market economies (LME's), posited by Hall and Soskice (2001) in their 'Varieties of Capitalism'. Nonetheless, the Irish and Danish samples participating in this study are all in highly skilled and responsible jobs and as such, their working conditions contain high levels of discretion and high, and varied, level of demands. These individuals represent an informative and interesting source of data on the dynamics, rhythms, and stressors of autonomous working lives.

Comparing Sample Conditions

Before analysing the working conditions of the research participants in more detail, Table 6.2 compares the levels of discretion and demands for the participants in this study and the respondents from the EWCS 2010 data. The data represent mean scores for job discretion and influence, and job demands variables in the EWCS 2010 Danish and Irish samples, the IT professionals within these country samples, and the workers who participated in this study. These scores serve as a reference point to identify how similar the sample in this research is to the more representative samples of the EWCS data. Unfortunately this comparison is limited to variables and scales used in both the EWCS survey and this study. While a number of similar questions were asked in both, the type of scales used varied as

the EWCS variables often utilised binary values for their autonomy variables.

Discretion/influence is limited to the following items:

- 'Are you able to apply your own ideas in work?'
- 'You can influence decisions which are important for your work'.

The values ranged from 'always' (1) to 'never' (5) for both variables in the EWCS.

Both item scales were recoded to match those used in this study i.e. 'always' (5) to 'never/hardly ever' (1). The demands variable is made up of the following items asked in the EWCS survey and in this research:

- 'Does your job involve working at high speed?'
- 'You have enough time to get the job done'
- 'Does your work require that you hide your feelings?'

The first demand item ranges from 'all of the time' (1) to 'never' (7) while the second and third variables range from 'always' (1) to 'never' (5). Similarly these variable scales were recoded to match those used in this research; 'always' (5) to 'never/hardly ever' (1) for the first two and 'to a very large extent' (5) to 'to a very small extent' (1) for the third. Additionally, the EWCS variable 'you have enough time to get the job done?' was recoded to match the direction of the variable asked of research participants 'how often do you not have time to complete your work tasks'. Further details on this recoding process can be found in Appendix D: EWCS and Participant Mean Scores for Job Discretion/Influence and Job Demands.

Table 6.2: EWCS & Thesis Samples Discretion/Influence and Demand Means

	Denmark		Ireland	
Means	Discretion/Influence	Demands	Discretion/Influence	Demands
EWCS (national)	3.80	3.04	3.68	3.34
EWCS (ICT)	4.04	2.84	3.98	2.95
Participants	4.50	2.71	4.15	3.02

Considering the data presented thus far, it is unsurprising that the EWCS national samples show that Denmark has higher average levels of discretion and lower levels of demands. This aligns with the data displayed in Figure 6.1 where Danish workers were more often found in the high autonomy quadrants and the Irish distribution shaped more by a higher level of work intensity. The mean scores for the sample of ICT professionals and technicians in the EWCS (based on the ISCO 08 2 digit codes) narrows the discrepancies between country scores. The average level of discretion and demands for these workers is practically the same in Ireland and Denmark. This is worth reiterating, according to the EWCS data, the levels of discretion and demands for ICT workers in Ireland and Denmark are more similar than these conditions are for the full national samples. This may allude to the building blocks of IT work in both countries resembling each other (high pay, high discretion, teamwork, low security etc.). However, the mean scores for participants in this study show a resumption of country differences with the Danish sample again displaying higher discretion and the Irish higher demands.

Looking within both countries, the ICT sample have higher levels of discretion and influence, and lower levels of demands, compared to the nationally representative samples, pointing to a higher level of job quality for the ICT samples. The research participant scores extend this further with the highest average discretion scores in Ireland and Denmark. This is especially observable for the Danish sample of research participants who have the highest average discretion score (significantly higher than the Irish sample) and lowest demands score across all the samples presented.

The Irish participants in this study have higher levels of discretion and lower demand levels compared to the Irish EWCS respondents. However the Irish sample of IT workers within the EWCS 2010 show relatively similar mean scores to the Irish participants in this study, particularly regarding the mean score for job demands. Nevertheless, the working conditions for Irish respondents in this research study resemble to a certain extent those of the Irish IT professionals and technicians surveyed within the EWCS. The same cannot be said for the Danish sample studied

in this research who seem to have considerably higher levels of discretion and lower levels of demands both compared to the Irish samples and other Danish samples. In both countries moving from the full EWCS sample, to the ICT professionals, and then the participants involved in this research, the discretion averages increase while the demand level decreases (apart from a slightly increased mean for demands amongst Irish participants).

In summary, the sample of workers participating in this research have a higher average level of discretion and influence but relatively similar levels of demands to the full and IT professional samples of the EWCS 2010 data. The mean scores for the Danish participants studied in this research continue the trend depicted throughout the chapter thus far with the highest mean scores for discretion and influence, and lowest mean score for job demands depicting comparatively favourable working conditions compared to Irish workers. Following this comparison to the more representative EWCS 2010 samples, and acknowledging that mean scores can be affected by outlier cases, the working conditions of participants in this study will now be explored further by incorporating responses to the psychosocial work environment surveys into a D-C model framework.

A Demand-Control Case Study of IT Workers in Ireland and Denmark

Survey Construction

Utilising validated items from the European Working Conditions Survey (Eurofound 2012) and the Copenhagen Psychosocial Questionnaire (Kristensen et al. 2005), a short psychosocial work environment survey was constructed. During the interview process, participants were asked to complete this survey which covered aspects of autonomy, demands, security, and meaning in relation to their current working conditions. In order to replicate the decision latitude of the D-C model - which consists of items making up skill discretion and task authority - the following items were used to construct a decision latitude score for each respondent:

1. Are you able to choose or change your order of tasks?
2. Are you able to choose or change your methods of work?
3. Can you decide where you worked?
4. Can you decide when you worked?
5. Are you able to apply your own ideas in your work?
6. Can you influence decisions that were important for your work?

The first two variables capture the experience of job control, numbers 3 and 4 cover the sense of freedom experienced at work, and the last two items account for the levels of skill discretion and influence. These four broad areas - job control, freedom, discretion, and influence - capture the core aspects of decision latitude inherent in Karasek's (1979) model. They are also in line with Kohn's (1976) depiction of the psychological benefits of being able to use initiative, thought, and direct one's activities while at work. This construction differs from that used by Eurofound who used a binary approach to their autonomy variable and allowed their intensity variable to provide the variation of scores with groups who either had and or didn't have autonomy (see Appendix E: Eurofound (2012) EWCS Construction of Karasek Quadrants Variable for further details on Eurofound's construction of Karasek quadrants based on 2010 EWCS data). Regarding this study's approach, each participant was hence given a decision latitude score based on their mean across the 6 items outlined. The scales for all six variables ranged from 'never/hardly ever' (1) to always (5). The Cronbach's alpha for this scale was .89 which is an optimal score for internal consistency and points to a reliable scale.

The job demands scale presents a slightly more complex picture. Karasek's (1979) original demands scale focused on ability to complete work, physical strain, the pace of work, not enough time to complete work, and incompatible requirements. Eurofound's (2012) concentrated on the intensity of demands rather than type (see Appendix E: Eurofound (2012) EWCS Construction of Karasek Quadrants Variable). As the objectives of this study are aimed at the character of stressors emerging for workers with high autonomy in different contexts, and to match the original D-C model more appropriately, I felt it more suitable to take an approach which

covered a broad range of demands arising for the workers interviewed. Thus, the following are the items which make up the job demands scale.

1. Does your job involve working at very high speed?
2. How often do you not have time to complete all your work tasks?
3. Does your job involve complex tasks?
4. Is your work emotionally demanding?
5. Does your work require that you hide your feelings?

Each participant received a job demands score based on their average across these items. As with the decision latitude scale, the purpose here was to cover the core aspects of the D-C model, but also update the approach to reflect post-industrial work bargains. The questions asked therefore cover quantitative (1 and 2), cognitive (3), and emotional (4 and 5) types of demands faced by post-industrial workers. The scales for the quantitative and cognitive questions ranged from 'never/hardly ever' (1) to always (5). The emotional demand variables ranged from 'to a very small extent' (1) to 'to a very large extent' (5). The Cronbach's alpha for this scale was .48 which is not an ideal score for the internal consistency of the scale.

Exploring this further I decided to split the demands scale into two different types - quantitative and complex (3 items) and emotional (2 items). This produced slightly better Cronbach's alpha scores: .64 for the former and .69 for the latter. These more adequate scores for the smaller, demarcated scales may indicate that there are two distinct types of processes and demands for this sample of workers. Although these internal consistency scores are higher when broken into the two different types, this may be due to the small number of items within each. Table 6.3 provides a summary of the Cronbach's alpha scores for the various scales used with the EWCS and participant data. The 4 item variables refer to questions which were asked in both the EWCS and this study. In relation to the research participant sample, the Cronbach's alpha for decision latitude is more than optimal in the 4 item and 6 item versions, indicating a high level of internal consistency. The EWCS decision latitude scales also show adequate scores. Looking broadly at the

Cronbach's alphas across EWCS and participant data, it is the demand scales which show unsatisfactory internal consistency scores, particularly when the scale includes more than three variables. Nonetheless, I felt it was better to proceed with the full 5 item job demands scale as it contains the fuller store of information from which to locate the workers interviewed within a D-C model. The inclusion of emotional demands variables also takes into account a more current outlook on the types of demands made on post-industrial workers, even those in IT where interactivity with other workers is a major aspect of the labour process (Perlow 1999). See Appendix G: Construction of Research Participant D-C Framework for further information on a D-C model which uses the 6 item decision latitude with the 3 item quant and complex demands.

Table 6.3: Cronbach's Alpha for Different Scales and Samples

	Decision Latitude (6 item)	Demands (5 item)	Decision Latitude (4 item)	Demands (4 item)	Quant & Complex Demands (3 item)	Emotional Demands (2 item)
Research Participants	0.894	0.486	0.911	0.346	0.649	0.695
EWCS National Samples	-	-	0.685	0.356*	-	-
EWCS IT Occupations	-	-	0.559	0.304*	-	-

*Values for EWCS 2010 q51g "You have enough time to get the job done" reversed to corroborate with question asked of participants " How often do you not have time to complete all your work tasks?"

Following the computing of job decision latitude and job demands scores, the D-C model quadrants were created using the median scores for both variables. Figure 6.6 shows the distribution of the Irish and Danish research participants within the D-C model (N=31).

A D-C Model of Research Participants

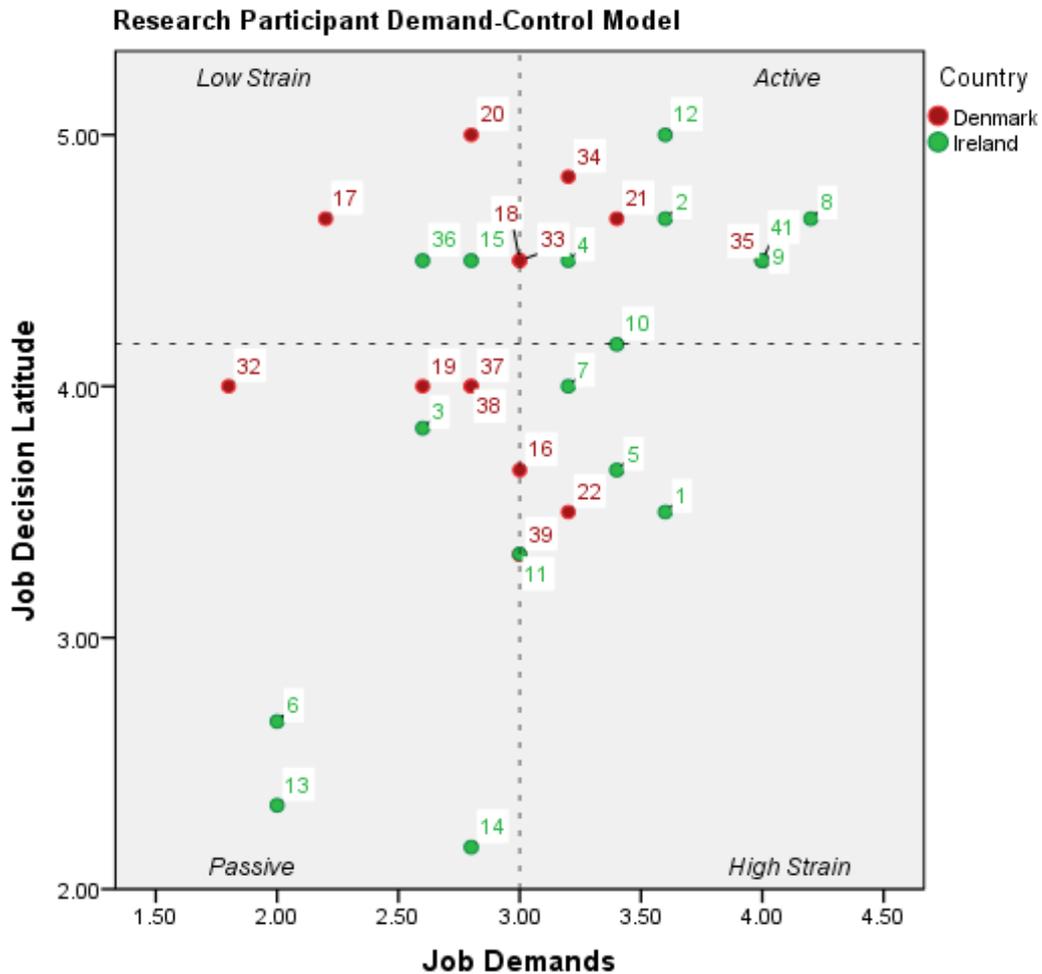


Figure 6.6: D-C Model of Research Participants by Country

Looking at the location of workers across the four quadrants a number of observations can be made. Firstly it must be noted that the median for decision latitude is quite a high score (4.17), reflecting the autonomous working conditions of the IT worker sample. As the quadrants are based on median scores for job decision latitude and job demands, there is a fairly even split between cases who fall above (16) and below (15) the median for job decision latitude. Nonetheless there is also an even split above and below the decision latitude median within each country with the Danish sample split into 7 above and 7 below, and the Irish 9 above and 8 below. Regarding job demands there is a less even divide as 12 cases fall below the median and 19 above. The segregation of Danish cases is relatively even with 6 cases in the low demands quadrants and 8 in the high. However, nearly

two thirds of the Irish cases are located in the high demands quadrants (11 of 17). In terms of gender, females are also located within all four quadrants as follows: Passive: 2 (38, 6), Low Strain: 1 (20), Active: 2 (2, 12), High Strain: 2 (1, 7). Interestingly, both Danish females are positioned in the low demand quadrants. The Irish sample seems to have three outliers. Case numbers 6 and 13 are noticeable for their low levels of both job decision latitude and demands while case number 14 has the lowest score for job decision latitude across the total sample. Similarly, Danish case number 32 also noteworthy for having the lowest score for job demands across the total sample.

Cases from both countries are located in each quadrant with most in the active quadrant (11), followed by an equal number of cases in the high strain (8) and passive quadrants (8), and the least in the low strain quadrant (4). Bearing in mind that these research participants are all highly skilled IT workers in various autonomous and responsible positions, it is somewhat surprising that there are twice as many cases in the passive quadrant (low demands, low decision latitude) as there are in the low strain quadrant (low demands, high decision latitude). Nevertheless, it is encouraging that most are located in the active quadrant as this allows the study a thorough analysis of the conduct of high autonomy in circumstances where demands are also high. It is worth noting at this stage that where a case lies on the boundary between quadrants, the case was located in the more interesting and informative quadrant for the purposes of this research. In effect this resulted in a small number of cases on the boundary between low strain and active being located in active. Similarly a small number of cases on the boundary between passive and high strain, and active and high strain, were located in the high strain quadrant (see Appendix G: Construction of Research Participant D-C Framework for further details on D-C case position).

Looking at the location of participants within the D-C frame, the high decision latitude quadrants show more variation as most cases in the low decision latitude quadrants cluster around the job demands median. The working conditions of Irish participants shows more variation than the Danish as job demands scores range

from 2 to 4.2 and decision latitude from 2.17 to 5. The working conditions for Irish workers are more demanding with the higher ranges of job demand scores (3.5 - 4.5) taken up primarily by Irish workers. In fact, of the Danish sample there is only one case that falls into this demand score range. The distribution of Irish workers is therefore quite influenced by high levels of job demands - only one third of Irish cases fall below the job demands median. This indicates that the Irish workers in the sample are exposed to a higher range of quantitative, cognitive, and emotional demands. Danish working conditions seem more homogenous. The scores for job demands range from 1.80 to 4 while job decision latitude scores from 3.33 to 5. Just as the Irish sample is more influenced by the higher levels of job demands, the Danish sample is influenced by higher levels of job decision latitude. Although the number of cases above the decision latitude median for both countries is similar, Denmark's lowest score is 3.33 while Ireland's is 2.17. Thus, in terms of decision latitude, there is not a huge amount of variation amongst the Danish sample. These variances in country distribution reflect somewhat the distribution of the EWCS 2010 samples previously discussed.

The Autonomy-Demand Relationship

Comparing the location of participants by country, there seems to be a linear relationship between job demands and job decision latitude in Ireland, less so in Denmark. In order to investigate this further a bivariate correlation analysis was run using SPSS. However, in order to decide which test statistic would be utilised for the correlation analysis, separate scatter-plots were created for each country's distribution of workers in order to identify the linearity of the relationship between job decision latitude and job demands in each country (see Appendix F: SPSS Correlation Coefficient Output to view the scatter plot for each country). As the two distributions are based on scatter-plots of varying distribution and seem to have a somewhat linear relationship, the relationship between job decision latitude and job demands was tested using Pearson's Correlation (r). Table 6.4 presents the correlation coefficients for the bivariate analyses run for both country samples.

Table 6.4: Correlation Between Decision Latitude & Demands in Denmark and Ireland

	Ireland	Denmark
Pearsons <i>r</i>	.66**	.11
N	17	14
Note: Although sample sizes are too small for generalising, the correlation for the Irish sample is significant at the .01 level.		

Using a two tailed test, which allows for positive or negative correlations (Field 2009), there is a moderate-strong positive correlation between job decision latitude and job demands in Ireland ($r=.66$, $p<.01$, $n=17$). This correlation is much stronger than the relationship between decision latitude and demands for the Danes ($r=.11$, $n=14$). Although differences in statistical significance scores are included (e.g. Irish correlation is significant at the .01 level and the Danish correlation is insignificant), it must be noted that this is not a random sample (required for statistical significance) and the total sample size is relatively small, therefore these measures do not suggest any representativeness. However the correlation scores do capture the different relationships between these working conditions for the Irish and Danish samples. The positive sign of the correlation coefficient means that as one variable increases, so does the other. The size of the coefficient points to the strength of the relationship between the two variables. In this case a .66 correlation coefficient suggests a moderate-large effect size (Hinkle et al. 1998). In other words, in Ireland, higher scores for job decision latitude are associated with higher scores on job demands. Although this can't be used to infer any causal relationship, it does point to a different relationship between autonomy and demands for the samples. The association between decision latitude and demands in Ireland also presents a dilemma for Karasek's (1979) hypotheses as high levels of decision latitude, rather than protecting against high demands, may bring with it accompanying demands in high autonomy positions.

The distribution of IT workers in Ireland and Denmark within a D-C model framework demonstrates that there is an association between high job decision latitude and job demands in Ireland but not Denmark. This presents an interesting distinction as the distribution of cases is influenced by a large number in the 'active'

quadrant (high demands and high decision latitude), split fairly evenly between Ireland (6 cases) and Denmark (5 cases). However, high decision latitude, or autonomy, is associated with higher demands in Ireland but not Denmark, implying a difference in how these two vital aspects of working life interrelate and function within the different contexts. Despite being located in the same D-C quadrant, the antecedents of this location, and experience of these conditions, may be different. The broader structural context of IT work may thus influence the elements and dynamics of autonomy and demands associated with work. Despite the small numbers involved in the study, these findings fall in line with the work of Arundel et al. (2007) and Holm et al. (2010), with their characterisation of work in Denmark as 'discretionary' and Ireland as 'lean'. In both the EWCS and thesis samples, Danish working conditions are typified by high levels of autonomy and decision latitude, independent of demands. Irish working conditions are influenced by more intensity and a higher range of demands - which are associated with higher levels of decision latitude for the sample in this study. These contextual differences in terms of the dynamics and accessories of autonomy at work present a puzzle in terms of predicted outcomes for workers.

The findings presented thus far point to the different dynamics of high autonomy in IT work in Denmark and Ireland. Going back to the three thematic points at the beginning of the chapter, the analysis has identified nationally distinctive experiences of working conditions, and a workplace autonomy (decision latitude) which does not always alleviate the weight of workplace demands. The question thus arises as to whether the outcomes of these different contexts and experiences produce disparities in terms of psychological outcomes. The following section will analyse this in terms of job-related feelings across the two country samples and the four D-C quadrant groups.

The Affects of Working Conditions

At the core of the stressors of work lie job related feelings. The simple but effective question; 'how does work make you feel?' is not an easy question to answer. The

answer is multidimensional and often involves overlapping and interrelated feelings across different timeframes and environments. Drawing from feminist analysis of emotional labour (Hochschild 1983, Hochschild and Machung 1990), a focus on affect offers a more sociological perspective from which to explore the psychological effects of working conditions. Job related feelings are conceptually limited to the working context (Warr 2013) and offer a perspective of the everyday juxtaposition of an independent reality of globalised economic organisation, and a socially constructed experience of local working conditions.

The Job-Related Feelings Survey

Following completion of a short psychosocial work environment survey - which shaped the distribution of workers across the D-C model - participants also completed a survey on job-related feelings. Participants were asked to complete a job-related feelings survey based on the 16 item affect quadrant circumplex of Warr et al. (2014). In line with the model, the measures are domain-specific (limited to job-related feelings) and based on high and low levels of the two primary attributes of feelings: pleasure and arousal. The core affects within the framework are subsequently divided into four quadrants each containing their respective feelings:

- High Activation Pleasant Affect [HAPA]: excited, enthusiastic, inspired, joyful
- High Activation Unpleasant Affect [HAUA]: anxious, tense, worried, nervous
- Low Activation Pleasant Affect [LAPA]: relaxed, calm, at ease, laid back
- Low Activation Unpleasant Affect [LAUA]: depressed, dejected, despondent, hopeless

These 16 feelings were then mixed up in the survey format. As recommended by Warr et al. (2014:348), the survey asked: 'For the past month, please indicate approximately how often you have felt the following while working in your job. Everyone has a lot of overlapping feelings, so you'll have a total for all the items that is much greater than 100% of the time'. I also included the sentence; 'The focus here is on how work makes you feel not an assessment of general mental health' in

order to re-emphasise the domain of focus. Each respondent was given a quadrant score based on the average for the 4 feelings within each respective affect quadrant. Thus, each individual respondent has a mean score for each affect quadrant (HAPA, HAUA, LAPA, LAUA) and all four affect quadrants contain the total number of participants in each country. Negative or unpleasant feelings were reverse scored so that scores range from 'never' (1) to 'always' (7) for the pleasant quadrant feelings (HAPA and LAPA) and 'always' (1) to 'never' (7) for the unpleasant quadrant feelings (HAUA and LAUA). This ensures that higher scores always equal greater levels of pleasantness (see Appendix H: Operationalising Warr et al. (2014) Affect Quadrant Circumplex for further details).

The Affects of IT Work in Ireland & Denmark

Table 6.5 shows the mean, minimum and maximum scores for each affect quadrant for the whole sample of workers, followed by a breakdown of the Irish and Danish samples.

Table 6.5: Affect Quadrant Means

Affect Quadrant Means (N=31)								
	HAPA		HAUA		LAPA		LAUA	
Mean	4.35		5.82		3.97		6.65	
Minimum	2.25		3.75		2		5.25	
Maximum	6.75		7		6		7	
	DK	IE	DK	IE	DK	IE	DK	IE
Mean	4.55	4.18	6.07	5.62	4.34	3.67	6.55	6.73
Minimum	2.25	2.25	5	3.75	2	2.25	5.5	5.25
Maximum	6.25	6.75	7	6.5	5.75	6	7	7

It is the pleasant feelings - high and low - which show the lowest mean scores and the biggest range of values. This is the case for the overall sample and within both country samples. Low activation, unpleasant affects (LAUA's) i.e. dejected, depressed, despondent, hopeless are scarcely evident in either country as both

means are close to a score of 7 which denotes 'never'. The affects of anxiety, tension, worry, and nervous (HAUA's) are faintly more observable, although the overall sample mean and both country means indicate these feelings are experienced approximately 'a little of the time' (6), although slightly more frequent in Ireland. In contrast, low activation, pleasant affects (LAPA's) such as calm, at ease, laid back, and relaxed are felt approximately 'half the time' (4) by the overall sample of workers with its frequency even less so in Ireland. For Irish workers in the sample, mean scores indicate that it is the LAPA's which are the least prevalent. Likewise high activation, pleasant affects (HAPA's) i.e. enthusiasm, excitement, joy, and inspiration are experienced approximately 'half the time' (4) by the overall sample of workers, again to a slightly lesser degree in Ireland. Interestingly, the scores for the Danish workers indicate that HAPA's and LAPA's are both experienced around 'half the time' (4.55 and 4.34). Thus, the lowest scores are found for the more pleasant feelings of enthusiasm, excitement, relaxed, and calm.

On the one hand, this seems unsurprising - the individuals in this sample have very demanding jobs which often come with a lot of responsibility so relaxed, calm, and laid back feelings may be scarce. This may be especially the case in Ireland, where the discussion thus far has shown an increased exposure to higher intensity in the EWCS sample and a higher range of autonomy associated demands according to the D-C model of participants. Subsequently, this may explain cases where workers have indicated they experience these feelings only 'a little of the time' (2). However, equally interesting is the similarly low minimum score for HAPA's. These individuals have jobs typically depicted as high in quality and often providing excitement and inspiration. Their commitment to the job is often one based on intrinsic enthusiasm for the work involved (Benson and Brown 2007, Kunda 2006, Walton 1986). Yet, the HAPA quadrant displays comparably low mean and minimum value scores to LAPA, especially in Denmark. On average the Danish sample is calm and relaxed as frequently as it is excited or enthused - about half the time over the previous month of work. For the Irish participants the minimum value for the HAUA quadrant, and mean score for the LAPA quadrant, are noticeably

lower than the Danes. This suggests feelings of tension and worry were slightly more common, and feelings of calm were less common for the Irish participants.

Affects & Gender

While acknowledging the smaller number of females in the sample, Table 6.6 presents the mean affect quadrant scores broken down by gender.

Table 6.6: Affect Quadrant Means by Gender

Affect Quadrant Means by Gender (n=7)								
	HAPA		HAUA		LAPA		LAUA	
	Male	Female	Male	Female	Male	Female	Male	Female
Mean	4.42	4.10	5.86	5.68	4.02	3.79	6.67	6.6
Minimum	2.25	2.25	3.75	4.25	2	2.5	5.5	5.25
Maximum	6.75	5.75	7	6.5	6	5.25	7	7

The mean scores seem to continue the general trend of the pleasant-unpleasant divide. While there are slight differences in mean scores between men and women, it does seem that in general, their job-related feelings have similar degrees of pleasure and activation. The LAUA's are experienced equally infrequently by both men and women. The scores for the HAUA quadrant indicate that feelings of anxiety and worry are on average slightly more common for women. Although it is interesting to note the minimum HAUA score for men is lower than the women's score. It is the LAPA's and HAPA's which again prove most interesting with women scoring lower in both quadrants. The lowest mean score in Table 6.6 indicates that women feel calm, relaxed and at ease (LAPA) to a lesser extent than men. The biggest discrepancy between the mean scores for men and women is in relation to the HAPA quadrant, signifying that women's sense of HAPA's (excitement, enthusiasm, inspiration, joy) at work was less than men's also.

It is interesting to go back to the type of working conditions encountered here. According to the EWCS data presented previously, it was women who were more often found in the job strain quadrant for both the Irish and Danish samples.

Regarding the working conditions of the women in this sample, they were located in all four D-C quadrants. Thus these relatively negative job-related feelings may be an effect of underlying processes and dynamics at work which present women with less opportunities for HAPA's at work (Holt and Lewis 2011, Truss et al. 2012). This will be further investigated in the qualitative analysis of the proceeding chapters. However, as mean scores can be effected by outliers, a more comprehensive view of the frequency of these job-related feelings amongst the Irish and Danish samples is required.

Plotting the Range of Job-Related Feelings in Ireland & Denmark

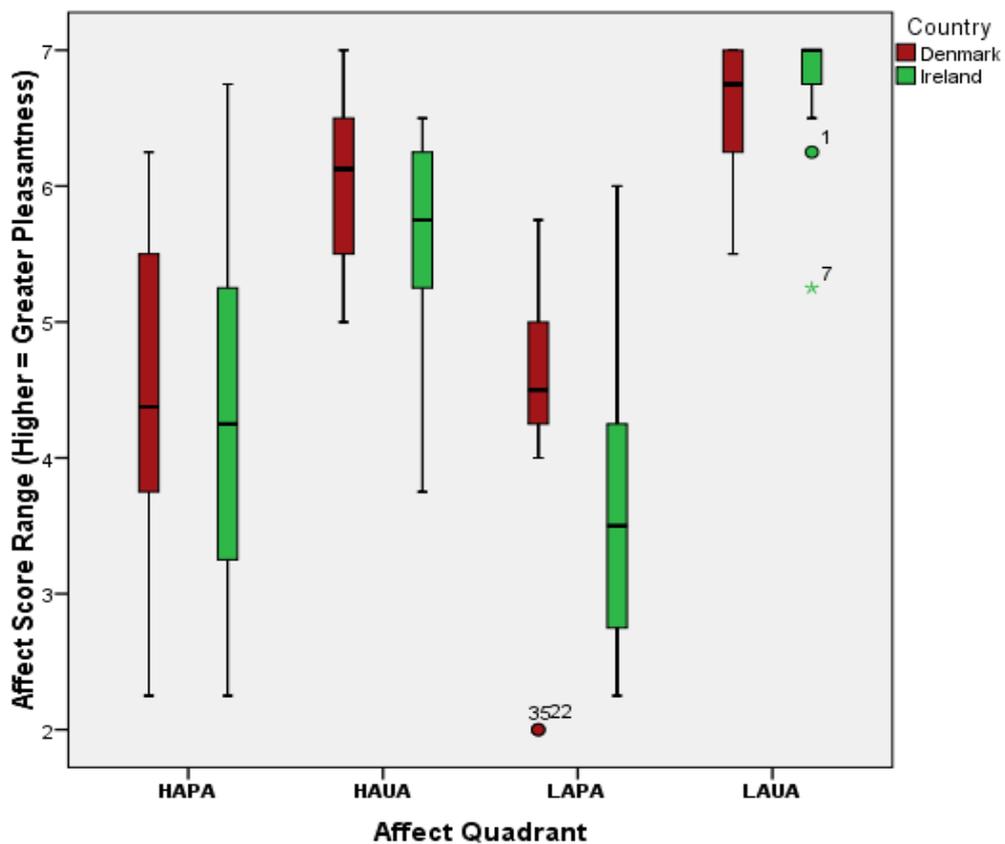


Figure 6.7: Box-plot of Affect Quadrants by Country

Figure 6.7 explores the affect scores further by presenting a box-plot which depicts the range of scores for each affect quadrant by country. Analysing the box-plot, the first thing to note is the broad differences between the pleasant (HAPA and LAPA) and the unpleasant (HAUA and LAUA) affect plots. The unpleasant plots display a

somewhat limited range from middle to high values while the pleasant plots, particularly in Ireland present a wide range from low to high values.

- LAUA's (Depression, Despondency, Dejection, Hopelessness)

Generally, there is relatively little variety in the scores for LAUA, especially in Ireland. Feeling depressed, dejected or hopeless was rare for workers in both Denmark and Ireland, evident in the inter-quartile range (i.e. the middle 50% of observations) for both countries located at the higher end of the score range (7 is 'never'). Even the two outliers for the Irish sample never fall below 'some of the time' (5). These two Irish outlier cases are both located in the 'high strain' quadrant of the D-C framework in Figure 6.6. Relative to the high LAUA scores for both samples, and therefore little to no feelings of depression, despondency, dejection, or hopelessness, the two cases which experience these feelings 'some of the time' are working in high strain conditions.

- HAUA's (Tension, Worry, Anxiety, Nervous)

The HAUA feeling plots show a little more internal and comparative variation. The full range of observations is much wider for the Irish sample. Danish scores range from 'never' (7) to 'some of the time' (5). Whereas the Irish sample goes as low as 4 ('about half the time'). The Irish observations also display a slightly lower median score. However the inter-quartile range is similar for both countries lying mainly around 'a little of the time' (6). Thus the prevalence of feeling anxiety, worry, or tension was slightly higher amongst the Irish sample. Although these feelings were more evident than the LAUA feelings (depression, despondency, dejection, hopelessness), they were still not hugely observable. This was somewhat surprising considering much of the burgeoning literature on the different demands (Allvin 2008) and the 'stress of higher status' (Schieman et al. 2006) often faced by workers in highly skilled, highly autonomous positions.

- LAPA's (Calm, Relaxed, At Ease, Laid Back)

The LAPA plots display the most striking differences between the two countries. The maximum observations for both countries are similar - quite close to 'a lot of the time' (6). However this is where the similarities end. For feelings of calm, relaxed, and at ease, the range of observations in Ireland is much more varied than Denmark, ranging from 'a little of the time' (2) to 'a lot of the time' (6). The minimum observation in Denmark is 'about half the time' (4). The median LAPA score for Irish workers (3.5) is a full point lower than the Danes (4.5). The entire inter-quartile range for the Irish sample lies within scores lower than the Danish sample, signifying that 75% of the Irish LAPA scores fall below the Danish median (4.5). It is worth reiterating that 4 represents 'about half the time'. The Irish workers feel calm, relaxed, laid back, and at ease considerably less than the Danish workers. This may be related to the association between high levels of decision latitude and job demands in Ireland discussed previously. The extent and nature of the accompanying demands may leave the Irish workers with little opportunity to feel calm or relaxed, and a slightly more frequent experience of anxiety and tension. This does not seem to be the case in Denmark. Although there are two Danish outliers whose LAPA feelings score was 2 ('a little of the time'). Interestingly, one of these cases falls into the 'high strain' quadrant while the other was positioned in the 'active' quadrant (see Figure 6.6). That an individual feels little sense of calm, relaxation, or laid back while working in high strain conditions is unsurprising but that an individual with high autonomy and high demands (active) would have similar levels of these feelings points to other mechanisms at play in the work-psychological well-being relationship whether intrinsic or environmental. It also points to the potentially negative effects of working in 'active' conditions if the demands begin to outweigh all other facets of the job, as Karasek himself noted was possible (1979).

- HAPA's (Enthusiasm, Excitement, Inspired, Joy)

Finally the HAPA affect plots illustrate the widest range of observations for both countries with scores across almost the entire range of values. However the inter-quartile range and medians are quite similar for both countries with HAPA feelings experienced 'about half the time' (4) to 'much of the time' (5) for the majority of workers in both countries. What is interesting is that the respondents - in various high skilled positions in IT occupations - are in the type of jobs where levels of discretion, skill use, and learning and innovation opportunities are posited to provide workers with contexts for feeling enthusiasm and excitement. Much of the normative control methods used in this work rely on commitment, enthusiasm and the offer of upskilling opportunities (Kunda 2006). Thus there was perhaps an expectation that the plot for these feelings would resemble those of the LAUA affects where there is little variation with most workers feeling excited and enthusiastic much of the time. Nonetheless the results from these samples present a wide variety of frequencies of these feelings from just over 'a little of the time' (2) to just short of 'always' (7) with most in the middle range of scores. Feelings of excitement or enthusiasm at work are not always a corollary of highly skilled and autonomous positions.

For this sample of IT workers, unpleasant affects at the higher and lower activation scale (e.g. anxiety, tension, depression, and despondency) are experienced infrequently, yet the pleasant affects of higher (e.g. excitement, inspiration) and lower (calm, relaxed) activation are also not experienced regularly. These scores may be a result of interviewees being less likely to admit feelings of anxiety and depression due to the stigma associated with such terms. In such instances registering a lack of positive feelings may be a more acceptable option for depicting the negative impact of work, especially for a sample dominated by men, and interviewed by a man. Nonetheless the range and variation of the pleasant feelings are surprising, particularly in Ireland where interviewees displayed a wider range of HAPA and LAPA scores with a higher proportion of interviewees (compared to the Danes) scoring below 4 ('about half the time').

These findings complicate the psychosocial relationship between high autonomy working conditions and job-related feelings. The research participants hold positions depicted as 'good' jobs (Kalleberg 2011) characterised by skill discretion, flexibility, high pay, up-skilling opportunities, influence, and high responsibilities. The rare experience of depression or dejection (LAUA) at work is thus unsurprising. Conversely, the lower scores (and experience) of excitement, enthusiasm, inspiration and joy in both samples is unexpected. The mean HAPA score for both countries is just over 4 ('about half the time'), and 25% of participants in both countries feel excitement and enthusiasm less than half the time. These working conditions are certainly not depressing, yet not exciting or enthusing either. The variation and low scoring, especially in Ireland, for feeling calm, at ease, and relaxed (LAPA) in work is perhaps the other side of this coin. Considering the association between high decision latitude and demands in Ireland discussed previously, the autonomy, intensity, demands, and responsibilities of these jobs may be impinging on workers' experience of autonomy and feelings of calm (LAPA) and enthusiasm (HAPA). Indicators of job quality, may bring their own form of psychosocial risks, not always in line with assumptions of theoretical models. These findings thus present a number of puzzles for the assumptions of the D-C model (Karasek 1979). For highly autonomous workers, is 'strain' evident in the lack of pleasant feelings rather the experience of negative ones? Does high autonomy look different in different socio-economic contexts? Are 'active' conditions (high decision latitude and high demands) now developing their own form of strain? If so, is the development of new behaviours in and out of work (Karasek 1979) now about managing boundarylessness (Allvin 2008) and interdependence (Hvid et. al. 2010, Lund et al. 2011, Perlow 1999)?

Linking Working Conditions & Job-Related Feelings

The analysis will now delineate affect quadrant scores in terms of participants' location in the D-C framework in order to connect working conditions and job-related feelings. However, a caveat here is that the number of participants represented is getting low, especially in the low strain quadrant which had the

minimum participants from the outset. Looking at Table 6.7 a number of points are worth mentioning in relation to the mean values. Most generally, similar trends to those previously discussed are evident with the "pleasant" quadrants displaying the lower values (higher scores always equal greater pleasantness).

Table 6.7: Affect Quadrant Means by D-C Quadrant

	HAPA	HAUA	LAPA	LAUA
PASSIVE (n=8)				
Mean	3.84	6.06	4.65	6.7
Minimum	2.25	5.5	3.25	5.5
Maximum	5.25	6.5	6	7
LOW STRAIN (n=4)				
Mean	5.12	6.19	4.31	6.9
Minimum	4	5.75	3.75	6.75
Maximum	6.75	6.5	5.25	7
ACTIVE (n=11)				
Mean	4.77	5.81	3.69	6.69
Minimum	3.25	3.75	2	6
Maximum	6.25	6.75	5.75	7
HIGH STRAIN (n=8)				
Mean	3.88	5.4	3.5	6.47
Minimum	2.25	4.25	2	5.25
Maximum	6.25	7	5.5	7

In line with D-C model expectations, it is the 'high strain' quadrant which displays the least pleasant mean scores across the four affect quadrants, especially the pleasant affects. The one slight exception is the mean HAPA (excitement, enthusiasm) score for those in the passive quadrant which is slightly less than the mean HAPA score for the high strain quadrant. However these findings also fall within the D-C model hypothesis as those in working conditions with low decision latitude and low demands are unlikely to feel that their work is exciting or inspiring. Surprisingly, the mean LAPA (calm, relaxed) score for the active group is almost as

low as those in the high strain group. This presents an anomaly for the D-C model as those in the active group have high decision latitude and high demands which are posited to present learning and development opportunities. For this sample, it seems ‘...the opportunity to use skill and make decisions’ (Karasek 1979:286) does not often translate into job related calmness or at ease. It may be that these types of working conditions bring with them a level of intensity and demands that restrict these feelings. In order to unpack further the relationship between working conditions and job-related feelings, Figure 6.8 presents a box-plot illustrating the range of affect quadrant scores for participants grouped according to their location in the D-C model (Figure 6.6).

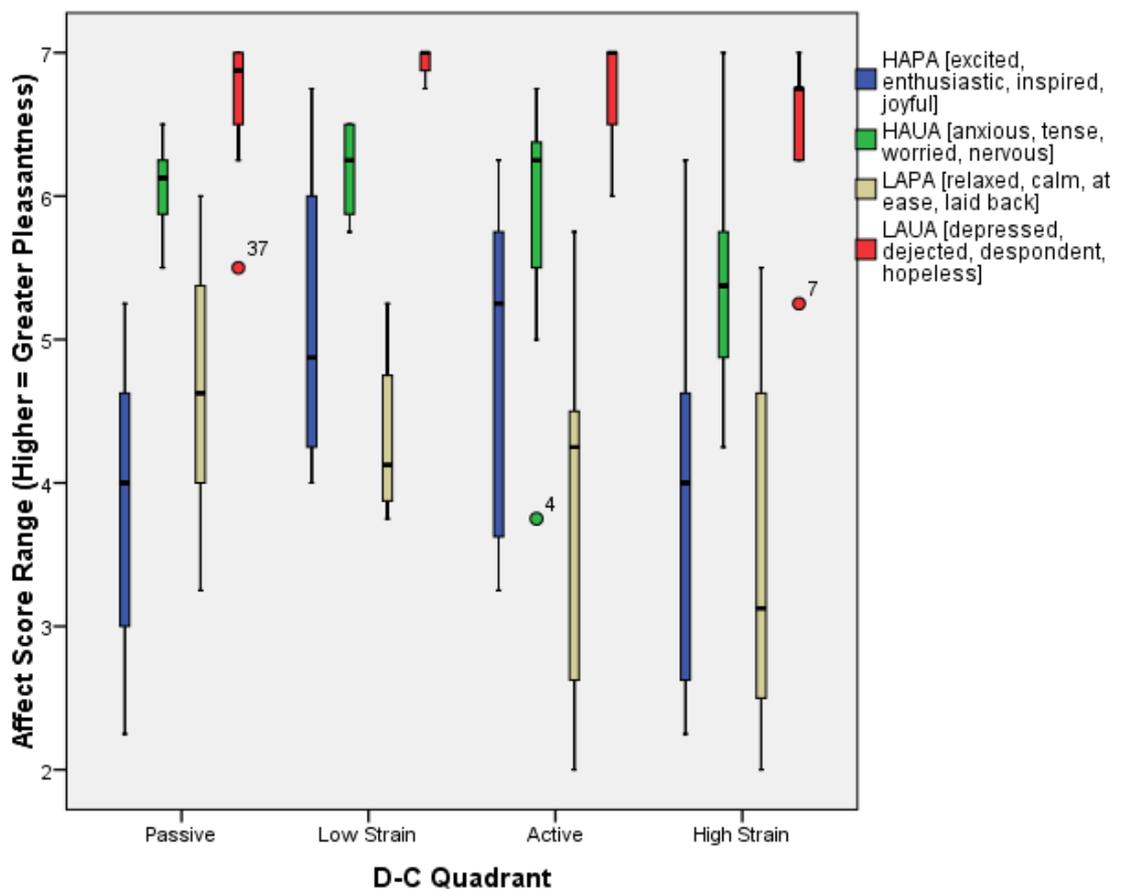


Figure 6.8: Box-plot of Affect Quadrant Scores for each D-C Quadrant

LAUA feelings are experienced at work at most 'a little of the time' (6), by those in the active group (high autonomy and demands). Although two outlier cases (7, 37) do go as low as 5.25 and 5.5 respectively, which is closer to 'some of the time'. In

general there is little incidence of LAUA feelings across all quadrants with each D-C quadrant group's inter-quartile range close to 7 ('never'). This is perhaps to be expected considering the high skills and discretion of the positions held by many participants in both countries. For these workers, job-related affects do not revolve around feelings of despondency or hopelessness.

The medians for HAUA feelings are quite similar for those located in the passive, low strain, and active groups. The inter-quartile range for incidence of feeling anxiety, tense, worried, or nervous is approximately 'a little of the time' for most workers in these D-C locations. The active group displays slightly more range and includes one Irish case (4) who experiences these feelings around half the time. However it is the high strain group that shows the widest range of scores (minimum of 4.25 and maximum of 6) and lower inter-quartile range and median scores which suggest the feeling of anxiety and worry is felt by workers in this group 'some of the time' (5) slightly more than the other three groups. Again this is to be expected according to the D-C model logic where those in working conditions characterised as highly demanding with little control or discretion in dealing with these demands will lead to psychological strain for these workers. Feelings of anxiety and tension are more common for workers in the high strain group.

The incidence of HAPA feelings (enthusiasm, excitement, inspiration, joy) displays the widest variation with almost the full scale of values captured across the four groups from just over 'a little of the time' (2.25 in passive and high strain) to just less than 'always' (6.75 in low strain). Firstly, the inter-quartile range of HAPA scores across all four quadrants lie at a lower range of scores than the LAUA and HAUA affect scores. The low strain and active groups seem to experience HAPA feelings at a similar frequency, although it is worth noting that the highest median for the four groups is found in the active working conditions (5.25). The majority of workers in these groups experience these feelings between 'half the time' (4) and 'a lot of the time' (6). While the HAPA scores for the active group are comparatively high, 50% of this group experience these positive feelings 'much of the time' (5) to just more than 'some of the time' (3). These scores are somewhat counterintuitive

to the consequences of 'active' working conditions as depicted by Karasek's (1979) D-C model which posits that these present opportunities for workers to be challenged in a positive manner and thus opportunities for learning and upskilling. These are the conditions in which you would expect workers to feel excitement and enthusiasm regularly however this is not the case for many participants in this research. More in line with Karasek's model are the passive and high strain groups who show very similar, and lower, scores with both groups having the same median score (4) and a similar inter-quartile range (between 3 and 4.5). In both groups, 50% of participants feel enthusiastic and excitement about half the time or less. This is not surprising for those working in passive working conditions (low decision latitude and low demands) where work may not present opportunities to feel excitement. For those in high strain conditions it may be an excess of demands which limits the extent of these feelings also.

The low activation pleasant affects of calm, relaxed, at ease, and laid back are limited in the groups experiencing high levels of demands at work. Both the active and high strain groups display comparable LAPA scores which range from a maximum of just less than 'a lot of the time' (5.75) to a minimum of 'a little of the time' (2). However the median of the high strain group (3) is more than a full point less than the active group. In fact 50% of those in the high strain group feel calm, relaxed, laid back, or at ease approximately 'some of the time' (3) or less. For the active group, this is just over 'half the time' (4). The low strain group shows limited variety in LAPA scores with most in this group falling between 'half the time' (4) and 'much of the time' (5). The frequency of these feelings for workers in the passive group is between 'a lot of the time' (6) and 'some of the time' (3). Thus it seems a sense of calm and at ease is much more prevalent for those working in conditions characterised by low demands. In line with D-C model thinking, work within the passive group is generally more calm than it is exciting with 25% stating that they feel LAPA feelings 'half the time' or less, and 50% experiencing HAPA feelings 'half the time' or less.

In summarising the box-plot in Figure 6.8, the level of variation in scores is low for LAUA and HAUA and quite considerable for LAPA and HAPA. It appears that the pleasant feelings - at high and low activation - is where the real differences reside. Comparing the D-C quadrants, the low strain is perhaps the least interesting (admittedly with a small 'n') as it displays little variation with all feeling types occurring in the 'half the time' and up (pleasantness) range of scores. It is in the high activation feelings (HAUA and HAPA) where considerable differences arise. Comparing the inter-quartile range and medians of the active and high strain groups, it is the active group who experience less unpleasant feelings and more pleasant feelings. This lends some support to the job strain hypothesis of Karasek's (1979) model in terms of job-related affects.

Although not presented, in relation to affect scores for country samples within the same D-C quadrant, it is the Irish workers who come out worse in terms of the pleasantness of job-related feelings. Within the active quadrant (high demands, high decision latitude) Irish workers experience anxiety, tension, worry, and nervousness (5.46) slightly more than the Danish workers (6.25). This may be a repercussion of the association between high decision latitude and high demands found in Ireland. Again within 'active' working conditions, the Irish sample's mean score for feelings of relaxed, calm, at ease, laid back, is almost a full point lower (3.25) than Danes facing the same conditions (4.2). It is a similar story for the high strain quadrant (high demands, low decision latitude) with Irish workers experiencing excitement and enthusiasm considerably less frequently (3.35) than the Danes (4.75), and feeling calm and relaxed less (3.2) than the Danish workers (4). Whilst the numbers within these quadrants are low, there is some evidence of sample differences in the impact of work on job-related feelings. Not only does autonomy as a working condition seem to function differently across the two samples, but this also presents different challenges in the experience of work for the Irish and Danish IT workers. The following section summarises the implications of the findings in this chapter.

Conclusion

The findings presented suggest the experience of working conditions is shaped by a number of contexts. Returning to the thematic points discussed in the introduction to the chapter the findings illustrate country differences in working conditions. The EWCS data consistently points to higher levels of autonomy for Danish workers and higher levels of intensity for Irish workers with more Irish workers located in 'job strain' conditions. The working conditions of Irish and Danish participants in this study again displayed higher levels of decision latitude for the Danes and higher level of demands for the Irish workers. Higher levels of job decision latitude are associated with higher levels of job demands in Ireland but not Denmark indicating a different relationship between autonomy and demands in both countries. It also points to the second theme emerging from the literature: the changing nature of job control and discretion within a post-industrial working context. For the Irish sample, higher levels of decision latitude may bring with them higher levels of demands, thus problematising the 'buffer' function of job control according to Karasek's (1979) D-C model. These sample divergences reflect the influence of the different contexts on the dynamics of decision latitude at work, and consequently the impact of working conditions on psychological outcomes for workers - including job-related feelings. The following chapter will use the qualitative data gleaned from the semi-structured interviews to investigate how similar IT work may lead to different experiences, strategies, and stressors.

The third theme mentioned at the outset of the chapter was the rather simple and self-evident point that working conditions have an effect on the health of workers (Schnall et al. 2009) whether that be through low job control (Bosma et al. 1997) high levels of intensity at work (Anderson-Connolly et al. 2002, Boxall and Macky 2014) or insecurity (Wichert 2002, Glavin and Schieman 2014). Placed within this chapter's frame of reference this point may translate to; working conditions affect workers' feelings, and not always in expected ways. Analysing the job-related feelings of IT workers in Ireland and Denmark, it seems that the reported experience of high and low activated unpleasant feelings i.e. anxiety, tension,

depression, dejection etc. are rarely felt by the entire sample, across all D-C quadrants. Considering the Irish sample's experience of more intense and demanding working conditions, and a positive association between high decision latitude and high job demands, it is unsurprising Irish workers also report less frequent feelings of calm, relaxed and at ease at work. Feelings associated with 'high strain' working conditions reflect a lack of pleasant feelings rather than the presence of more unpleasant feelings such as depression or higher activated unpleasant feelings linked to the stress of higher status (Schieman et al. 2006). Within the high strain group, it is the Irish who show the lower scores for these positive feelings. Another disconnect with the hypothesis of the D-C model is the finding that the range of LAPA (calm, relaxed, at ease, laid back) scores is similarly low for both the high strain and active working condition groups. Despite different conditions, characterised within the D-C model, the experience of enthusiasm and excitement is similarly wide-ranging.

Looking at these findings from a general perspective, there is little to no unpleasant feelings felt at work at both high (anxiety, tension) and low (depression, dejection) activation. While the latter is perhaps not that startling as these are highly skilled and demanding jobs, the latter is somewhat unexpected as these are jobs which are depicted in a growing store of literature (Allvin et al. 2011, Warr 2007, Glavin and Schieman 2014, Schieman et al. 2006) as often placing particularly high and intense demands and responsibilities on individuals. Instead, the most surprising finding is the relative lack of HAPA's (enthusiasm, excitement, inspiration, and joy) felt across an entire sample of workers in positions that are supposed to be based on trade-offs and commitment behaviours (Benson and Brown 2007) underpinned by these feelings. According to the findings from this sample, high autonomy positions do not lead to anxiety or tension, but they also do not regularly lead to feelings of excitement or enthusiasm. Exemplifying the utility of the Warr et al. (2014) affect model, although the study finds a relative absence of unpleasant feelings, this does not result in a relative abundance of pleasant feelings.

The analysis illustrates the benefits of using the Warr et al. (2014) affect circumplex in conjunction with the D-C model of Karasek (1979). The D-C model facilitates a categorisation of workers based on the amalgamation of key working conditions, in particular the significant role played by job autonomy. It also allows the experience of working conditions to be compared by country. Findings from this chapter indicate a relationship between working conditions and workers' feelings. For the Danish samples in the EWCS and this study, higher decision latitude and lower demands levels translate into relatively lower levels of stress and a higher frequency of pleasant feelings. Warr et al.'s (2014) focus on the broad spectrum of job related affects points toward the everyday effects of these contexts. Their use of high and low activation and pleasure axes enables a fuller picture of job-related feelings which are complex, interrelated, in accordance with everyday life, and at the base of emotions and cognitive evaluations such as job satisfaction.

The use of the affect circumplex both reaffirms and questions the logic of the D-C model. Supporting the model are the findings that show low levels of HAPA feelings (excitement, enthusiasm) in the passive quadrant group in both countries, and the relatively lower level of mean affect scores found across the high strain group compared to the other D-C quadrant groups. However, if job strain is evident, it takes the form of a lack of excitement, enthusiasm, or calm rather than anxiety or depression, and it is more common in Ireland. Furthermore, the active group (i.e. those with high decision latitude and high demands), those with the 'best' jobs according to the D-C model, also display low mean scores for feelings such as calm and at ease - almost equally as low as those in the high strain group. Disregarding the passive groups' HAPA scores - which are in line with the D-C model - it is the LAPA scores for both the active and high strain groups which display the lowest means for both countries. These findings pose the question as to whether autonomy functions the way the D-C model presumes, particularly amongst the Irish sample. Davies (2015) asks the question of whether the real concern for the mental health of workers in the modern economy is not disorders but a general, gnawing sense of ennui;

What if the greatest threat to capitalism, at least in the liberal West, is simply lack of enthusiasm and activity? What if, rather than inciting violence or explicit refusal, contemporary capitalism is just met with a yawn? From a political point of view this would be somewhat disappointing. Yet it is no less of an obstacle for the longer-term viability of capitalism (2015:105).

This newfound vulnerability is unsurprising considering the D-C model dates back to the industrial manufacturing era of the 1970s and 1980s. With the transformation of the structures of modern work organisation, the nature of control and autonomy at work has altered also (Glavin and Schieman 2014, Hvid et al. 2010, Lund et al. 2011). These individuals are in roles characterised as high in job quality dimensions (e.g. high pay, control, skill-use, learning opportunity, flexibility etc.), yet the interplay of the demands of the effort bargain, and the antinomies of autonomy presented in Chapter 3, may lead to a lack of positive feelings about work.

The questions posed by this chapter complicate the psychosocial link between work autonomy and job-related feelings. The dynamics of autonomy are shaped by their structural context and may bring their own form of demands and stressors. However the analysis in this chapter has focused almost entirely on the effort bargain aspects of work. The processes and practices underpinning the negotiation of all three post-industrial work bargains (effort, boundary, employment) will therefore be qualitatively unpacked in the following chapters. The analysis will link the noted country differences in conditions and feelings in this chapter to features of autonomous working lives at the process level (i.e. sociological stressors), rather than individual level associations. Highlighting potential reasons for the sample differences identified in this chapter, the qualitative analysis suggests that it is the antinomies of autonomy themselves that may be the reason for the relative lack of positive feelings in these roles. The thesis will now explore the antinomies of autonomy as they arise across the three bargains shaping the post-industrial working life of IT workers in Ireland and Denmark.

Chapter 7 The Antinomies of Autonomy II: Interdependence: Between Autonomy and Anarchy

'There is the anarchy side. Wow I can do that and I can do it how I want and I can have fun and enjoy my work. And then there is the other side where, fuck everything comes at once and I have no control' (Tom, IT Consultant, Denmark, passive).

Hitherto, the thesis has analysed three broad features linking work and psychological well-being for autonomous workers: the effort, boundary, and employment bargains of post-industrial work, the counter-intuitive antinomies of autonomy, and the social structure of the conditions and stressors of working life. The previous chapter identified differences in the experience and effects of autonomous work for the Irish and Danish interviewees. A number of puzzles emerged; why are high levels of decision latitude at work associated with higher demands in Ireland but not Denmark? Does autonomy function differently in Denmark and Ireland? What explains the wider variation of positive feelings? However, as much of this analysis was based on the D-C model (Karasek 1979), it only touches on the core features of the effort bargain. Using qualitative data from semi-structured interviews conducted with IT workers in Ireland (n=17) and Denmark (n=14), the thesis investigates in more detail the dynamics, strategies, and stressors within the effort, boundary, and employment bargains. In particular the focus is on how the antinomies are negotiated across these different spheres of working life. Within the core, common building blocks of IT work (high discretion, flexibility, teamwork, influence, high pay etc.) in Denmark and Ireland, the research participants discuss the complexities, strategies, and stressors that have emerged for them in managing their working lives. The subsequent chapters will explore the sociological mechanisms shaping the different relationships between autonomy and demands, the strategies adapted to manage the antinomies of autonomy across the post-industrial work bargains, and the nature of stressors emerging from these context dependent conditions of working life.

The complexity of the employer control-employee autonomy struggle is maintained by the crucial role of contextual nuances which shape the mechanisms of working practices. Working environments have become so heterogeneous, especially for those with autonomy (Allvin 2008, Allvin et al. 2011), that analyses of the dynamics of autonomy and demands at work require a specific focus on the type of tasks undertaken by the workers of interest. Consequently, the analysis builds on the work of Perlow (1999) and Benson and Brown (2007) in focusing on the characteristics of the practices undertaken by the individuals participating in this study, work that is: autonomous, varied, task interdependent, and both individual and interactive. The analysis presented in the three subsequent chapters develops this literature by illustrating the connection between the labour process, work, and employment practices of autonomous workers. Thus identifying the socially structured nature of strategies and stressors emerging for IT workers in Ireland and Denmark.

Underpinned by the post-industrial bargain framework and the antinomies of autonomy portrayed in Chapters 2 and 3, the qualitative analysis identifies three primary antinomies emerging for the IT workers in Ireland and Denmark - interdependence, boundarylessness, and fusion. These antinomies impinge and even limit the self-regulation and freedom of autonomy, and manifest at the level of the labour process (relations of work), working conditions (time and work - non-work boundaries), and employment relationship (security and career expectations). The data shows how these features of working life are interconnected. Therefore demonstrating the need for work well-being models to move beyond a focus on particular work conditions and places. The dynamics and effects of post-industrial work, and autonomy, are complex. The three primary antinomies are balances which need to be negotiated - via individual and collective capacities - and which, if not kept in check, can test the 'elastic limits' (Wheaton 1999) of individual workers. These are the balance between freedom and responsibility, autonomy and anarchy, and employability and the self. The strategies for managing these balances within working lives are institutionally shaped. Building on the critique of the work psychology models and stressor-capability path presented in Chapter 4, and the

sample differences regarding working conditions and affects identified in Chapter 6 - the proceeding chapters unpack autonomy in identifying the interplay of these interlinked spheres of working life (bargains, antinomies, capabilities) as depicted by the practices, strategies and stressors of IT workers in Ireland and Denmark. Autonomy itself has become a 'contested terrain' (Edwards 1979) of post-industrial working life.

The demands, stressors, and underlying mechanisms of each of the three primary antinomies of autonomy - interdependence, boundarylessness and fusion - are addressed in the following three chapters. Each participant has been given a pseudonym and every quote contains the participant's location in the D-C Framework of Figure 6.6. Table 7.1 and Table 7.2 serve as reference points for the qualitative analysis, providing more contextual data on the demographics, positions, and sectors of the individuals drawn upon in the analysis. Indicated by the introductory quote from Tom, the discussion will begin with an exploration of the practices and challenges of the labour process for the IT workers in Ireland and Denmark.

Table 7.1: Danish Interviewee Profile

DK	Age	Children	Position	Role	Sector	D-C Quadrant
Henning	40	N	Tech Lead	Senior developer in large publishing company. Reports to project lead and often manages other developers.	Private	High strain
Karl	60	N	Chief Technical Officer	CTO in small IT company which he founded. Employs 10 staff.	Private	Active
Jon	64	Y (1)	Modernization Specialist	Technical and organisational expertise used internally by mid-sized IT employer, and also sold to customers for specific projects.	Private	Low strain
Casper	47	Y (2)	Chief Architect	Manages professionalisation and progress of development team in an expanding medium sized IT company	Private	Active
Simon	36	Y (3)	Full Stack Software Developer	Works solely on technical tasks. Reports to chief architect in medium sized IT company.	Private	Passive
Anna	44	Y (3)	Chief Financial Officer	Supports developers and manages organisational tasks in medium sized IT company. Reports to CEO.	Private	Low strain
Henrik	40	Y (2)	Lead Developer Android	Team-lead for Android software for highly successful app. Manages developers, reports to project manager.	Private	Active
Sven	43	Y (1)	Lead Developer iOS	Team-lead for iOS software for highly successful app. Manages developers, reports to project manager.	Private	High strain
Alex	48	Y (2)	System Consultant	Part of service delivery team in a financial software company. Reports to Technical Officer.	Private	Passive
Jens	50	Y (4)	IT Project Manager	Manager of IT team in a large organisation. Reports to senior manager.	Public	Active
Lars	61	Y (2)	Senior Developer	1 of 5 client-facing senior developers. Reports to project manager.	Private	Active
Herman	58	Y (2)	Senior IT Advisor	Former head of IT section. Now senior member of IT dept. in a large organisation. Manages junior developers, reports to head of IT.	Public	High strain
Tom	52	N	IT Consultant	Works across different teams on specific IT tasks in large organisation. Reports to specific project managers.	Public	Passive
Karen	43	Y (2)	IT User Consultant	Part of 2nd level support team for software system issues for users. Reports to project manager.	Public	Passive

Table 7.2: Irish Interviewee Profile

IE	Age	Children	Position	Role	Sector	D-C Quadrant
Lisa	25	N	Senior Compliance Officer	Works with team. Liaises internally with managers across different sections and teams re: compliance issues in large betting company. Reports to team manager.	Private	Passive
Laura	44	Y (4)	Head of IT	Manager of team of 20 project managers during phase of re-organisation of Irish subsidiary of large MNC. Reports to senior management.	Private	Active
Rebecca	59	Y (3)	HR Consultant	Self-employed HR & Trainer in IT. Works onsite with MNC clients and at home.	Private	High strain
Martin	46	Y (3)	Chief Information Officer	Manages IT team in Irish subsidiary of manufacturing MNC. Reports to senior executive management.	Private	Active
Luke	56	Y (3)	Consultant	Former CEO of successful IT services company. Self-employed software consultant.	Private	Low strain
Colm	45	Y (3)	Technical Trainer	1 of 3 Dublin based trainers doing technical induction training for new hires in Irish subsidiary of US software company. Reports to company HQ.	Private	Passive
Paul	45	Y (2)	Principal Tech Writer	Senior tech writer working with team of developers in Irish subsidiary of US software company. Reports to project managers.	Private	High strain
Emily	39	Y (2)	Project Manager	Manages project team in large technology & telecommunications MNC. Reports to senior management.	Private	Active
Peter	44	Y (3)	Software Developer Engineer	Works with US based team on specific tech tasks in Irish subsidiary of US software company. Reports to senior management.	Private	High strain
David	52	N	Editor	Former experienced software consultant, now self-employed editor.	Private	Active
Mary	49	Y (2)	Project Manager	Managing customer based projects for large IT solutions MNC. Reports to senior management.	Private	High strain
Derek	47	Y (1)	Head of Professional Services	Managing expansion of developer & application services delivered to customers in large Irish IT company. Reports to senior executive team.	Private	Active
Niall	53	Y (3)	CEO	CEO of Irish health insurance company.	Private	Active
Frank	40	Y (2)	Software Consultant	Working with team in Dublin and India on technical application service in large technology & telecommunications MNC. Reports to project manager.	Private	Passive
John	47	N	Senior Technical Writer	Works with developers across different projects in Irish mobile security organisation. Reports to project managers.	Private	Passive
Michael	54	Y (2)	VP EMEA Sales & Operation	Manages continental sales and operation processes in an international IT hardware & software organisation. Reports to senior executive team.	Private	High strain
Barry	56	Y (4)	Consultant	Former co-founder of successful IT services company, and various senior architect positions. Self-employed software consultant.	Private	Low strain

Extending the effort-bargain literature analysed thus far, this chapter explores the interviewees' experience of negotiating labour processes that are simultaneously collaborative, individual, interactive, and in some cases international. One of the striking elements of the structure of IT work is its juxtaposition of individuals working at their desktops whilst embedded within collective groups (i.e. teams and networks). Although levels of autonomy at work are generally very high for IT workers, it is not an independent autonomy. Teams, deadlines, and customers are all key features of IT work, which impact on workers' self-regulation, and at times mutate the positive effects of autonomy. As Tom's statement details, there can be a downside to de-regulated labour processes which not only cause intense work patterns and stress for workers but also result in autonomy losing its control. Tom's comment sums up the balance that must be negotiated by workers within these interdependent labour processes so that autonomy does not become incoherent and overwhelming for workers. The discussion begins with an investigation of how the nature of deadlines and demands in the IT industry can lead to an intensification of work practices before moving on to the role of colleagues in assisting and hindering individual targets and productivity. In the context of these deadlines and collaborative processes, the analysis will address the important role played by managers in shaping the organisational structure of stressors for these IT workers in Ireland and Denmark.

Making the Numbers Work

The Deadline: Fact and Fiction

The findings from Chapter 6 highlighted an association between high autonomy and high demands in Ireland. While the working conditions of these participants offered high levels of control over task location and method, it also involved a high range of demands. The balance between flexibility and responsibility negotiated by the interviewees will be discussed in Chapter 8 as they elaborate on some of the need

to re-regulate boundaryless working time. Another widely discussed aspect of work time which impinged on the autonomy of the participants in Ireland and Denmark was the deadline. When discussing what he expects of his employer, Peter (Software Development Engineer, Ireland, high strain) touched on two aspects which primarily shape his experience of work - being given the latitude to do the work the way he or his team sees fit, but also making sure to 'achieve the end' so that the customer's experience is positive. The former points to the significance of the qualitative experience of autonomy in work while the latter indicates the quantitative imperatives which dominate organisational goals. Where the two meet was discussed in detail.

Up to about two years ago I had huge autonomy in [employer]...Ultimately you had metrics, your KPIs are due to hit so I had to build a team...You are largely building up a capability of a team to do software in particular areas but at the same time you are standardising what you did, you are putting depth and breadth to what you did, and you are building market credibility...While you are doing all that you have got to hit sales targets, revenue targets, profit targets...So you had a lot of moving parts, a lot of these numbers you had to juggle and ultimately this balance of these numbers was how good you were doing your job...You had to manage all these parameters to make a job work. That can be stressful in some ways...constantly juggling all the different parameters to make a number work (Derek, Head of Professional Services, Ireland, active, highest level of demands).

It is all deadline based yes. We might have some requests that need to be services on the same day, maybe some customer has an issue and we need to go and change something really quickly....Most of our goals would be every three months, sometimes six month, big releases, like an exam in an academic scenario. That is your deadline...I always think it is like an exam, but then you would have lots of little small deadlines, short order requests....So you juggle them all and the key is not to lose the rag and get frustrated (Paul, Principal Tech Writer, Ireland, high strain).

[Current employer] is more stressful because the shops close at 6:00 on Saturday, so you are starting 8:00 Saturday night and typically we work through the night...it used to happen two or three times a year and you are there until 9:00 in the morning and that is stressful. Everything has to be in and working or everything has to be rolled back by 8:00am Monday morning, the first shop opens. That is serious stress, that is very, very high stress stuff (Frank, Software Consultant, Ireland, passive).

...when we have the features, we try to estimate how long each feature's going to take, and at the end we're going to add some fluid time. And then basically, how we do that depends on this...the deadline would be based on all of that... we will cite this time out...Sometimes you can push the deadline, but I think that set something in motion then we can't really postpone...Yeah, the deadline is pretty fixed...we just have to patch things up as quick as we can and push it out and then make it a release very quickly...(Henrik, Lead Developer, Denmark, active)

According to these statements, worker autonomy is embedded in contexts of market defined and organisationally structured economic targets. High levels of job control and discretion are to some extent constrained by organisational motives of key performance indicators (KPI's), revenue targets, profit margins, and deadlines. For Derek and Paul, this is where the stressors of work can emerge with both using the term 'juggle' to depict the skills needed to manage the multitude of demands made of them. Both participants also note that these demands can cause stress and frustration. Whether making 'a number work' or cramming for an 'exam' these organisational imperatives can impinge on the level of autonomy experienced. This is particularly the case in the 'crunch' time leading up to a deadline with both Frank and Henrik illustrating the intensity of work demands during this period. Henrik actually contradicts himself slightly by initially claiming that the deadline could be pushed, but then stating it is 'pretty fixed' and getting the release out in time for the customer becomes the priority. Frank describes the highly stressful nature of software service work which is dictated by the retail market with overnight work required more than once a year. Here the combination of market deadlines and boundaryless demands combine to create quite an intense working experience. Despite being a software consultant, Frank's autonomy at work is significantly impacted on by organisational objectives underpinning his contract - in this case making sure everything is running correctly before the company stores open. This qualitative depiction contradicts the hypothesis of the D-C model as Frank is located in the passive quadrant, yet these experiences are anything but passive.

Frank actually presents an interesting case of the antinomies of autonomy. He is a contracted consultant with considerable experience in a particular analytics processing software and thus presumably would have quite high levels of discretion and influence as he is hired for these particular skills. However his decision latitude score in Figure 6.6 is the lowest of all the participants, indicating a constrained experience of autonomy. When discussing his experience of work, Frank noted that because of the defined and time limited nature of his employment contract,

employers can 'squeeze' more and more demands into an agreed timeframe thus intensifying the demands made of him;

...they had a lot of work to do and they didn't have the money to spend to do it so you have a deadline and they are trying to push things in. They are entitled to do that, you have signed the contracting and you realise as well, contracting is so different, you have no rights. Like a contract I could have, I could go in tomorrow and they could say there is no work for me today and that is it. I think you can get a 28 day notice period but they don't have to give you work. Most of the standard contracts there is no obligation for them to give you work every day (Frank, Software Consultant, Ireland, passive).

Once in a signed contract with an employer, they can push more - and specific - requirements onto the consultant. Frank's levels of discretion and control at work are significantly hindered by organisational goals which can lead to intensity and stress, or a lack of work. Broadly speaking, there seems to be a discord between the ideals of the craft-like character of software development work and the methods of economic performance. Barry (Independent Software Consultant, Ireland) noted that accountants work in annual and quarterly cycles; 'but engineering doesn't work that way...it doesn't foster imagination...you are not allowed to develop ideas...There is an inevitable mismatch between the pursuit of good research and the calendar delivery'. Laura, whose career has seen her move on from coding to take up more senior management roles also pointed to an inherent tension between occupational pride and performance, and organisational goals.

Because they don't have a motivation to concentrate at speed. IT people, when I was a coder and I think the people who stayed coding...there is a style associated with coding well that will last, that it can be changed easily, that it is easy to read, that it is efficient, that it will run fast, that it is stylish...So there is a level of pride in what you do so you mightn't always do it in the shortest way because you want to do it well..(Laura, Head of IT, Ireland, active)

The craft of software development sits uncomfortably with imperatives of quarterly targets and revenue streams. Within this confluence is the balance between self-management and standardisation (Hvid et al. 2008) whereby the constituents of the interviewees' autonomy (job control, decision latitude, influence, pride in craft,

exploration etc.) is challenged by the economic imperatives of the profit seeking organisations. In terms used by participants thus far, the core tasks of IT work are often accompanied with requirements to juggle demands in order to 'make numbers work'. These processes can cause stress and frustration. The terrain for this contestation (Edwards 1979) between worker autonomy and organisational motives is more often than not the deadline. What was particularly striking about how participants discussed the deadline was that it became both fiction and fact. In other words, while the actual deadline target was often remarked as being 'artificial', 'plucked out of the air', or the result of 'phantom scheduling', it still shaped working conditions and often led to work intensification; '...there are obviously business deadlines that happen and they just happen and we have to work around that' (Martin, Chief Information Officer, Ireland, active).

Interviewees discussed the deadline formation process in a similar manner. The typical course of events involved the software engineers 'citing' time out for each element of the production process and then allowing for some fluid time at the beginning and end for unforeseen complications or steps. This timeline set by the engineers who 'don't have a motivation to concentrate at speed' (Laura), was then often met negatively by senior management intent on getting new products to the market as soon as possible in order to defeat competition and ensure renewed revenue streams. The deadline itself thus becomes a symbol of a constrained autonomy i.e. where 'regulation by the self' is hindered by organisational imperatives. Contesting the 'realism' of the deadline with management, and customers, is a crucial part of the labour process as it determines the rhythms required of workers in the subsequent weeks and months; '...it becomes stressful then, especially if you set the boundaries wrong' (Luke, IT Consultant, Ireland, low strain). Contesting the deadline becomes another form of boundary setting where the consequences of these competing fictions are intensification and stress if done incorrectly.

Engineers are pretty good at costing out how long it is going to take to do a particular task and they build in margins to compensate for the unexpected. But in a more bureaucratic organisation, somebody a level up will say, what is all of this buffering stuff, we will delete that, that is not in the schedule. And then all of a sudden you are left with a situation where the management above says you have to deliver two months earlier than you had projected you would be ready. So now you have an artificial deadline. The deadline is actually false and you are not going to achieve it anyway and then you are just told you are slipping for the next two months. But you haven't actually slipped, somebody else has culled the important margins you put in there....because it looks better for marketing....you are then put under this artificial deadline and made feel bad about not delivering....once the customer knows about it you have to because otherwise they squeal and; "you told us you were going to give us this and you haven't"... And you end up getting considerable resentment among engineers to that kind of manipulation of figures that is done, not for the truth but done for some cosmetic purpose... (Barry, Independent Software Consultant, Ireland, low strain).

Barry described a series of events where the decision latitude of engineers - as individuals or teams - is significantly impeded by business targets. This is further intensified by customer expectations leading to 'resentment' and feeling 'bad about not delivering'. While Barry's portrayal reflects an industry born in an era of neoliberalism, different working contexts within the sector present workers with distinct challenges and capabilities for tackling these deadlines and targets. Mary (Project Manager, Ireland, high strain), who works in a large multinational organisation, highlighted the role of organisations 'jockeying' for projects which, in her experience led to the projects being priced too low and under-resourced from the beginning. During the recession her employer held onto a number of customers but only through contracts based on lower prices. When the effects of the recession started to ease, a number of organisations were competing for projects at lower prices. The company won some of these projects but bid too low as they were not specified properly; 'because other people were involved'. She described these other people as newly hired senior managers who said '...yes I can do that, yes I can' whether they could or not. The result was under-sourced projects, intensified working conditions, an increased level of aggression, and a decreased level of support.

Mary recalled one particularly negative experience where she was looking after a project for a colleague (another project manager) who was on holidays. While

analysing 'the numbers' she noticed that he was under huge pressure from the customer and that the loss was going to be much more than her colleague had predicted. On notifying her senior manager she was met with aggression and an instruction to contact the colleague while he was on holidays - even though there was very little he could do while away for 2 weeks. That colleague, who Mary described as 'one of the best project managers I know' ended up working over Christmas to deliver the project and eventually 'it seriously affected his health'. The beginning of this negative spiral was the 'jockeying' for projects; 'I guess companies are having to work harder to get that work'. It seems workers are having to work even harder to deliver that work. The organisational jockeying to secure projects can be based on under-resourced specifications, subsequently leading to intensification and work-life conflict at best, and detrimental health issues at worst.

The Danish participants also noted the significant role of deadlines and customers. However, they were more inclined to highlight their ability to contest or influence the deadline as an individual developer, manager, or team.

I have had deadlines but I have always had a say in those deadlines. So if I have been under pressure normally it has been my own fault. Of course there have been times where I have had to work a little extra to make things work....Here is it more a matter of we would like this to happen but it should also be done the correct way. So if I say it is going to take two months then that is what it is going to take, and if something comes up which makes it take three months, if I can just explain why it is going to take longer then, it is not a problem...of course we want things to happen, we don't want to just sit around, but the worst thing that happens if you don't meet a deadline, you get a new one! (Simon, Full Stack Software Developer, Denmark, passive).

...they are always willing to go flexible on the deadlines anyway, within reason. So there is no such thing as a deadline. (Tom, IT Consultant, Denmark, passive).

Simon illustrated the artificial or fluid nature of deadlines while also pointing to the influence they have in their allocation. His statement portrays an almost contradictory description of the quality of deadlines which can both cause pressure, and be dismissed. As Simon has a say in the deadline, he feels that the pressure is self-induced. Thus linking his own working rhythms with those required by the organisation. Contrary to the evidence presented thus far, this line of thought

presumes that his influence (in terms of shaping the deadline) is devoid of any other pressures. At the same time he is quite dismissive of the fixed nature of deadlines. Tom is equally flippant about the reality of deadlines. Herman, who manages an IT team, described the way he plays the deadline 'game'.

The way I have been managing is trying to put it so we have realistic deadlines and that of course gives some opposition because people say we should make this happen in January, and when I know this is not really realistic, that it would actually be in February that it will be finished, then I say March. And they fight me, and they know they are not going to have it implemented anyway before July, so I don't care that they fight me. And then when we bring it out on the 12th February and things are running and working and so on, then it is great, you made it. Of course we did! [Laughs] (Herman, Senior IT Advisor, Denmark, high strain).

Herman's interesting tactic is to secure a more realistic deadline for projects by fighting fiction with fiction. By over-estimating the deadline, and acknowledging its complexity - which the organisation is aware of - Herman ensures deadlines remain realistic. Herman's role as manager is important here as it lies between the unrealistic goals of the organisation and his team's margins in terms of task and project durations. The important role of the manager will be analysed further in the final section of this chapter. Herman's technique of over-estimation as protection was discussed in terms of projects and demands which arose internally within the large organisation that he worked for. For other Danish participants, like the Irish examples previously discussed, the constitution of deadlines is wrapped in the relationship with external customers.

If I can reach the goal, good. If I can't I will tell them as soon as I know it....The only times I have felt really stressful was once when one of our customers had a big release coming up and they had everything printed with the date on it so we had to do it for that date. That wasn't nice. Normally it doesn't matter if you shift things a day or a week. Again people want as error free a product as possible so if you can say there is an error here, you don't want to release this...if you can see that the deadline is an artificial one...if you can get your customer to agree that it is better to move the deadline than to release a defective product (Lars, Senior Developer, Denmark, active).

The fact is it is easier if you work for a company...to push deadlines if you don't make them... In fact this is the same, if I had promised a customer in Portugal to be finished, I am finished, of course...I sat down until 1:00am this night finishing off with this thing I have promised shipping yesterday. So of course you have to do things...(Karl, CTO, Denmark, active).

For Lars, part of the customer and deadline task is to persuade them that a 'defective product' is a worse scenario than a delayed one. In effect, getting the customer to also realise that the deadline 'is an artificial one'. The only time Lars felt really stressful was when this capability was denied as the customer had published a product date thus fixing the deadline. He also noted that having an honest and trusting relationship with the customer - which can take time - is an important factor in negotiating the deadline. For Karl, it is easier to push the deadline if you are not the person making it. As CTO of his organisation, the deadline can lead to extensification of hours in order to finish off products for customers who had been 'promised' a certain date. The deadline is fixed by a promise. But it is also underpinned by the fact that Karl's organisation is quite small at the moment and meeting agreed deadlines is part of the trust-gaining required to gain new customers.

The impact of customer deadlines on both the intensification and extensification of work hours is also heavily influenced by the nature of the customer's business. Lisa (Senior Compliance Officer, Ireland, passive) recalled problems arising while working on a project which ran ATM systems for a major European bank where, because of the 'mission critical' (financial implications for individuals and the bank) nature of the service, it could be very stressful. Likewise, both Lars and Simon remarked that they had previous experience working on projects where the customer was the public sector. In both cases they were working on systems which identified which members of the public would receive social assistance from the state. This became particularly stressful when they knew people's livelihood's may be affected if anything went wrong with the software. Chronic stressors can manifest in balancing the intensification and extensification of work due to the intertwining of organisational imperatives, individual performance, and products or

services which have severe financial or social repercussions should anything go wrong;

People normally notice when they don't get money, right? So that was one of the consequences, but also we had to pay money to the customers, a fine so to speak, if we had agreed on a deadline and we didn't meet it. Then for each day we didn't meet it we had to pay money so there was a bit of pressure on...If we didn't meet the deadlines (Simon, Full Stack Developer, Denmark, passive).

In general, the self-regulative aspects of work autonomy for the participants in both countries is dependent on a number of quantitative features which determine organisational performance and progress. In terms of associated demands, this often required participants to add 'making numbers work' to the re-regulation of time, which will be discussed in the following chapter. Central within this discussion is the contested terrain (Edwards 1979) of the deadline which resides amid the expertise and knowledge of software engineers, and the economic goals of accountants and organisations. The deadline was portrayed in quite paradoxical terms. On the one hand participants noted its artificiality and therefore non-fixed and negotiable nature. On the other hand, it regularly led to the need to 'juggle' many demands and 'crunch' time. The deadline is both fact and fiction; artificially constructed and empirically experienced. The Danish interviewees were more inclined to note their ability to contest the deadline whether that be through organisational (Simon), customer (Lars), or management practices (Herman). Herman's tactic is especially interesting as he maintains realistic time schedules by using an initial fictitious timeframe to fight the fictitious deadlines imposed on his team. Yet the same Danish interviewees also recalled experiences where work could still become quite intense and stressful due to either the behaviour of the customer, or the nature of the product. The coexistence of the responsibility and latitude of autonomous positions alongside standardised economic timeframes and goals within most tech companies often results in an intensified experience of work. The chapter will now explore how the IT workers in Denmark and Ireland experienced this intensification.

The "Bandwidth" Problem: Speeding Transport and Multiple Limbs

The intensification of work refers to the experience of an increased range of demands, responsibilities, pace, and pressure required within the participant's role. The use of the term 'anarchy' in Tom's statement in the introductory quote to this chapter was really an attempt to describe the wide range of sources from which demands can come, and the instantaneous manner in which they arrive. When these tasks and demands become too onerous they often result in workers simply having too much to do, in too short a time-frame (Wichert 2002). This often required the balancing of work extensification and intensification. Table 7.3 presents the percentage of participants in each country who said that they experienced the following conditions at work 'often' or 'always'; working at high speed, not having enough time to complete work tasks, and a variety of work tasks.

Table 7.3: Job Intensity Variables Experienced "Often/Always"

	Denmark	Ireland
Working at high speed	50%	71%
Not enough time	21%	23%
Varied tasks	79%	82%

While the rate of experience of not enough time and task variety is quite similar for both samples, significantly more Irish participants' work involves a high speed. This aligns with the relationship between high levels of autonomy and range of demands found in Ireland in Chapter 6. It is also worth emphasising that the relatively low number of participants who stated that they didn't have enough time at work should be considered in light of a 'work time' which itself is not easily defined. In Chapter 8, the participants speak of 'making time' themselves in line with boundaryless rhythms rather than a bounded work time filled with increasingly more tasks. Nonetheless, for most participants in this study, work is often fast and varied. In trying to describe this experience, it was fascinating to note that many of the participants chose to use analogies. The following are a selection of examples of

the way participants used analogies to describe the intensity and range of demands experienced at work;

'...we are sort of spiders, we do everything...' (Henning, Tech Lead, Denmark, high strain).

'...I have many hands' (Casper, Chief Architect, Denmark, active).

'...you need the extra arms. So what do you do? You work harder...' (Karl, CTO, Denmark, active).

'...if it is a ship...they are steering or something like that, but it is me down in the engine that can say can the engine take this load. And they cannot see that, they can just yell down in a pipe to me and then I can say it is not good' (Henning, Tech Lead, Denmark, high strain).

'...I was basically painting a 747 in flight, that is how I would describe it' (Derek, Head of Professional Services, Ireland, active, highest level of demands).

'...it was really like trying to catch up with a speeding train with trying to get back into work' (Mary, Project Manager, Ireland, high strain).

For Henning, Casper, and Karl, the ever-widening range and variety of tasks and responsibilities associated with their role requires the need for more limbs whether they be spider legs, hands, or arms. The expansion of responsibilities in order to meet customer and organisation demands is also an element of work intensification as it fills the work day with more requirements and less time. The result is the need to 'do everything' or 'work harder'. Another example of the intensification of work time that accompanies role expansion was provided by Laura (Head of IT, Ireland, active) who when breaking down the primary duties of her role, without her recognising, ended up dividing her job into four thirds; team supervising and team meetings, management tasks related to the IT organisation, setting Dublin up as an IT site, and new responsibilities around the reorganisation of the company. Henning uses the analogy of a ship to describe his role with regards to management in terms of maintaining progress but keeping an eye on intensity. The intensity of work demands are not visible to management as they 'yell down in a pipe' to the development team. Thus Henning notes that it is up to him to communicate whether the 'engine' can take the load. Here communication and management

processes become vital in negotiating the intensity of work demands. This more Danish take on management will be further discussed in the final section of this chapter.

Derek and Mary, in contrast, depict the intensity of their work by describing it in terms of catching or adjusting speeding vehicles as they travel. Derek's role here involved building a team of developers scattered throughout the country while also attempting to meet continual and often rising economic targets. Mary was returning from a spell out of work through illness and found on her return that the speed at which things were moving was hugely increased. It's not insignificant that both descriptions of this intensity in terms of ever-present and increasing mobility have elements of danger to them. Derek went on to describe the nature of his work and associated issues with intensity as 'a bandwidth challenge'.

My part of the industry particularly is that we are servicing customers and we are servicing multiple customers so it is a one-to-many relationship. One of us, many customers. All of those customers want things done slightly differently so there is a constant need to respond to their need which creates a bandwidth challenge anyway. There is a constant need to sell them different things because you are constantly having to keep your relationship going and the thing keeps moving, the technology keeps moving...There are just so many things to do and it is a one-to-many relationship and that just creates such a demand for everybody. And you never really get all the things done (Derek, Head of Professional Services, Ireland, active).

Furthering this picture of constant motion, Derek points to the 'one-to-many' relationship between his organisation and its customers. Derek noted that his organisation serves customers '24-7-365' and in doing so characterised the nature of his relationship with customers as one in which there was 'a bandwidth challenge'. At the organisational level, each customer - who brings with them a particular range of demands and needs - must be satisfied in order to 'keep your relationship going'. This is then translated down to demands made of Derek who must be aware of how different customers want slightly different things. These activities and relationships are embedded within an industry which itself valorises mobility; '...the thing keeps moving, the technology keeps moving'. The result is often a constant 'demand for everybody'. There are similarities here with Tom's

comment at the beginning of the chapter. The impression Derek's description leaves is of a tenuous grasp over occupational demands which is always just out of reach and could potentially fly off into the distance. In fact, the 'bandwidth challenge' is an apt example of a stressor as continuous forces apply pressure to the integrity and capacity of an individual which tests the 'elastic limits' of the worker and can effect mental health without necessarily causing a physiological response (Wheaton, 1999, Wheaton et al. 2013). Wheaton actually goes further to identify demands as those involving '...the load component of stressors, also commonly referred to as "burden", or "overload". The sense of being "pushed" by current life circumstances reflects this component of stressors' (1999:281). Derek's portrayal of a job and industry characterised by incessant movement certainly strikes a chord with that 'sense of being pushed'.

Intensified working patterns were evident across both samples. However it is interesting to note the different metaphors evoked to portray these conditions. The Irish intensification analogies are trying to catch speeding trains and alter aircraft in flight while the Danish analogies refer to the need for more limbs and communication between levels on a ship. Perhaps indicating that the quality of the intense working conditions for the participants in this study is shaped more by pace and speed in Ireland, and role expansion and management in Denmark. This experience of intensity in Ireland may underpin the lower scores for feelings of calm and at ease presented in Chapter 6. In conjunction with the findings in Chapter 6, these experiences point to the role of context in shaping the interplay of high autonomy and high intensity.

Growth is the prerogative of business and innovation is the goal of technology. Where these two meet in profit seeking organisations, there seems to be an uneasy coexistence at the worker experience level between the latitude and creativity required for innovation, and the standardised measures of economic competitiveness. The result is a tension between the autonomy of the workers and the quantitative features of work used to assess organisational performance. The findings thus far suggest that intensity and deadlines are common factors of IT work

in Ireland and Denmark. Yet, the experience of these, and the capabilities to manage them, are different (e.g. the association of higher demands with high autonomy and the ability to contest deadlines). These findings also suggest that the 'active' quadrant within the D-C model framework may not always provide the advantageous conditions predicted by Karasek (1979). For many of the interviewees located in the active quadrant in Chapter 6, there are potentially hazardous stressors associated with the demands of autonomous working lives. Take Tom's comment at the beginning of the chapter for example; he was actually located in the passive quadrant (low decision latitude and low demands) yet discussed experiences where he was overwhelmed with demands. In his case much of these stressors originated in colleague requests. Karasek and Theorell (1990), recognising the increased socialisation of post-industrial labour processes, actually updated the D-C model to include social support at work as a further resource for workers. Yet, just like the work features discussed thus far, participants in this study often spoke of their colleagues as both a resource and potential stressor.

The Islands and Interruptions of Collaboration

To me the playing with multiple people is incredibly important. I get the most satisfaction out of a job when I am working with others. Now I may be autonomous on my tasks with it but it has a place within the group...that, to me, is vital, the collaboration with other individuals...while I am the key player on a particular aspect of our technology that is used by everybody in the organisation, it is an essential component, so it is part of the team' (Barry, Software Consultant, Ireland, low strain).

The basic unit of an IT labour process generally consists of a team made up of autonomous, skilled individuals. Barry's comment presents these twin pillars of IT work - knowledge based autonomy, and collaboratively based productivity. The interactive element of IT work is more often than not found in the importance of the team. Every single one of the Danish participants work in teams to some extent. 12 of the 17 Irish participants work in teams regularly. Those that don't are technical trainers, writers, and consultants. Much of the labour processes inherent in software development are based on an interdependent utilisation of knowledge

and experience with overall goals broken down into objectives based on the skills of individuals and teams.

Completing short-term daily tasks while collaborating with other autonomous workers on medium-long term goals, presented a number of contingencies to the experience of autonomy. Casper (Chief Architect, Denmark, active) referred to teams in medium to large tech organisations as 'islands of knowledge' which require some formal procedures for productive collaboration. This is particularly the case when a company grows past 30-35 staff as problems can arise with different teams in the same organisation repeating processes or making the same mistakes if not linked in some way. Similarly Henning referred to 'silos'; '...many companies have silos and this one has seven silos and they all want something different' (Henning, Tech Lead, Denmark, high strain). Interviewees spoke of a number of methods utilised by organisations and individuals to manage this combination of individual and interactive interdependence. These included agile, waterfall, OKR (Google), Microsoft MS, scrum, and Kanban (lean). Henning (Tech Lead, Denmark, high strain) described his own individual planning technique called 'the critical path' which firstly identified the necessary steps in completing a project and then worked back to make out smaller steps required to compose those major steps. In an old-fashioned manner, he preferred illustrating this 'critical path' with a pencil and paper. While identifying the fundamental importance of collaboration, participants also spoke of the team and colleagues as both a blessing and a curse. Considering the varied types of interdependent knowledge at both individual and team level, and the distinct but essential forms of collaboration required to achieve project aims, the balance between individual autonomy and collective interaction is a process of constant negotiation;

...teamwork is hugely important in this business because in many cases you get a lot of change, big competitors sitting out there with deep pockets and so on. So sometimes we come in here with headaches we didn't even think we would have the week before... So it can be very satisfying when you do but it can be really stressful...when you don't think you are getting through it because a lot depends on us finding the best way (Niall, CEO, Ireland, active).

On a typical day I could deal with a customer, I could be with a partner, I am with staff, I am with support organisations in the finance within the organisation and with the management team. A day doesn't go by, I am not directly engaging with the CEO or the other senior managers (Derek, Head of Professional Services, Ireland, active).

Many of the interactions and teamwork required of the participants involved liaising and working with colleagues in another country. Amongst the Danish and Irish samples, just under two thirds work regularly with colleagues in other countries, spanning the continents of Europe, North and South America, and Asia. These international labour processes introduce two unique demands for IT workers with high levels of autonomy - international 'time work' and the management of cultural differences. Jon and Peter described the range and requirements of working with colleagues on an international scale.

...when the [client] guy had this problem today, I logged onto their system in Helsinki and took a look and gave them some advice. When I am working with [client], the team I am working with is sitting in Gothenburg, Ghent in Belgium, Lyon in France, Curitiba in Brazil, North Carolina, Bangalore, Beijing and Tokyo...' (Jon, Enterprise Modernisation Specialist, Denmark, low strain)

....really I have a window of about two hours in which to do that [answer questions from team in US] plus fit in any other meetings that are scheduled during the week. So that is definitely tricky. However at the moment, the team I am working with are very respectful of my time, they don't expect me to be there past 6:00 in the evening, or 10:00am their time and very rarely get called out of that... it is working well at the moment because the people on the other side are aware of that and are respectful of it....I might spend a little bit of time to make sure that I have actually answered it correctly or I have given them enough information...if I send an email when I go home and then they read my email and go that is not enough information, then it is 48 hours for them to get what they need...(Peter, Software Development Engineer, Ireland, high strain).

The sheer range of Jon's team means he must be available to assist any issues across a number of different time zones. Demands for his assistance can come from opposite sides of the world which means when he is working with that particular client, he must manage not only his own work time but also that of his client's employees depending on which country the demand has come from. While Jon found this aspect of his work appealing, it also meant he never really knew where or when these demands would arise. Peter, on the other hand, specifically outlines how his current set-up working with a particular team in the US is working well

because they 'are very respectful of my time'. Here Peter explicitly outlines how interdependent his working time and demands are. Comparing the current scenario to a previous experience working with an international team where he had to be available almost 24 hours a day, he can predict the demands that will be made of him because of the behaviour of his colleagues in the US. They use a scrum methodology which he notes is 'a very collaborative thing' that involves breaking the whole project from beginning to end down into day or half a day tasks that are conducted usually by a pair of developers. The entire labour process from conception to planning to production is interdependent. In this case, even though there are time and space issues, the considerate conduct of his colleagues in the US means there are no detrimental effects at the moment. Even so, the time delay means he must make sure there are clear and comprehensive lines of communication between the two geographical locations as an insufficient reply could result in a delayed labour process due to the time delay. This illustrates the demands of international 'time work' - which can be aided or impeded by the requests of team members located across the globe. Another way in which participants identified the additional demands of international colleagues was in relation to cultural differences.

Henning's (Tech Lead, Denmark, high strain) role involves regular contact with 20 developers located in Pakistan from his office in Copenhagen. He identified two particular frustrations arising for him in working with these outsourced developers; the need for specified code, and their hierarchical mindset. Henning noted that the Pakistani developers need for coding instructions to be 'specified and specified and specified' to such an extent that it was faster to code the more complicated processes himself rather than create these detailed guidelines. In addition, he realised that Pakistan has a very hierarchical mentality with the idea of gaining a new title every two years which is anathema to the flat hierarchical culture of many Danish workplaces. These international colleagues who are supposed to assist the labour process of the team, often ended up placing additional demands on Henning. To such an extent that if he could he would replace 10 of the 20 Pakistani developers with 2 Danish ones. These additional demands may be part of the

reason he is located in the high strain quadrant in Chapter 6. Frank (Software Consultant, Ireland, passive), located in Dublin, provides a similar example in working with developers in India. Claiming that he 'could write a paper about cultural differences' between Europeans and Indians, Frank highlighted the lessons he had to learn in communicating with his Indian colleagues. In doing so he also points out the hierarchical mindset of Indian workers.

... in my case you learn the hard way because no one ever told us...if you and I were working together here, you have your boss, I have mine. But I would go and talk to you, such and such a thing in your specification, how do we do that? In India I would have to go to my manager and he would have to go to his and go down to you that way. That is how they are more comfortable communicating...It goes up and down...the Indian manager could feel quite threatened...if I went straight to you without including him... An Indian person...will never say they don't know or they will never say no...it is like they lose face or something and they can't admit that they don't know something or they have got something wrong...It is better not to put it so directly, you have to kind of go around it a bit and you can tell quite quickly he doesn't know it without putting him in the situation where he has to say he doesn't...[He] could start telling you a story. And if you really push him you have stressed him out a lot...it comes across as evasive to us...you can get overly frustrated and you can destroy your relationship with someone and in the end that is bad for you so you have learn how to deal with that. (Frank, Software Consultant, Ireland, passive).

Frank has learned lessons from previous experiences of frustrations and relationship issues with Indian developers. He emphasizes the fact that these are things he had to learn for himself; 'the hard way because no one ever told us'. While acknowledging that he was generalising, the two demanding issues for him were the hierarchical communication process which often meant he had to speak to a developer through his manager in India, and learning the culturally appropriate way to enquire whether the individuals, or the team, were able to complete their tasks. The consequences of this going wrong are portrayed as a frustrated developer and an offended manager. Similar to Henning, Frank noted that to avoid creating further problems he often ended up 'doing 80% of it myself'. Project objectives ('making numbers work') require this interaction, and therefore Frank's role required that he learn these additional skills. Thus, whether they originate in different time zones or different cultures, the details of international collaboration within the globalised teams of modern tech companies can add to the already

extensive work demands of autonomous IT workers in Ireland and Denmark. However the behaviour of international colleagues is by no means the only source of obstacles to the work of the interviewees. By far the most commonly cited impediment to the participants' daily goals were interruptions by local colleagues either in person or via ICT.

In discussing the need for collaboration at work, participants often noted that they valued the opportunity to interact face-to-face. Organisational strategies of outsourcing and networked firms meant that this often wasn't possible for participants with international team-mates. Despite the provision of flexible working practices, and the capabilities of ICT, the collaborative problem and solution nature of IT labour processes meant that workers preferred sitting down with a colleague and working through the issues arising. However, there was a downside to this onsite collaboration also with 8 participants explicitly noting the issue of colleagues interrupting their work while in the office. This occurred in person, via email, or via an intranet messaging system, and often had the effect of feeding into the need to re-regulate boundaryless demands (discussed in Chapter 8). These de-synchronised rhythms of autonomous - and busy - workers highlight a lack of what Hvid et al. (2010) term 'associational control'. While having high levels of control over their own work tasks, the participants often couldn't control the behaviour of their colleagues who themselves were seeking to complete different stages of their own production process. Where Hvid et al. (2010) point to the need for a collective re-syncing of these individually tailored processes, for this sample it was not as simple as that as generally there already was an overarching influence - the one of the abstract but ever present market (Ó Riain 2010). Unregulated interruptions, which generally bring with them short-medium term demands, can feed into work-life conflict and spark the feeling of 'anarchy' described by Tom at the beginning of this chapter. The following is a sample of how participants discussed these interruptions.

I plan out work and it never ends the way I planned so that is very typical...I often have to skip and take a new task and have small meetings. That is a typical day....when you work with a lot of other people they have questions that they have something you have to look into which you didn't know about the day before...it is more like tasks just come up from nowhere (Anna, CFO, Denmark, low strain).

At [previous employer] I worked at home two days a week and there I did most of the work...the rest of the time was talking to other people and getting disturbed...from 7:00 to 12:00 I could do one and a half days of work (Lars, Senior Developer, Denmark, active).

I was less pressured as a freelancer here because they would give me one task and let me go from start to finish with it. Whereas now anyone can grab me and anything can happen....Well not more free but less stressed... (Tom, IT Consultant, Denmark, passive).

... the only way to get my things done is to stay away from the office because at the office you are the source of a free catch. If I am sitting at my desk everybody is free to ask me anything at any time so I will never be getting anywhere with my things....when I went home I had my working time. So you can sit at home and work at things because nobody is disturbing you...(Karl, CTO, Denmark, active).

...there are two types of typical days, one would be where I go into the office in Dublin...I get lots and lots of people coming in and asking me questions and I try and do as much as I can within that environment. And then the other is when I am travelling and in that environment you get more chance to do what I would consider to be my job (Martin, Chief Information Officer, Ireland, active).

My day is always interrupt driven, it is not a day you can plan...I might say, yes I am meeting this customer and I am meeting yourself at 1:00 or whatever, but you can't. Email or IM will come in and disrupt it. That phone call to say that server is down or so and so didn't show up for work. There is always those interrupt kind of activities (Derek, Head of Professional Services, Ireland, active).

...you crank up your email and...We have Jive...it is like an internal social media thing...you have got to see what has been happening and who has been trying to contact you about what, is there anything urgent that needs to be addressed immediately. Typically somebody in France or in the States needs an answer on something, it might involve an hour to go and think about it or find out the answer and communicate it back...which can be tedious because sometimes you are itching to get going on your real work and you are just solving somebody else's problem....It mightn't even be your project, it is someone else's project but they are like, I need this ASAP, you are holding me up. So that is the first thing you have got to do every day. (Paul, Principal Tech Writer, Ireland, active).

These depictions portray colleagues as a significant influence on the experience of autonomy at work. Whether through an unpredictable increase in demands, impeding individual task plans, or testing the boundaries between work and home, the behaviour of colleagues has a significant impact on the intensity of participants'

daily work. Between the poles of solitary autonomy and workplace anarchy, interruptions (virtual and physical) represent another aspect of work which need to be negotiated by these IT workers. Tasks can arise 'from nowhere' (Anna), stress can arise with the feeling of being available to everyone at all times (Tom) while Karl describes himself as 'a free catch' while in the office. It is also worth noting that Anna was located in the 'low strain' quadrant, and had the joint highest decision latitude score across the entire sample (see Figure 6.6). Perhaps the D-C model framework can't capture the effect of colleagues and interruptions as central to the demands of autonomous and interactive workers.

The shifting of participants 'real' work from the workplace to the home or the commute is particularly striking. This raises the question as to whether knowledge workers prioritise individual development and craft-like tasks over the more collaborative and economically driven processes? This may be where many of the frustrations originate and could be at the root of the surprising lower scores for feelings of enthusiasm and excitement presented in Chapter 6. Nonetheless, Lars, Karl, and Martin provide examples of where the interdependence of their autonomy feeds directly into its boundarylessness. The extent of these interruptions requires a shifting of their own work outside of the workplace thus resulting in the need to re-regulate both the boundaries and time of their work beyond the workplace. As will be discussed in Chapter 8, this requires not only strategies for managing time but also strategies for escaping work. Derek and Paul describe the interruption driven nature of their working day by highlighting the ability of email, instant messaging, and internal social media to intrude on their plans, providing another example of the link between interdependence and work extensification. Paul's language (e.g. 'you have got to see') implies the prioritisation of demands coming from colleagues - often international - even though he is 'itching to get going' on his 'real work'. The use of Jive (an internal social media platform) which incidentally has a tagline of 'shattering silos', serves to keep workers connected to the progress and demands of their colleagues at all times. The boundaryless capabilities of this ICT may actually result in an intensification of work through an internally public display of colleagues' progress and requests. This

is not just a case of internet on the go but intranet on the go. The concertive pressures of teamwork (Barker 1993) are therefore reinforced through the public (organisationally) and urgent demand creating capacities of this ICT platform. Paul's example actually brings together the boundaryless inducing ability of ICT, how this may be reinforced by the interdependent relationship between autonomy, deadlines, international colleagues, and more generally the pressure that comes from other workers. Interestingly Irish participants didn't expand on how these various de-synchronised aspects of work could be made more collective (Hvid et al. 2010). The demands were viewed generally as a side-effect of autonomous and interactive IT work. However, a decisive factor shaping the consequences of the relationship between interdependence and autonomy was the manager.

Managing "'The Ocean"

...I can't thrive in chaos. I want a plan definitely and some of the project managers, I don't think they make the critical path early enough...(Henning, Tech Lead, Denmark, high strain).

...if the senior manager is setting unrealistic expectations then yes, that is where the hell comes from...(Peter, Software Development Engineer, Ireland, high strain).

In addition to deadlines and colleagues, the other factor which can turn an interdependent autonomy into anarchy for the participants is management. For Henning managers are required to constrain the potential chaos of individual and interactive labour processes, while Peter warns of the dangers of senior managers setting unrealistic objectives. The use of terms such as 'chaos', 'hell', and 'anarchy', are indicative of the sense of overwhelming demands which can be experienced by these autonomous participants within entirely de-regulated work environments. Generally, when interviewees discussed the important role of managers they pointed to their influence in setting the tone and expectations of their workers, implementing bureaucratic measures, contesting deadlines, and ensuring work demands were not leading to burn out. Managers play a significant part in the experience of autonomous work - for better and worse.

Setting the Tone

That is one thing I learned actually...the manager really has a huge influence on people's lives, his or her personality type. If they expect people to do stuff that is irrational, people do it. And they really set the tone in a group. Whereas if you get someone who is a little more grounded...then they go, sure I wouldn't do that myself...that is one thing that I have definitely noticed in IT but surely that applies to any industry (Paul, Principal Tech Writer, Ireland, high strain).

The personality, perspective, and behaviour of a manager can have a major effect on the lives of IT workers. This was something Paul learned through experience, describing instances when he was younger where he would work long hours and weekends because the manager did. Noting the unsustainable nature of these conditions within a 'culture that is purely management driven', Paul's perspective was now one where he had 101 things to do and if he did one or two things at the weekend, he would still have 100 things to do next week! Interestingly he also pointed to the role of kids serving as protective boundaries, which will be discussed in the following chapter. If a manager has young kids they may be less likely to encourage long hours and weekend work if they are unable to work these hours themselves. Even for workers with no kids, a manager's kids can serve as a proxy protective boundary.

Following a reorganisation of managers and coordinators in her employer, Emily (Project Manager, Ireland, active) noted that one of the new 'leads' was trying to do everything that was done by considerably more colleagues prior to the reorganisation; '...they were trying to do everything and they were working all hours and they were stressful and they were putting stress on us and it was awful'. Here one individual in a management position was setting the tone by their behaviour, to the negative effect on workers trying to keep up. Peter (Software Development Engineer, Ireland, high strain) noted that work-life balance can 'go out the window' in smaller companies where CEO's expect managers and developers to work the same hours required of their position. The rhythms of work thus become tied to the needs of a CEO position. Mary (Project Manager, Ireland, high strain) similarly noted; '...the guy that I work for, he himself would take calls all

the time on his holidays and he definitely expected your holiday was a time where you would take calls...'. In these examples the conduct and expectations of the manager become the link in the chain (reproducer) between the ceaseless and boundaryless organisational goals and the demands made of IT workers. Exemplifying this Derek noted his role in 'instilling' a lack of boundaries in his team as part of 'the chain'. As a manager of a team of developers, Derek acknowledges his part as a vital link in the chain between artificial deadlines and intense working conditions. In other words, translating the fiction of deadlines into fact for his team;

Two years ago I think I did nearly 190 days in a hotel, probably averaging two flights a week....there was no work life boundaries, the lap top was constantly on. Even when I was working from home at the weekends you are getting calls. There was absolutely no work life boundary and then you couldn't have it yourself, that pressure was coming to you, you had to instil some of that in others and then you are part of the chain (Derek, Head of Professional Services, Ireland, active).

Managers were also identified as the source of bureaucratic impediments to participants' *actual* work. Derek (Head of Professional Services, Ireland, active) recalled a previous manager who had 'an insatiable appetite for information'. Unfortunately that information was 'all hugely administrative' and required excessively long hours to retrieve. Most frustrating for Derek was that '...there was no customer benefit, no delivery, no people benefit, no offer, no future benefit, no innovation benefit...'. Barry (Independent Software Consultant, Ireland, low strain) provided another example of an administrative obstacle in the form of timesheets. These needed to be completed to inform management of what workers were doing, despite the fact that 'these had nothing to do with your work' and were 'an artificial dissemination of how your work is compartmentalised'. Just as the interruptions of colleagues meant participants did their *real* work at home or travelling, these administrative demands also provided another unwelcome distraction. A further way in which managers impinged on interviewees' autonomy was simply in their inability to manage.

...things were being thrown at me in a very short space of time and being told you have to get this done now and it seemed ridiculous to me that there was no forward planning going on...I have no idea what is going to happen...I felt at one stage I was working in a fog...things were coming out of thin air, new features suddenly appeared and I was like, where has this come from and you would be told about things at the last minute and it is very difficult. I was basically working with a personality who wasn't organised and who wasn't communicative as such, except when there was a mad panic about something and, I need it now. And like, I can't give it to you now, I have only just found out about it! (John, Senior Technical Writer, Ireland, passive).

John's description offers an apt example of how managers not only 'set the tone' but actually shape the nature of work demands for many workers. A manager's job is to manage, yet John felt like he was working 'in a fog' unaware of what was coming next and the urgency of each demand. Mary (Project Manager, Ireland, high strain) and Lisa (Senior Compliance Officer, Ireland, passive) were also able to identify instances where the inability of managers (both highlighted the under-scoping of projects) led directly to increasing intensification, unpredictability, and stress. Ironically, it is the autonomy afforded these managers that enables the personality traits to come to the fore. In the absence of strict regulations - also seen as a negative - managers who can't manage or communicate effectively present a significant impediment to the positive functioning of autonomy at work.

Luke (Consultant, Ireland, low strain), who has managed project teams, noted the importance of maintaining realistic goals; 'Being ambitious but not being stupid'. In order to achieve this sensible ambition he warned that 'some minimum process' is required but after that it requires colleagues and workers calling for help whenever it is needed. Interestingly this 'minimum process' provides an excellent contrasting point between the Irish and Danish participants' approach to managers. Irish participants discussed managers in a more individualistic manner whereby they make unnecessary and irrational demands or place bureaucratic procedures in the way of their *actual* work. However, the Danish participants tended to explicitly identify the key role of the manager in contesting or 'pushing back' against unrealistic demands and forming some form of structure within the complex labour

processes of international and interdependent IT work, to the benefit of the work and workers' well-being.

Pushing Back & Managing Stress

To me a good manager should have the balls to do that, to look at reality and say, this isn't realistic. And I think a bad manager buckles and just says yes boss... I mean what is a week? These deadlines aren't really real, they are all made up...A good manager should protect his workers I think from undue irrational pressures really (Paul, Principal Tech Writer, Ireland, high strain).

As noted previously, Herman (Senior IT Advisor, Denmark, high strain) saw his role as the manager of an IT team as fighting back against artificial deadlines with his own fictitious version of a project's timeframe. Expanding on the role of the manager he asserted; '...as long as the man in charge has sufficient authorities to say we cannot do that, there is no reason to try and make me say we can. Then you will win the battle...'. While also pointing out the turnover consequences of stressful work environments which are detrimental to employers and customers in terms of loss of expertise and recruitment resources, Herman indicates that it is the manager's role to fight back on behalf of the team. Henning also described what a good manager of a software development team does.

...the manager...protected us quite well...project managers need a big bank because you have all this water here and you just have to make certain that you drip it down to the developer here because if they get a drop at a time they can develop a lot faster than if you just give them the ocean...this is the project manager and they just have to guard against all the requirements and all the silliness....because it is just a lot faster if you just drip them and take care of them and follow them, when are they available to do the next thing and such, micro manage them a little bit...I would say this is what makes a good project manager (Henning, Tech Lead, Denmark, high strain).

Whilst describing a good manager, Henning actually took out a piece of paper and drew waves which he described as the burden of demands on a development team - 'the ocean'. Underneath these waves he drew a small stick-man to illustrate the software developer. In between the waves and the developer he drew a horizontal line ('the banks') with a small gap in the middle through which drips (demands)

were falling onto the developer. Constructing and maintaining this 'bank' was the job of the project manager. Guarding against the 'silliness', a project manager who can hold back the ocean of demands so that they drip rather than flood onto developers, will ensure a faster development process all-round, rather than having to find progress in 'chaos'. Going further, Henning argued that IT teams need to be micro-managed or 'they will just live a life of their own and not be very productive'. Henning links micro-managing to productivity whereas the Irish perspective tended to view micro-managing in negative terms, either as an impediment to the autonomy of the individual worker or a sign of a weak team member;

I think you end up micromanaging people more when you don't have confidence in them or when they are just not delivering (Niall, CEO, Ireland, active).

The mind-set was totally different, I don't like big corporate. They were micro managing, the way they chopped up the days, you could actually do your time reporting sheets in 10.6 second units... Absolutely crazy...people just couldn't stick that, it is not the way engineers think. (Barry, Independent Software Consultant, Ireland, low strain).

Casper (Chief Architect, Denmark, active) provides an example of the management Henning thinks is vital to the productivity of a team. He spends quite a lot of time scheduling tasks so that if a new demand comes up, a decision is made in relation to whether it should take priority and push the existing timeframe or it should wait until the other tasks are completed. Emphasising the importance of planning and a slight 'formalisation of communication', Casper essentially takes responsibility for his team's 'time work'. The construction of the 'banks' to ensure demands are 'dripped' (in Henning's terms), takes the form of managing his development team's time (e.g. planning and prioritising tasks and schedules).

In the Danish context...you have an employee development talk at least once a year...I do it maybe at least on a 14 days basis, how they are feeling, are they still on track on whatever they personally feel they should be on track with, educational wise, production wise, everything. So that they feel that I am here and that I take part in their work and that makes them comfortable that they are not forgotten or floating around. Also keeps them staying focused (Casper, Chief Architect, Denmark, active).

Describing his approach as a manager, Casper holds one on one employee development talks much more than is required. These talks cover everything from 'how they are feeling' to production tasks to their education. What is remarkable is Casper's interest in the whole person - not just the worker. His interest in their feelings and education implies that developers on his team are always more than just a worker. Equally he links this back to keeping them focused on the important tasks. This represents a management style which caters for the whole person whilst being linked to production goals. Herman also noted that a manager needs to take notice of workers' private lives in order to avoid getting 'a bad image'. Equally fascinating is Casper's reasoning for this style of management so that his developers are 'not floating around'. This draws attention to the 'abandonment' potential of completely de-regulated boundaryless work (Allvin 2008). Tom (IT Consultant, Denmark, passive) also refers to this notion of hazardous freedom at work in his description of the balance of freedom and anarchy in his work environment. The freedom offers the chance to work from home when required, very little monitoring of daily tasks, and discretion in terms of project plans. Yet the other side of this coin is described as 'anarchy' when a number of managers come to Tom with various and urgent demands at the same time.

Actually I went down with stress about eight months ago because of the anarchy... I don't think it was just work...but I went down with stress and that was because you have different managers that come with different work and suddenly I got called by a different manager on the third floor to do something for him but then a use consultant had pressed me to do something else. So instead of working for this one, which was probably the most important, I thought I will just quickly finish this one and then I will do that one. And then this one was complaining about me that I wouldn't do anything or anything and then I got stressed (Tom, IT Consultant, Denmark, passive).

While recognising that his stress was not the result of 'just work', he also acknowledges the contribution of work to his health issues. In this case it is a series of managers making demands of him at the same time. Here the freedom from formal regulations and procedures became anarchic because it is down to autonomous individuals to interact with each other within a de-regulated work environment. It is only in the last 6 months that Tom has learned how to manage

these demands - by going to his senior manager and asking him to, in effect, manage.

Now I know, go to my boss, I have got these two tasks, what shall I work on? Then I don't have to take responsibility for working on the wrong thing... So I give it to him and he tells me which to do. So that saves me and that is what I like (Tom, IT Consultant, Denmark, passive).

Tom re-regulates the anarchy through bureaucratic means. He utilises a senior manager to prioritise for him, saving him from the 'responsibility for working on the wrong thing'. When the freedom becomes anarchic, he seeks out management to avoid getting stressed. Jens (IT Project Manager, Denmark, active) provides another fascinating example of the complexities of managing stress in autonomous work.

The more control I have over my own work the higher risk of stress... as a project manager the only thing you basically use is yourself...you involve yourself, your feelings, your attitude and so on. And it is really demanding and it can be very stressful...I pretty much plan my own day and plan how to do it and when to do what and so on. I think the responsibility of the employer is to facilitate that I don't end up being stressed. And I have daily talks with my boss, she is a team leader, if I feel that I have a lack of resources or if there is a person in my project who doesn't really work good I talk with her. We have these sessions of what should I do now or this would be a plan...she does that because she knows her responsibility in terms of dealing with stress. So on a daily basis that is what she gives to prevent stress...I decide how much...it is up to me how often I go in (Jens, IT Project Manager, Denmark, active).

Jens description of his work provides not only an insightful viewpoint of what managers can do to prevent workers getting stressed but also a direct critique of Karasek's (1979) depiction of 'active' working conditions (high demands, high autonomy). Jens, who is located in the 'active' quadrant in the D-C framework in Figure 6.6, notes that he plans his own day in terms of what to do, when, and how. However he also links his high levels of control with a 'higher risk of stress' because of the investment required. In fact, during the interview Jens noted that he had experienced damagingly high stress levels in the past;

...you kind of lose the ability to stop and then you just run yourself down. I have been there a few times. I have been really physical sick with stress with heartbeat like this and couldn't sleep and all of that...In the mirror you can say, that is when it started and that is where I should have changed my attitude or I should have done something right there...instead of saying ok. And then running faster...I think many people who end up with serious stress don't realise it before it is too late...The important things is your colleagues sees it and your boss should be close to you to see it too, or your leader. (Jens, IT Project Manager, Denmark, active).

Jens has experienced significant strain at work, despite high levels of job control and decision latitude. He also notes the role of colleagues and managers in this process. Autonomous work and stress have a complex relationship. Jens identifies his employer as being responsible for not 'facilitating' his stress, which he acknowledges is difficult and to a certain extent depends on him. In fact later on in the interview - indicating the complexity of these issues - Jens questions himself and ends up describing workplace stress as '...not the employer's problem, it is our problem I think. I think we have to deal with it together...'. In Jens case, his manager deals with the problem by offering short daily conversations about any work issues (including personal) should they arise. While this remains informally organised, it is a technique put in place by the manager which allows Jens to take the initiative and flag any issues. This provides an example of what Luke (Consultant, Ireland, low strain), referred to as a 'minimum process' regarding workplace stress. However it maintains a Danish hue, in that Jens' feelings are within the remit of those daily chats and therefore the managers attention. Just as Herman and Casper noted previously, good management includes taking account of the worker as a person with a private life, and feelings which are affected by work;

For this company they are people who need to be happy, the employer wants you to be happy. This is science fiction if you say this in [Mediterranean country]....the employer couldn't give a damn whether you are happy or not...(Alex, System Consultant, Denmark, passive).

Both samples identified managers as an aspect of work which significantly influenced the dynamics of their autonomy. However, there were notable differences in how the Irish and Danish participants spoke about management. Irish

participants tended to cover one of two themes; either the negative impact of standardised bureaucratic procedures which got in the way of *real* work, or individual managers whose lack of organisation, communication, and planning made the participants' working lives much more stressful. Where management took a collective form, it was more often discussed with regards to the constraints of hierarchy and bureaucratic control on individual autonomy. In its individual form, Irish participants pointed to numerous examples of managers who couldn't manage. Instances of managers requiring 'unnecessary information', leaving workers 'in a fog', 'bogus' administration procedures, or micro-managing too much resulted in an orientation to management characterised by negativity and frustration. Irish participants' approach to management seemed to be quite polar i.e. collective measures impinge on autonomy, and individual managers can cause unnecessary stress. Despite its potential for going wrong if the manager is not capable, the preference seemed to be for more individual and informal forms of management e.g. individually tailored man-management for different personalities combined with a 'minimum process'. However this also has implications regarding the responsibility for the stressful consequences of work. To emphasise, not one of the Irish participants discussed a manager taking a notable account of their personal lives and feelings. In general it was up to the individuals to source solutions to stressful working conditions, it was *their* problem.

Danish interviewees talked more about the need for management. While the Irish participants generally saw management in a negative light, and therefore should be kept to a minimum, the Danes viewed it as a resource to manage demands, ensure efficiency, and pay attention to the negative effects of work. This approach implied a 'minimum process' but one that is considered and applied at a more collective level. For the Danes the orientation was one of both optimism and necessity - even micro-management to some extent - in order to manage the demand process, ensure workers were not left 'floating about', work is not impacting on private life, and in general, consider the well-being of their staff. Overall, this tone was one of efficiency, control of potentially overwhelming demands, and the need for some shared structures to ensure a balance between autonomy and demands. It is

necessary for efficiency - at the individual and organisational level. The institutional echoes of the September Agreement of 1899 - which institutionalised the rights of employers and workers to organise, and the rights of employers to manage (Hasselbalch 2010) - are evident in the recognition of the importance of management and implication that managers must manage. This seems to have come to include the private lives and well-being of workers so that workplace stress is not just *their* problem.

Conclusion

Oh I would know, I would be getting stressed out. I would get anxieties and panic attacks and bouts of minor depression and stuff like that. And again that was partly due to my character...I have over committed...I think the things that generate the stress and the pressures tend to be the behaviours of the source of demand, whether the source of demand is your internal or external customer or your boss. Deadlines, you have to have deadlines. Goals, you have to have goals. It is if whoever you are dealing with has unrealistic expectations or is moving the goalposts every few weeks that you don't know where you stand. Or if your success is dependent on other resources that you don't have control over or influence over. They are more likely to cause the stress and anxiety, well for me anyway (Luke, Consultant, Ireland, low strain).

I just got completely stressed out by this project and I had to give the project up. I couldn't sleep, I was like a zombie for most of the weekend, I was really badly affected by it...there was a lot of people I had worked with for a long time, people just being very negative.... I think it can affect your health adversely, no doubt about it' (Mary, Project Manager, Ireland, high strain).

This chapter has highlighted the interdependency of autonomy for the IT workers interviewed in Ireland and Denmark. Due to the individual and interactive nature of IT labour processes, the interviewees must negotiate a balance between autonomy and anarchy where their daily tasks are completed, organisational 'numbers' are met, and de-synchronised colleagues, demanding customers, and various management styles are responded to in a sufficient manner. In such contexts it is difficult to see how high levels of autonomy at work can protect from such a range of demands (Karasek 1979). On the contrary it is the level of autonomy, knowledge, and discretion which brings with it porous demands and responsibilities (Warr 2007). As Mary's statement shows, the autonomous working lives of IT workers can

become a facilitator for, rather than protection from, psychological ill-health. In line with the evidence presented in this chapter, Luke highlights the 'source of demand' whether that be deadlines, colleagues, managers, or resources 'you don't have control over', which can generate pressures within working lives that lead to stress and anxiety. However, within such common demanding working circumstances, there were different dynamics noted between the Irish and Danish samples.

While the interruptions of colleagues and the 'one-to-many' nature of customer relationships were experienced similarly, the Danish participants were more inclined to identify, and importantly treat, deadlines as flexible. Irish interviewees also noted the artificiality of these deadlines but were still inclined to work (intensively) towards them as if they were fixed. The reason for this may be the different approaches to management. Managers in Denmark noted how they pushed back against these deadlines and demands - with their own fictional timeframes and protective 'banks' of organisational planning. The more collective form of management identified in Denmark which addressed communication purposes and efficient time-use in particular, may actually provide the Danish participants with more power to contest the 'numbers' of organisations.

Furthermore the Danes ability to contest deadlines is linked to their capabilities to bound working time more than the Irish, which will be further discussed in the following chapter. If work time is more bounded, deadlines, timeframes, task prioritisation, and schedules must be taken into account by managers. This portrays a positive reciprocal relationship linking bounded work time, a more collective form of management, (e.g. 'formalisation of communication'), and the ability to contest deadlines and extensification of work. Developing the work of Lund et al. (2011), Hvid et al. (2010), and Perlow (1999), the analysis shows how resources for the collective synchronisation and 'associational control' of autonomous workers in de-regulated environments may be found in the institutional context. Norms around management and time can have knock-on effects on the practices and organisation of interaction within knowledge work labour processes, and consequently the manifestation of work-relation related stressors. The next chapter pushes labour

process literature beyond the effort bargain to analyse the different strategies and stressors of the interviewees as they attempt to re-regulate work and non-work time and space within the boundary bargain.

Chapter 8 Boundarylessness: Between Freedom and Responsibility

...people have a lot of freedom...But it doesn't mean that if you have something extra that you shouldn't do it...you might have to stay until 10:00 one day....So I think we put it in a way, ok you have a lot of freedom which also means that you have some responsibilities. So you have a responsibility saying you need to do your task, if there comes up something that is urgent you have to take care of it. It is not something we tell, it is just an unspoken rule...(Anna, CFO, Denmark, low strain).

Anna depicts the 'unspoken' rules of responsibility that often accompany the freedom of autonomous positions. This comment provides an apt example of the rules, requirements, and responsibilities structuring the pressures and actions of workers (Allvin 2008, Giddens 1984). Nowhere is this shift more evident than in the implications of high schedule control and flexibility of autonomous work. As long as targets and deadlines are met, the interviewees are generally free to schedule their days and tasks as they see fit. Thus the workers must regulate what is and what is not work time. In other words, negotiate the boundaries of their work and non-work lives. However, this is often not as self-regulating and free as assumed. Due to the interdependence of many knowledge labour processes discussed in the previous chapter, and the role of expectations, networks, and reputation for employability (to be discussed in the following chapter), the regulation of work time and space is a complex negotiation which involves colleagues, commutes, family, and labour markets. Thus illustrating the interconnectedness of post-industrial work bargains, and the antinomies emerging within them. It turns out that, usually, with great freedom comes great responsibility. The chapter illustrates the strategies used by the interviewees to regulate work time, and the role of the institutional context in providing different resources to manage this balance. The analysis will begin with an exploration of how the interviewees regulated the flexibility and demands of boundaryless work time.

The Re-regulation of Time: Making Hours Work

'Somebody once said you don't get stressed from the work you do, you get stressed from the work you don't have time to do' (Casper, Enterprise Modernisation Specialist, Denmark, active quadrant).

In our business, time is valuable (Derek, Head of Professional Services, Ireland, active).

Perhaps the greatest disparity between industrial and post-industrial working styles is characterised by the relationship between time and work. Temporal demands have been de-linked from the workplace, yet remain at the paradoxical mercy of unpredictable (O'Carroll 2015) and ever-present (Ó Riain 2010) market cycles and deadlines. In other words, working time has become simultaneously less important in terms of the when the work is done at the micro level, and more important in terms of organisational priorities such as deadlines, efficiency, cost-effectiveness, and market performance. At the core of Allvin's (2008) depiction of 'boundaryless' jobs is the distinction between rules which are constitutive (i.e. define functionality) and regulative (i.e. guidelines which direct the actions and behaviour of individuals who themselves defines functionality). The flexibility sought at the organisational and individual level within post-industrial society has rendered a general shift towards the use of regulative rules, especially in contexts of knowledge work, where both jobs and working conditions are increasingly de-regulated. Rules around locations and time of work have been superseded by a focus on flexibility, responsibility, deadlines, quality, and efficiency which, as discussed in the previous chapter, make autonomy more interdependent. Allvin's (2008) contention is that while offering more freedom to workers, these contexts also ask more of workers as they now need to re-regulate their own working lives. As such, boundarylessness can represent the less constructive side of the flexible working practices coin. The result is often an intensified relationship between working rhythms and time - indicated by the introductory quote which highlights the frequent imbalance between tasks required and the time available to conduct them. In order to deal with this imbalance one of the most important 'regulative' tasks for the workers interviewed in this study is what Moen et al. (2013) referred to as 'time-work'.

Every single one of the interviewees discussed the need for organising their own working time to some extent. The combination of autonomy, flexibility, and responsibility - within interdependent, knowledge intensive work tasks - means that the participants are often required to parse out their own working time across different task types and environments.

The difficult thing to do is to use any free time. When you have done all the things you have to do...to actually turn your attention to... something that is a bit more planning, strategic is too big a word, but something that I don't have to do in the next 24 hours. And it is trying to learn, because you are so busy a lot of the time doing all the bits and pieces that when you do get a bit of time...It takes discipline...maybe that is something that has changed a bit...traditionally going back...you would actually carve out certain time, ok I am going to use this part of the day for this and this part of the day for that....Maybe it is independent discipline rather than corporate policy but I think it is starting to go that way where, take the first two hours in the morning to do email and then do it again the last two hours of the day or something like that. Everything in between, don't do it because you are just going to be a slave to your inbox and half of that stuff doesn't need to be responded to anyway...that just takes a huge amount of time....And I don't think that is exclusive to management positions (Michael, VP EMEA Sales & International Operation, Ireland, high strain).

Michael, who is VP for sales in an IT company, discussed the regulative demands of time-use faced by autonomous workers who must negotiate regular interaction with development and sales teams with high levels of responsibility. Describing the difficulties associated with shifting from short-term daily tasks to more medium or long-term requirements, he effectively highlights how time itself has become a task to manage for many workers with high levels of autonomy. Where Moen et al. (2013) noted strategies such as 'blocking out time' or 'prioritising time', Michael points to the 'discipline' required to 'carve out certain time'. Meeting the demands of daily tasks while finding the time for longer term goals - both responsibilities felt by individual workers - requires the development of both organisational and cognitive skills in terms of the efficient application of both time and attention during the working day. The flexibility offered by high levels of autonomy - in terms of deciding when to do what - often comes with the added responsibility of using some time to learn how to use time efficiently, and in line with organisational goals and rhythms. Michael notes that these processes are down to 'independent discipline rather than corporate policy', succinctly illustrating that the responsibility

for this 'time work' lies with the individual rather than the organisation. Allocating the time required to be available to interdependent colleagues, responsive to emails, and meet individual and team targets can become a demand for autonomous workers which, if managed incorrectly or given inadequate attention, can manifest in chronic time strains and stress, highlighted by Casper's comment in the introduction to this section. Other interviewees also described the demands associated with flexible and unbounded temporal demands in terms of the need to 'time well', 'make extra hours', 'managing my time', 'hard prioritisation' and self-regulation;

A good example is today where I really need to fix four issues that we found at a meeting at 10:00 and it has to be in test before I leave today....We could have planned it any other day and I would be in a similar situation...but of course we have to complete...it is no more different than your PhD. You also have to time well or else you will end up with some sleepless nights...but in the business that is not how it goes....(Henning, Tech Lead, Denmark, high strain).

If the overwork is that you have less hours a day, it is not a problem, you can make extra hours....(Karl, Chief Technical Officer, Denmark, active).

My previous role within the same company...I was expected to be available 24 hours. So it is demanding and it takes a lot of... I have to be very careful about managing my time in order to achieve that [balance] (Peter, Software Development Engineer, Ireland, high strain).

So my job changes and it depends on how is pushing me most because I only work 40 hours, right, and I definitely could work 80 hours and still fill out my schedule so I have to make hard prioritisation. That is what also makes the job exciting because what is right now the most important for us to do to get to the goals? (Casper, Chief Architect, Denmark, active).

I have to regulate it [working hours] myself but I still need to respond to clients...It is ok. It is swings and roundabouts, you get a glut here and then like I say I have wrapped up everything by 02:00 or 03:00 on Friday and fine, I wanted to go to the shopping centre, fine that is it. I will keep the phone on, I can check emails to see if there is anything I need to respond to... (Rebecca, IT HR Consultant, Ireland, high strain).

Henning's statement points to the twin pillars of boundaryless knowledge work - flexibility and accountability. Issues need to be fixed promptly and tasks must be completed, and in order to achieve this there is a need to 'time well'. Interestingly 'time' becomes a verb in this depiction thus indicating the inherent 'work' required.

Using my PhD as a comparison, Henning notes that the consequence of not being 'careful about managing' time (in Peter's terms) is 'some sleepless nights'. The responsibility for meeting targets means inadequate 'time-work' strategies can intrude on supposed non-work life. Karl also describes the need to 'make extra hours' where there is an imbalance between work time and work demands. 'Making hours' is added to the 'making numbers work' depicted in the previous chapter. This imbalance is again illustrated by Casper's need to use 'hard prioritisation' in order to fit 80 hours of work in a 40 hour week. While he finds this an exciting aspect of the job, it is interesting to note how he infers more organisational responsibilities than some of the other comments; 'I only work 40 hours' and 'important for us' indicate a bounded time frame in which work can make demands of him, and that the organisation itself also plays a role in the 'hard prioritisation'. More than the other comments, Casper's 'time work' seems to be not only his own responsibility. On the other hand, Rebecca, who is an HR consultant in the IT industry, sees her work time as something she must regulate. Similar to Henning's comments, Rebecca describes the advantages of flexibility in being able to fit her work time around non-work activities - in her case child care. But this flexibility is underpinned by a need to be accountable; '...I still need to respond to clients'. The re-regulation of Rebecca's work time extends into traditional non-work time. The trade-off here seems to be one of flexibility for extensification of working time. Rebecca's comment alludes to the paradox at the heart of autonomy at work. Autonomy in general, defined as 'regulation by the self' (Ryan and Deci 2006), infers notions of freedom, control, and choice. Yet the 'time work' strategies illustrated by the research participants thus far indicate that high levels of autonomy at work actually bring time-related demands. Organisational and cognitive demands which must be met - and regulated - by individuals. Arguably, some of these organisations have disseminated temporal autonomy to the workers but maintain control via a modern version of 'responsible autonomy' (Friedmann 1977). For these autonomous workers, time needs to be managed, regulated, made, prioritised, and continually achieved. However, despite the individual nature of these processes, organisational objectives can play a role in the nature of 'time work' strategies.

The Rhythms of Time Work

Hvid et al. (2008) use the concept of rhythms - made up of interrelated and varied levels of differentiation and repetition of tasks - to analyse where 'post-bureaucratic' working styles fall between the poles of self-management and standardisation. The concept of rhythms can also be used to characterise how the research participants talked about their re-regulation of work time. The interviewees described a number of aspects which shaped how and when they allocated time to work. In the case of Laura, this involves a combination of employer, market, and family rhythms underpinned by ICT capacities.

Probably one night a week I do a proper logon and clear out my email, maybe two or three hours...all through the week I am watching what is happening and whatever happens might cause me to logon for half an hour and deal with something time sensitive....This week my boss...he is in the States, sent me an email saying, 'I have just been asked this question by my boss, do you know the answer?' And I do know the answer, it is low maintenance for me to go and send it, it keeps everybody away, it stops ten extra emails coming in so if you can pre-empt....If you can just deal with something it is really worth it....If I am in the middle of dinner or if I am doing something with one of the kids or if I am out for my run I am not going to take your call, or if I have gone out with my friends I am not going to take your call. I might listen to your voice mail on the way home. So feel free to call me whenever you want. And he travels a lot so that suits him, that I am taking responsibility for whether it is a good time to call (Laura, Head of IT, Ireland, active).

Laura's depiction of her working style presents a number of interesting aspects. Firstly, work does take place at home, but usually in the form of email administration. However she then goes on to describe a temporal rhythm which is almost entirely aligned with the needs of her manager and employer, whilst noting her kids and domestic care as legitimate interruptions to these processes. Her references to time and potential work demands are particularly interesting. While at home during the week she is on the lookout for anything 'time sensitive', notes that being able to 'pre-empt' is beneficial, and asserts that she takes 'responsibility for whether it is a good time to call'. These strategies require a constant re-prioritisation of temporal demands based on the expectations of traditionally gendered domestic roles, and the requirements of current - and future - work tasks. These temporal rhythms are shaped not only by employer contact but also by an

internalised responsibility for what is and is not urgent to the employer - so as to predict future demands. Acknowledging time 'sensitivity' and 'pre-empting' are strategies which occur in the home, in order to prevent further intensification of time demands when in work. While noting her agency in accepting what time is right to answer a call, it is still her 'responsibility' to decide, not the employer's. Unlike Casper's previous example, prioritisation here seems to be the responsibility of the individual. Furthermore, the re-regulation of boundaryless work time is complicated by the gendered expectations of domestic roles in male breadwinner contexts. It is worth re-iterating that Laura did not speak of these processes negatively. Nonetheless they do point to a choice between flexible temporal rhythms which blur the boundary between work and non-work time (boundarylessness) or an increasing overload of temporal demands while in work (intensification). Likewise, Lars notes that staying in contact with work (via email) while on holiday is a more preferable option to having to spend time correcting mistakes in the future. Potential mistakes and future work demands are deemed important enough for Lars to maintain contact with work while on holiday. Thus, temporal rhythms are again shaped by the employer - in this case in the form of an internalised responsibility and risk for the potential of additional work required should any problems arise.

'I read my mail when I am on holiday, but it is not an issue for me and I do it because if there is something where I have the solution it is better that they ask me while I am on holiday than somebody does something wrong and we have to do many more hours later to fix it' (Lars, Senior Developer, Denmark, active).

...if I think I was expecting somebody to get back to me on something and I might just over the evening pick up email to see if there is a mail in. And the problem is then if it is from the outside, from the US particularly, the temptation then is to start responding to it. Whereas if I don't look at it and I see it first thing my morning I will still have responded to them before they start the next day. But then I might be thinking ahead thinking, if I get back to so and so on this they will at least have had today to talk to somebody else and then by tomorrow we will be able to progress it. So I will start thinking ahead (Rebecca, IT HR Consultant, Ireland, high strain).

In order to ensure an efficient development process and meet the market dictated demands of his employer, Lars facilitates time for work demands while on holiday. The porosity of these boundaries between work and leisure time are created and

sustained by an internalised responsibility for the success of the labour process - reflecting the active negotiation of accountability and working time autonomy. The temporal demands of the ever present market (Ó Riain 2010) mean Lars allocates holiday time to work demands, in order to avoid potential time delays in the future. The responsibility that accompanies Lars' autonomy means that the potential time required to fix problems should they arise falls within his remit, regardless of when. For Rebecca, the time delay between Ireland and the US means that she is constantly 'thinking ahead' in order to be able to ensure 'progress'. Organisational progress becomes part of the cognitive agenda of time-work - even while sitting at home in the evening. For both Rebecca and Lars, the trade off of boundarylessness seems to be one of extensification in order to avoid potential intensification while meeting targets and deadlines. A key aspect underlining these rhythms is that porosity and boundaryless demands are accepted and experienced, whether those potential mistakes or intensified demands occur or not. The boundary bargain of this form of post-industrial work where the boundaries between work and non-work time (Figure 2.1) are managed, seems to be one of continual re-regulated time-work and porosity of work demands to stave off market shaped potentialities. These worker practices highlight how the boundary bargain and effort bargain are linked and must be negotiated on a regular basis. Much like Burawoy's (1979) 'games' which ensured the structural legitimacy required for their continuation, the rules and expectations of these autonomous bargains are not only met, but reproduced by workers' taking responsibility to re-regulate their own work and non-work time. This allows workers to align their time with the boundaryless temporal rhythms of markets and organisations. A key facilitator of this porosity is email, often viewed as something which could be done at home. The boundarylessness of these rhythms and bargains are proliferated by the expanding reach of information and communication technologies (ICT) which have the capability to make global processes present in the 'minds, laps, and pockets' (Gregg 2011) of knowledge workers.

I know a lot of people who check up on their emails, you have a smart phone, Wi-Fi everywhere, you can check up on your emails but I don't do that...for other people it would just be normal for them to check their emails all of the time. You don't get any break from it then so that is definitely something the smart phone has brought in that is worse than it was before (Mary, Project Manager, Ireland, high strain).

It would be if I am looking at Facebook and I checked a personal email I would see if there's anything coming but otherwise no. And I am a big believer that if somebody has an emergency they need to call me not send me an email so if I have missed something I don't have any guilt (Laura, Head of IT, Ireland, active).

If I am sitting very still like I will take the phone onto Twitter and if I have got work emails I will be looking at work emails so that brings that stress to be looking at that kind of stuff when you shouldn't be really...I am sitting beside my wife watching TV and checking emails and most of them will just be delete, delete, delete but then there is the odd one and you go, oh fuck, that has ruined my evening now...And the worst is going to have and just having a quick check of the emails before going to bed, I am not doing anything about them and the only thing it is going to do is ruin my sleep (Peter, Software Development Engineer, Ireland, high strain).

...it is crazy because it is all consuming and it is just with them all the time and there is an expectation because you have your phone with you, why didn't you respond to that email? Well it was 8:00 in the evening. And it would be like; "and?" So you don't ever have an end to your working day from that point of view so I think it is hugely flexible and it allows you to pick up stuff on the move and whatever where it is really good you don't miss something important. But it can completely invade people's lives...people feel that they shouldn't have missed something so it gets into their mind set that they should be available. And the fact that so many companies are so global now that it doesn't matter what part of the world you are in, you are accessible' (Rebecca, IT HR Consultant, Ireland, high strain).

Technological development increases the affordances of flexibility for workers *and* extraction of effort for employers. The smart-phone in particular is identified by the interviewees as something which allows a ceaseless connection with the world of work. Portable handheld devices provide a convenient connection to an internet - and virtual connection to work - which never turns off. The ease of use in most settings proving almost irresistible - with interviewees' statements noting that the working day may never end or may make its way into the bedroom, despite recognising the ill-effects of this. Interestingly two of the comments also refer to the role of social media applications (Facebook and Twitter) as the reason for first picking up the phone, only to notice work emails. The phone itself becomes an allegory for the dissolving of boundaries between work and social life. These social apps - as the reason for picking up the phone - almost play a linking role in

maintaining a constant virtual connection between work and non-work life. Individuals may pick up the phone for social use and end up working, usually in the form of email response. Just as Laura previously noted in relation to taking responsibility for when to answer her manager's calls, emails also present these workers with the task of judging demands, urgency and necessary response times.

This persistent connection to work has had two primary effects when combined with an interdependent, boundaryless autonomy; the working demands of knowledge workers are no longer restricted to any work 'place' or time and, subsequently, workers can feel accountable or 'guilty' for 'missing something' important even when not at work. Laptops, tablets and smartphones ensure a ceaseless link with work, rendering accessibility synonymous with availability. Concerns about 'missing something' are the result of the intertwining of the temporal rhythms previously discussed with the intimate reach of ICT, the interdependence of labour processes, individualised responsibility, and self-fulfilling occupational expectations. The smartphone represents a practical example of the stressors inherent in the balance between flexibility and accountability. A device which provides a connection to work no matter where the worker or employer is located provides an ultimate level of flexibility. However the role of interdependent and boundaryless temporal rhythms mean this flexibility can tip over into a feeling of being accountable to work at all times for fear of 'missing out'. Freedom can become guilt at the swipe of a screen. Such boundaryless rhythms have had harmful psychological effects on some of the participants.

...because that [having high job control] is where the stress lives too...There's a lot of dilemmas, or dualism, both ups and down sides lives in the same kind of field (Jens, IT Project Manager, active).

...certainly from a character perspective, if I found I was morning, noon and night working, I'd probably blow a head gasket, I'd just freak out. So there is around being a bit disciplined also in trying to have a balance. I probably drank too much and as a result I gave up drinking ten years ago...Coming in after a few pints in the pub and then opening the bottle of wine and falling asleep in your dinner in front of the kids. And they are teenagers, you know, you just get to the stage that you recognise you are going to be giving them that kind of bad... It is kind of all related, I am assuming, the degree of pressure and character and work and family life...(Luke, Consultant, Ireland, low strain).

... I did see the extreme side...my cholesterol level went up and everything so you have to watch yourself at a certain point and I don't intend it to get to that point ever again because I have been there and it was a dark place to go. I feel if you work over 100 hours a week and do it for a sustained period you actually see life very different, it gets very dark, very black and I am not that kind of person. It changed my personality and I didn't want to go there (Derek, Head of Professional Services, Ireland, active).

Jens provides a pointed critique of Karasek's (1979) job strain hypothesis in noting that having such high control in his job 'is where the stress lives too'. The responsibilities and demands that come with his role mean that there are down sides to having high control when combined with high demands (Jens is located in the 'active' quadrant). Discussing his experience, he recalled a time when he didn't realise how stressed he was until he started noticing physical signs such as increased blood pressure and heart rate. As discussed in the previous chapter, he pointed to the important role of the manager in allaying the stress of these responsibilities. Luke and Derek also described negative effects of boundaryless work. Earlier in his career Luke felt he turned to alcohol too much to escape the thoughts of work. Research has pointed to men as 'externalisers' (i.e. using external substances such as alcohol or drugs) in dealing with stressful experiences, whereas women tend to be 'internalisers' (i.e. develop depression, anxiety issues) (Freeman and Freeman 2013). His statement is underpinned by the notion of balance which he seems to have now developed through dealing with the experience of 'pressure and character and work and family life'. Derek's perspective was that doing too much work (more than 100 hours) led to seeing 'life very different, it gets dark'. His example is a striking but simple example of how work can affect workers beyond the usually depicted physical outcomes; 'It changed my personality...'. In negotiating working lives with high levels of freedom and responsibility, the balance

between work and non-work is something which needs to be learned through experience - sometimes negative ones. In responding to these conditions, the participants discussed the various ways in which they had come to re-regulate the boundaries of work time and space.

The Varied Strategies of Re-regulation

Faced with such boundarylessness, the Irish and Danish interviewees described a number of strategies they used to carve out non-work time from unbounded and ICT augmented work demands, or what an Irish participant referred to as ways to prevent 'work creep'. In line with the themes discussed so far, these individual techniques need to meet boundaryless work demands and locate and maintain a time that is safe from them. Once again the responsibility here is on the individual to find ways to manage the extensification of work demands and also source time, activities, and locations to serve as legitimate work-free silos.

There is a line of thought that when you are hiring people, starting out a team you really want to get the guys who have 20 years' experience, three kids and are married and that because they are going to come in, work eight hours, they are not going to take any bullshit, they are just going to get it done. Whereas the young people will be all over the place and they will put in a huge amount of hours but they may not be as efficient about what they are doing. Whereas the people who have got lives outside of work are going to be more efficient about what they do (Peter, Software Development Engineer, Ireland, high strain).

Taking Peter's statement and comparing it to the discussion thus far highlights the contradiction at the heart of the organisation of work within IT. On the one hand efficiency is lauded. On the other perpetual connection to work and potential eventualities and processes is regularly expected. The statement implies that it is up to the individual to find efficiency - in this case in the form of 'lives outside of work' while also absolving the organisation of any responsibility for efficient work practices. In effect arguing that those with more commitments outside work will be more efficient in it. But as we have seen, balancing time commitments between work and non-work is itself a constant effort for many of the interviewees.

Protective Boundaries

Nonetheless participants did note the importance of external aspects which helped them manage escalating and ever-present demands, and create insulation from them. As Peter noted in terms of efficiency, having something to concentrate on outside work did assist in alleviating the pressure of work demands. The absence of these non-work sanctuaries fuelled the manifestation of stressors. Recurrent themes here were not so much about maintaining a balance between work and non-work lives, but rather having socially legitimate extra-occupational commitments which were both expectation and 'guilt' free. For 9 interviewees this role was played by kids and family. Balancing time between work and children is a key aspect of re-regulative time work for autonomous workers. However, for the interviewees, children also provided a cognitive, and necessary, break from roles and responsibilities prone to cognitive boundarylessness; '...sometimes it can be a little bit, you go home on Friday, you might still be thinking of it [work] which is a big mistake on the Saturday. It can go like that...It is sometimes hard not to think about it (Frank, Software Consultant, Ireland, passive). Children and family provided that cognitive break or 'life outside work';

Kids as well do help, a lot of this is an age thing because I know people who are a similar age who maybe don't have kids and their job just consumes them, they put their emotion into it. There are other things you could put your emotion into, not just kids, you could have hobbies, people can be really passionate about what they do outside of work, that could equally do it. I think it is just good to have that whatever it is...I did it myself, work really, really hard and work weekends...say you have worked the entire weekend and you go into work one morning and you just feel absolutely hammered. I think if you keep doing that you will burn out, no matter what age you are. And the good thing about coming into your 30s and 40s is that if you have got kids, you actually can't do that anymore because it means you won't see your children and your wife will tell you to stop or if you don't she will eventually leave you or whatever. There are warning signs. Family is good that way. (Paul, Principle Tech Writer, Ireland, high strain).

While highlighting the influence of age, Paul actually states that having kids may be the difference between being 'consumed' by the job or not. Individuals with children have somewhere else to 'put their emotion'. In order to avoid being consumed by the job, Paul recommends that individuals identify something outside

of work to place their emotional energy, children provide a ready-made, although not the only, location. Intense working patterns cannot be endured for long periods of time as they will result in 'burn out, no matter what age you are'. Family thus provides both a 'warning sign' when these working patterns become a strain on others, and a socially legitimate break from their expectations and demands. Peter (Software Development Engineer, Ireland) also claims that having kids at home '...gets you into the moment and gets your head away from whatever you were working on'. In a slightly different vein, although with the same effect, Lars (Senior Developer, Denmark) spoke of a time in his working life when working patterns were really intense and the advantage of having sheep to distract him; '...we had 100 sheep for six years...It really helped because you can't concentrate with the sheep dog when you are thinking about what you did at work...That helped me'. For Paul, Peter, and Lars, these beings which require constant attention are impervious to work demands.

Simon, a full stack software developer in Denmark, also noted that the relatively short hours worked by IT workers in his company were because of family. Family responsibilities such as driving the kids to handball meant that working late into the evening was not an option; 'But if I could, maybe I would'. Niall (CEO, Ireland) and Derek (Head of Professional Services, Ireland) also talked about the enjoyment (and positive stress) of being involved in their children's sports teams which prevented them from going 'nuts' and provided a 'fresh outlook'. Similarly Laura (Laura, Head of IT, Ireland) claimed; '...your outside life will influence what you are willing to do' in comparing her working hours to the really long hours worked by a friend who had no children. The time and attention children require at home provides a cognitive distraction from work while also breaking down the temporal rhythms dictated by devolved responsibility, ICT capabilities, and market cycles. Although Rebecca (IT HR Consultant, Ireland) noted that as the children grow up and don't need the same levels of attention, work can 'creep' back into non-work time and space if not replaced; '...because you have time to think you can carry it with you a little bit more'. It is interesting to note that hobbies were not referred to with the same legitimacy in terms of distracting attention from work;

I play squash but I couldn't be on the club squash team because I would be away every second week and various things, so yes it does mess up your personal life (Colm, Technical Trainer, Ireland, passive).

Further evidence for the importance and justifiability of children as a break from boundaryless work patterns is provided by Martin who is a Chief Information Officer for a large multinational company.

...there is not a black and white transition between work and not work, so the fact that I am at home doesn't mean that I am not thinking about work. It doesn't mean that I am not checking an email or answering an email here ...I prefer it like that...because I have a young enough family, so what I would do is I try and make sure I give them the attention that they deserve but apart from that, it is not black and white is the best way I can put it...Today for example, it is my daughter's birthday this afternoon so I am going to drive into the office for an hour or two and then I am going to come home and I am going to have zero guilt about doing that. It works both ways. It usually works more in one direction than the other...if something occurs to me, it occurs to me (Martin, Chief Information Officer, Ireland, active).

For Martin, his family and young children seem to be the only form of re-regulation between work and non-work time. Because the transition between the two is not 'black and white', the attention required by his children comes first. In constantly balancing and re-regulating work and non-work time and attention, Martin's primary technique is the prioritisation of his children's needs with work fitting around that. The example he provides in relation to leaving the office for his daughter's birthday is particularly revealing. Firstly, it highlights the flexibility he has in fitting family and work needs together. Secondly, his 'zero guilt' about leaving the office hints at the accountability side of the coin with family and children needs recognised as a socially, and organisationally, legitimate reason for disconnecting from work for a short period of time. Finally, and despite this arrangement being his preference, the comment; 'It usually works more in one direction than the other...' seems to infer an acknowledgement that the flexibility offered usually benefits the employer rather than himself. After all, he is still working on his daughter's birthday. Perhaps, at times, in the complex boundaryless balance between flexibility and accountability, it is the latter which weighs heavier.

The Commute as Boundary, Transition & Office

In attempting to re-regulate the boundaries of work time, it was interesting to hear interviewees describe how they use the work commute. Rather than a sanctuary from work demands, the commute is a strategic resource utilised to manage the demands of variously de-regulated jobs. At various points during interviews with 8 participants, the commute was depicted as an extended office where work could continue (and therefore less required at the home), a transition period in which mindsets could switch from work to home, and a reminder to limit boundaryless work time.

Previously, Laura (Head of IT, Ireland) noted that she takes responsibility for when it is a good time to take a call from her manager. Elaborating on this point she discussed the fact that her new manager has started to call her when she is driving to work '...and that is great because that is another job done'. Laura expressed satisfaction with the use of commute time to get another thing ticked off her list. The way commute time is accepted and acknowledged as potential work time is an example of the boundarylessness of these working lives. Interestingly where Danish interviewees discussed the commute, they described the use of public transport as an extension of their office thus prolonging the working day but limiting the 'creep' of work into the home;

I try to keep below eight hours a day, including the things I do on the train back and forth, I have an hour on the train (Lars, Senior Developer, Denmark, active).

... I live south of here so I spend three hours a day commuting...but while I commute I do my own business work in the train, I have two hours a day, at least I can do project managing and I do a little programming and set up integration and stuff. I can do that in the train (Jens, IT Project Manager, Denmark, active).

...I got up to two hours commuting each way. So that means that now I work permanently from home on Thursday and Friday so I don't have the commute time. And the other side of the commute time is there is wireless in the train, I don't drive, I take the train, so that means that I have a hour from when I get on... and get off....where I can sit and work, no phones, nobody asking and so on. It is really a combination of meditation and work...(Jon, Enterprise Modernisation Specialist, Denmark, low strain).

For these Danish interviewees the train represents a welcome extension of time and space in which to work - even a space for 'meditation' for Jon. The train becomes a time-management resource to be used to regulate boundaryless work demands and maintain a sense of distinction, and balance, between work and home. It is interesting to note here that there is a sense of control of the commuting time amongst these Danish interviewees in that they are deciding how to spend the duration of the commute time whereas Laura's commute is often interrupted by the calls of her manager. Another distinction to be highlighted here is the use of, and facilities available on, public transport. Alex, a system consultant from a Mediterranean country who has been working in Denmark for nearly the last decade, provided an interesting institutional explanation for the low average weekly hours and relatively high levels of productivity in Denmark. In discussing the lack of corruption in the political system and the side-effect of a well-resourced public infrastructure, Alex links public transport with low work stress *and* productivity;

It [productivity] is because of the almost complete lack of corruption. It might sound weird, how do you go from the lack of corruption to high productivity, but it is not, it is there because the less corruption there is in the country, the more the system works in general because the public money is actually spent for the public. So when the system works and you take 20 minutes of public transport to go to work instead of 2 hours swearing at other cars, like it is in [Mediterranean country], that makes a difference from the productivity point of view (Alex, System Consultant, Denmark, passive).

Comparing the typical commute in a Mediterranean country to that in Denmark, Alex highlights the effects a well-funded public transport system can have on daily working lives, not only in terms of time but also stress. A well-equipped and connected public transport system offers workers much more options than relying on individually arranged transport. In other words, a regular, comfortable train where it is possible to work for the duration of the journey provides workers who are constantly having to re-regulate their working time and demands with more options than having to rely on taking the car to work every day. In an occupational world of de-regulated working environments, the public service infrastructure plays an increasingly influential role in how workers can regulate their working lives. For

Alex, productivity, and work well-being, are infrastructural rather than just individual. Building on the previous comments, the Danish public transport infrastructure may actually provide workers with more capabilities (Hobson 2014) to manage boundaryless working rhythms - whether that be extending the working day, or meditating. Fundamentally, the public transport example may mean an extensification of work time, but it is also one which enables enhanced options for regulating boundaryless demands. The contrast of this 'collective capability' (Evans 2002) with contexts of more individualised re-regulation is provided by Peter (Software Development Engineer, Ireland) who notes that he prefers commuting to and from an office (rather than working from home) as this helps him with the 'transition' from 'work mode to home mode'. Even more striking is the contrast with Derek's technique for limiting the extensification of work and maintaining some sort of work-life balance;

...it is up to me to force that a bit as well, work balance. In saying that you can also work from home, there is a flexibility. The danger is when I work from home I work longer, sometimes by going into the office and forcing yourself to commute. We are right by the Port Tunnel, I am going north so there is a psychological thing where I know the Port Tunnel goes from €10 to €3 at 7:00, that is a good call to go home, so at 7:00 I might as well. The car park is literally beside the Port Tunnel entrance and I get home quicker. It is little things like that and you have to force yourself to do these things but work life balance is nice but I think you have to force it (Derek, Head of Professional Services, Ireland, active).

For Derek, work-life balance is something which needs to be 'forced'. His technique for doing so is aided by a reduction in toll prices for cars entering the Port Tunnel after a certain time. Suitable public transport is not an option so he must use an empirical reminder to ensure some form of cognitive and temporal re-regulation. The tools or resources utilised to achieve this are down to Derek as an individual. Taking both Alex and Derek's points into account, and the ever-present nature of the demands discussed, the Danish transport infrastructure seems to provide these workers with a more comprehensive range of options or strategies from which to re-regulate boundaryless working rhythms. Even so, the juxtaposition of work and commute time not only refers to work conducted while commuting, but also the calculation of working time gained when working from home;

But I will, particularly when I work from home because I don't have the 3 hour commute, 1½ hours each way, so that is 3 extra hours in a day so I will keep on working until 7:00 on those days so they get more work out of me that way. And that is not tracked anywhere, nobody cares, that is just me trying to get a job done and that is normal, I think a lot of people do that... (Paul, Principal Tech Writer, Ireland, high strain).

Highlighting the porous demands and internalised responsibility of boundaryless working rhythms, even potential commuting time is seen as additional time for work. Paul accepts that by working from home, his employer gets 'more work out of me'. Equally interesting is the way Paul calculates this extra time. Estimated commuting times to and from work are added and the sum of three hours is then used to re-regulate his working time (until 7:00pm) while working from home. Estimated commuting time is used to shape the re-regulation of working time. A subject as simple as getting to and from work displays the numerous strategies utilised by autonomous workers to re-regulate work time and negotiate the balance between utilising flexible working practices and being accountable to colleagues' demands and organisational targets. The approaches to commuting practices are shaped by organisational location, the nature of the extensification of demands, and the public infrastructures of the transport system. Interestingly most interviewees, despite having the option to work from home, preferred to work in the organisational offices. Being 'in' work provided the most direct way of dealing with the various demands of interdependent labour processes discussed in the previous chapter. Whether extending work hours to avoid working at home, a reminder to leave, or a transitional phase between work and home, the commuting options available to workers in Ireland and Denmark become part of the practices, and stressors, of working life. However, organisational and institutional norms also play a key role in shaping strategies of re-regulation.

Individual and Collective Norms

Re-regulation involves workers applying boundaries to boundaryless working conditions. The types of boundaries that can be applied, and the methods of application vary by individual, organisational, and institutional context. Although a

limitation of this study is a focus on individual working lives, and therefore a somewhat homogenised organisational viewpoint, there were notable differences in how Irish and Danish interviewees discussed the context in which they attempted to apply boundaries to their working lives. Irish interviewees tended to apply individually sourced re-regulation formats while the Danish interviewees described organisational and institutional norms which conducted - or reinforced - parts of the re-regulation process. For example, in creating non-work time and space, the practices of the Danish interviewees were based on institutional and organisational norms around the benefits of a bounded work time (efficiency, well-being, time-work of management, and work-life balance). For the Irish, legitimate claims to non-work time and space revolved primarily around children or family. Regarding the commute, the Irish spoke of how using cars can lead to work creeping home whereas the Danes pointed to a well-resourced and networked public transport system which enabled a more controlled extensification of work. The pressures of the re-regulative rules and requirements of boundaryless work (Allvin 2008, Allvin et. al. 2011) may be alleviated more by these collectively equipped strategies. For the Irish interviewees, these negotiations generally occurred at the individual and domestic level. Rebecca highlighted the important boundary-signifying role played by the clothes she wore.

'...increasingly over the years your day was getting busier and more stressful and it could start to carry home with you and in order to try and leave it... psychologically one of the things I do, wear the suit or whatever to work, and I just change out of that when I get home so it was like, I am now home, I am somebody different. And one of the things that the boundaries that working from home crosses is that you get up and put on the jeans and the casual stuff...the separation of one from the other...but now I have kind of merged the two a little bit so I don't have this clear demarcation that I had literally created for myself in order to try and separate it...Because you might have left it behind you but you are still not focused on what you are doing at home with family or kids or whatever, and particularly when they get into teenagers and school and you have all that kind of stuff, you are distracted because there is still something going on in your head that you still carry with you. So some of that for me, the physical, just change out of the work gear was separating. But I have blown that now!' (Rebecca, IT HR Consultant, Ireland, high strain).

The language used by Rebecca is particularly revealing in terms of the porosity of work demands and associated cognitive boundarylessness. She devised a way to

'psychologically' leave work by using the physical reminder of different (home) clothes to aid cognitive re-regulation - become 'somebody different'. The different clothes represented two different lives - one professional, one domestic. This strategy represents the re-regulative tasks inherent in a flexible, post-industrial 'second-shift' (Hochschild and Machung 1990) where the maintenance of work time and space is complicated by the temporal demands of non-work roles, underpinned by structures of gendered norms. The career implications of these often incompatible role expectations is analysed in more detail in Chapter 9. However, the flexibility and demands of Rebecca's working life have added further complexity to these strategies as she acknowledges that lately she has increased the amount of time she works from home and this is starting to break down the 'clear demarcation' created. The lack of the physical re-regulative aid of clothes has led to the increasing permeation of work demands into the home environment with boundarylessness reflected in the comment; 'there is still something going on in your head that you still carry with you'. With the nature of her consultant role meaning increasing amounts of time working from home, Rebecca will need to find other strategies of re-regulation in order to manage this extensification of work. Peter also identified his particular technique for limiting the presence of work at home;

I don't even get work emails on my phone...Just to make the distinction very clear...a couple of years ago on the previous team where I was working huge hours it was very invasive. Weekends away and that kind of thing, checking emails and all that kind of stuff and it was causing problems so I had to make sure that I keep them very, very separate, even though I work from home quite a bit, I work from home one or two days a week. I just have to make sure that when I stop working, I stop working... (Peter, Software Development Engineer, Ireland, high strain).

Learning from a particularly 'invasive' work experience which caused problems at home, Peter has to continually make the effort of separation. Linking back to the previous discussion on the 'intimacy' of ICT, Peter's primary boundary-construction technique is to de-sync his work emails from his smartphone. As noted earlier, smartphones are often picked up for social purposes only to result in a connection to work demands. Acknowledging this intrusion, Peter has chosen not to get work email updates on his phone - 'to make the distinction very clear'. In addition,

because Peter works from home on one or two days a week, he also discussed the need to make sure his laptop was closed, in a different room, and was never brought into the kitchen when he was eating meals or spending time with his family. Again work - represented by the laptop - almost has to be physically removed from the space in which he wants to spend 'non-work' time. This separation process seems to be something which Peter needs to accomplish regularly so that he actually stops working and prevents the invasion of work into non-work time. Laura (Head of IT, Ireland) also discussed the potential for being overwhelmed by work responsibilities in a previous role where she had to let a number of employees go. Rather than get emotionally involved, over time she identified her learned capacity to 'box it'. Essentially similar to the strategies of Rebecca and Peter, this skill represents cognitive compartmentalising which removed herself from the responsibility for other people's careers and placed complete trust in organisational bureaucratic decisions.

Different clothes, de-synched emails, laptops out of view, and compartmentalising responsibilities are methods of re-regulation sourced and accomplished by the individual within their own homes (or minds). However when Danish participants spoke of re-regulation of work time and space, much like the transport example, they identified more collective forms of boundary construction. Casper highlights a working context which links the management of time for the individual, team, and organisation.

I use quite a lot of time, not alone but with my whole team to understand and for them to understand what are they going to do for quite a long time in the future so that they know what they do and what is the timeframe of what they are working with, when are they expected to deliver. So when somebody comes up with a new plan I don't compensate by working more, I give a feedback saying if I had to do this it would require that we rearrange our plans and that works well...Actually most people here works 40 hours...We don't want that [crunch time] because it is highly unproductive and the more you use it the more you wear out your people and that is not giving you quality. It may give you more hours, all my employees work 60 hours, that is not a quality stamp, that just shows you, you are bad at your management. So we want to keep it that people should be able to have something else...they should be able to come the next day being fresh and work the eight hours productively on our product and then go home and be happy and not stressed out (Casper, Chief Architect, Denmark, active).

For Casper there is a limited amount of hours in which productivity resides. The use of intense working periods such as crunch time or extended hours do not reflect good working practice but poor management and potential psychosocial risks for workers which will only negatively affect future work processes. With this in mind, he spends quite a lot of time for himself and his team on time management so that the introduction of new plans and processes result in a re-prioritisation and rearrangement of plans rather than breaking of time boundaries or as he puts it 'compensate by working more'. These re-regulation strategies reflect 'time-work' on a management and organisational level and thus take the responsibility for the construction of demarcated work time, in order to ensure that work time is productive. Productive working time is time that is bounded and consequently provides workers with non-work time. However, this also has the added effect of removing the re-regulative responsibility from the individual. For Casper and his team, all of whom have high levels of autonomy, flexibility, and responsibility, non-work time is essentially provided by work.

Tom (IT Consultant, Denmark) also stated that his department had recently changed to a scrum management system. While they were undertaking this process, a colleague who was researching organisational productivity levels noted that more working hours actually made their team less effective. As they were implementing their new system they had in mind that the working day had approximately five hours of optimal productivity potential and the more the working week went past 50 hours the less it efficient it became. Underpinning their new organisation of work was the benefits of limited and bounded working time. Simon (full stack developer, Denmark) commented more generally on the boundaries around working time in Denmark;

...my wife has been living in America...she says...you have very long hours but on the other hand you also have a lot of breaks. Maybe you are working 12 hours a day but...you are actually working 7 or 8 because the other 4 hours you are drinking coffee and going to lunch....So it is more you are living your work. I think in Denmark, when I come to work, I am working. I am not doing anything else until I leave so that is more separated. I have my work life from 8:00 until 4:00 and then I have my family life. And that is a normal thing. When I had the job interview here I was also told that we like people to come in, in the normal business hours because we see the benefit of people talking to each other face to face but do you have some reason to be at home... In [previous employer] my boss said to me, "I want you to have your spare time when you have your spare time because otherwise you are going to burn out". He thought that if I worked too much my brain would be fried and I wouldn't perform as good...when I wasn't there then I should definitely not work...For many it is when you are on the job, you are on the job. When you are not, don't fucking bother me (Simon, Full Stack Developer, Denmark, passive).

Broadening the viewpoint to a more institutional perspective, Simon compares his two most recent experiences of working time in Denmark with his wife's experience while working in the US. While the latter often meant 'living your work', the former are most certainly 'more separated'. According to his wife's perspective working in the US often means being connected in some form to work for around 12 hours a day whereas in Denmark the normal frame of reference is; 'I have my work life...and then I have my family life'. Providing evidence for this, Simon notes that in his current and previous employer, organisational objectives of collaboration and productivity on the job were based on the notion of bounded time at work. In line with Casper's experience, it is interesting to note that Simon's previous manager linked bounded work time with better productivity levels through better health and work-life balance outcomes. While these patterns of 'when you are on the job, you are on the job', may be intense, they are limited and therefore institutionally remove the responsibility for re-regulating work time from the individual worker.

Reinforcing these institutional norms are the sectoral collective bargains which are negotiated every 2-3 years as Danish business federations and union cartels come together to agree on the form of particular working conditions - usually pay, time and training.

...because we have the Danish model and because we sit around the table with the employer and discuss every second or third year and make a deal about what is the salary going to be, how many hours, what about over time? All of that. I think that makes it much more calm and much more safe for all of us, that is the good thing about it (Jens, IT Project Manager, Denmark, active).

Even for those organisations and individuals who are not covered by these collective bargains, the landscape of working time in Denmark is shaped by these agreements. The simple fact that working time in general is negotiated at a collective level in Denmark is indicative of the different institutional contexts of Ireland and Denmark in which highly autonomous workers must re-regulate working time and space while balancing flexibility and accountability. Realigning Benjamin Franklin's famous refrain, it seems the Danish approach is; time does not equal money, but time-work may. Simon's institutional perspective is supported by Herman's depiction of what a manager can and cannot do in terms of piercing the work, non-work boundary.

I would even say, well I think that my private life is enriched by my work life, I don't feel there is really a conflict....I have done some extra work, giving me some hours that I can use...And that meant that I would like to have two extra days here to take two days free. And I tried to...my new boss I presented to him that for these two days I would like to take and he said, "that is a problem". Then I had to rearrange a lot of things because I was thinking of making a special seminar on one of these two days. And we had another employee who also has a problem if I move it out of these two days...I went in yesterday to tell him I could do one of the days. But he started saying, "I found a solution, don't worry". So I think you cannot really function...if you do not take much notice of the private life of your employees...He knows it would give a very bad image if he pressed someone to be present when they actually had something else to do in their private life so he will try not to enforce that (Herman, Senior IT Advisor, Denmark, high strain).

According to Herman's depiction a good manager must take account of the private lives of their employees. Something which is entirely the remit of the Irish workers according to the comments from Irish participants thus far. In fact, some of the Irish comments indicate that individuals must take account of work life while at home, rather than the other way round. Non-work time is valued to such an extent, perhaps because of perceived positive consequences for work time, that managers must take note of it. Alex (System Consultant, Denmark) also noted that in his organisation it is appreciated if you talk to your manager about personal issues as

they would want to know why you are not content in work. Maintaining the separation between work and home life seems to be part of the manager's role. It seems the institutionally erected boundary between work and non-work life in Denmark is reinforced by the norms of management which declare that bounded time is better for both employer and employee, and therefore managers should take account of the private lives of their workers. Implicit within these organisational, management, and institutional norms is a collective regulation of what is - and isn't - working time. In essence these collective forms of time work seem to render working time in Denmark less boundaryless and therefore require less re-regulation strategies of individuals - even those working in traditionally extensified occupations of the IT industry. The result is an emphasis on organisational 'time work';

...in Denmark you get a computer, it is on your table like that. I think organisation is more efficient so the things around you is more efficient so you can focus on your programming. You don't need to use a lot of extra spare time to think about everything else. It is not the single one who is more efficient, take less coffee or something, it is more that the environment is more efficient... I think that working less might give you a better possibility to plan better because you need to plan better. Sometimes I see because I just had to jump into something and didn't have to plan it I made extra hours like that (Karl, CTO, Denmark, active).

In Karl's experience, there is a cyclical process which runs through a more bounded work time, thus a need to prioritise planning, which leads to an efficient work environment, consequently leading to a higher potential to continue to bound work time. It is this process rather than any individual trait which may lead to Danes more positive relationship between work and psychological well-being.

Conclusion

This chapter sought to explore the stressors emerging from the highly autonomous and individually shaped nature of IT work in Ireland and Denmark. Both country samples described having high levels of control over the order, method, and often the location of their work tasks. However, this flexibility, which should provide workers the capacity to manage work and non-work demands, coexists with a

responsibility to oversee often international labour processes, meet deadlines, and be available to colleagues at an almost ever-present rate. This individual accountability often meant the deconstruction of work and non-work boundaries, requiring the individual workers to re-regulate their own work time and space. The high levels of job control inherent in these forms of flexible working conditions thus can carry their own self-management demands, pointing to the potentially strain-inducing conditions of those in the 'active' conditions (high decision latitude and high demands). The analysis therefore investigated the manifestation of stressors within this experience of boundaryless working time and demands across Irish and Danish working contexts.

In negotiating high levels of flexibility and accountability, these autonomous working lives are characterised by numerous individually and collectively shaped re-regulation strategies. At the very basic level this involved a re-regulation of work time - or 'time-work' (Moen et al. 2013). The interviewees noted that they must 'make' and 'manage' their work time (in addition to the 'making numbers work' in the previous chapter), rather than it being set by the employer. Signifying the importance of this re-regulation process, one Danish participant used the term 'time well' as a key skill required in order to avoid sleepless nights. In many of these cases work time extended into the home and thus needed to be managed across the entire day. Working rhythms (Hvid et al. 2008) are thus formed by these self-management strategies of re-regulating work and non work time across different work environments and contexts. How these individuals engaged and disengaged with work time and demands was influenced by a number of factors, most notably by the longer, or more intimate, reach of ICT (especially the smartphone and laptop) which brings global knowledge processes onto the couch and into the bedroom, and an internalised responsibility for the outcome of these processes. These dynamics often entailed a deferring of non-work time (sometimes holidays) to avoid future (potential) intensification. Stressors can emerge where the technologically ever-present connection to work and its responsibilities renders contactable synonymous with always available and willing. These demands, requirements, and responsibilities may help in explaining van Echtelt et al.'s (2006)

'autonomy paradox' where those with more discretion over their work time, ended up working longer hours. Those positions with high levels of autonomy over *work time* inevitably lead to the need for more *time work*.

Boundaryless working contexts often require workers to construct their own work and non-work environments. This entails different strategies of boundary construction. It is in this process that differences emerged between Irish and Danish participants in terms of where these demarcations originate and how they are reinforced. The participants described a number of strategies devised to manage work demands and construct 'clear demarcations' (in Rebecca's terms) between work and non-work time and space. Almost one third of the entire sample (9) identified children as a legitimate work free activity. Kids ensure a 'life outside work', somewhere 'to put your emotion', and a strategy of getting you 'into the moment'. Both Danish and Irish interviewees spoke of their children as legitimate sanctuaries which work demands could not penetrate. This was a more explicitly identified strategy of the Irish interviewees, perhaps indicating the reliance on more individually sourced boundaries. Irish participants seemed to highlight more individually orientated techniques such as different clothes, de-synched work emails on smartphones, laptops out of sight, cheaper road tolls, and cognitive compartmentalising. These techniques emphasise the demands made on the Irish workers to "force" (Derek) balance between work and non-work life.

Danish strategies were discussed in more collective terms. Management norms acknowledged the mutual benefits of bounded work time, the importance of organisational 'time work', and the effect intensified work patterns can have on workers' private lives. While the Irish participants identified clothes or toll changes, the Danish participants pointed to the importance of their time commuting on the train, negative management perspectives on overwork, expectations on managers to acknowledge workers' private lives, and more generally a recognition of the importance of non-work time for work efficiency and well-being. While Mary (Project Manager, Ireland, high strain) identified the increasing need for managers to call workers while they were on holiday, Simon (Full Stack Software Developer,

Denmark) emphasised the distinction between work and non work time in Denmark. These more social practices are legitimated and reinforced by an institutional context in which work time is discussed as part of the collective bargaining processes of Danish industrial relations. In line with this, the Danish examples highlighted a more collectively organised construction of boundaries. These institutional norms seem to permeate the work culture meaning some of the 'compartmentalising' or 'time work' is done at a collective level. These norms are positively limiting, collectively bounding the working rhythms of autonomous workers faced with high levels of flexibility and accountability. In fact, statements from Irish and Danish participants regarding the interest management take in workers' private lives were distinctly different. According to some of the Danish participants, a manager will be deemed negatively if they don't consider the workers' private life. In Ireland, the impression was that managers left individuals to re-regulate many aspects of their working time, alluding to Allvin's (2008) question of whether de-regulated working environments liberate or abandon the worker. The more regulated Danish context seems to afford the Danish interviewees more tools from which to manage and constrict the boundarylessness inherent in autonomous working lives.

The evidence from this chapter suggests that the 'fragmentation' of careers and working lives (Sennett 1998) may now take place on a more short-term immediate basis and require workers to 'compartmentalise' when and where is, and is not, work. Where these boundary regulating strategies are inadequate, the ICT and market defined demands of 'project time' (Shih 2004) can lead to the internalisation of the economic rhythms of the abstract and ever present market (O Riain 2010). Thus, finding non-work havens is increasingly important in boundaryless working lives and increasingly up to the individual to locate and sustain. The relationship between autonomous working lives and time is complex and multifaceted; one which requires constant negotiation, and one in which the institutional context can shape the 'capabilities' (Sen 1999, Hobson 2014, Evans 2002) of workers to re-regulate boundaryless work demands and manage the form of stressors experienced.

Going back to the questions arising from Chapter 6, the different 'ecologies' (Schwartz 2005) of these autonomous working practices may provide some clues as to the differences in the relationships between decision latitude and demands for the Irish and Danish samples. These working lives are made up of a 'capability set' comprising individual, institutional, and societal factors (Hobson 2014) which mould the rules, requirements, and expectations, which present pressures and resources for workers. The findings thus far highlight the divergent range of effective choices and possibilities for managing the demands of autonomous work in the IT sector in Ireland and Denmark. The resources offered by institutional and organisational norms around the efficiency of bound work time, the collective re-regulation of work time and space, organisational 'time-work', the scope of management responsibilities, contesting of deadlines, and the acknowledgement of workers' private lives, all represent 'conversion factors' (Fahlén 2014) which enhance the Danish workers' ability to control the interlinked boundarylessness and interdependence of autonomy. They also alleviate the 'demand' and 'structural constraint' elements of the stressor process (Wheaton 1999). When it comes to the mechanisms of autonomy and stressor generation in work, social context matters. These factors also influence the quality of the employment bargain for both samples. As depicted in the thesis thus far, post-industrial work bargains - and the antinomies of autonomy emerging within them - are interlinked. The negotiation of boundaryless and interdependent demands is significantly influenced by the expectations and requirements of the IT labour market. Extending labour process literature and work well-being models, the following chapter illustrates how the dynamics of this employment bargain shape, and are shaped by, the effort and boundary bargains discussed. Where interdependent performance and boundaryless requirements become tied to future employment security, and may present the psychosocial risk of 'fusion' - a socially structured boundarylessness of the person.

Chapter 9 Fusion - Between Employability and the Self

Is it a contradiction to say I felt secure in the job but also thought I could lose it?...It is funny, I am really conflicted there... Actually I still feel I could lose my job in the next six months because of what is going on at [employer] but I still feel secure in my job...We were talking about [previous employer] there, I felt secure in my job as in I fitted into the team and we worked well together but that is not to say that at another higher level someone will come in and say, sorry we have to let you go. So within my job I might feel secure but in this industry...(Emily, Project Manager, Ireland, active).

Following the analysis of stressors emerging within boundaryless working conditions and interdependent labour processes, this chapter will explore the antinomies emerging within the careers and employment of the autonomous Danish and Irish IT workers studied. During the qualitative aspect of the interview, participants were encouraged to discuss instances and experiences throughout their employment history which reflected examples of the conditions and demands they were faced with in furthering their career prospects. While the level of analysis for the previous two chapters focused firstly on individual work and effort, and then the relations involved in the labour process, the analytical level of this chapter resides at the broader employment bargain. A bargain where performance is linked to future employment prospects rather than current job security. A bargain where, as indicated by Emily's introductory statement, feeling secure in a job has very little to do with the traditional notion of job security, and maintaining a stable career pattern often requires individually sought opportunities and mobility. This presents an interesting contradiction between the inherent individualism in software and the IT industry employment patterns and a work organisation that is more often than not organised around teams. Paradoxically, participants discussed the IT sector in general as one with fragile job security and abundant employment prospects. However, this subsequently places increased importance on individuals maintaining networks and good reputations in order to ensure potential future employment. This responsibility often involves a form of emotional labour and can lead to employment rhythms which significantly reduce the distance between work and

non-work selves, or 'fusion' (Wharton 1999). Furthermore the playing out of these employment demands effectively represent the participants consenting to the erratic, insecure, and 'disconnected' (Thompson 2003) nature of many jobs in the IT sector. The discussion also highlights how the interdependence and boundarylessness of IT work leads to a reinforcement of gendered role of expectations which inhibits the capabilities for women to take up senior positions. The chapter will commence with an examination of how the participants talked about the lack of security and the need to ensure their own employability.

'A Lack of Future': Insecure Employability

...it depends on what you mean by good conditions, if good conditions are compensation, you can get away for a while with compensation...there isn't compensation to compensate for other things so lack of training, lack of time, lack of investment, lack of future. It was all short term, we were very much a quarter driven, monthly driven environment. If you didn't do you numbers next quarter, next quarter, and they would literally sell the furniture...I had a few things I wanted and compensation wasn't even on my top five, it is always nice because I have got a mortgage to pay but it wasn't the defining factor for me (Derek, Head of Professional Services, Ireland, active).

Derek highlights some of the key aspects of the employment bargain for the Irish and Danish participants. High levels of compensation are common and expected. However this compensation does not always make up for the short-termism of 'making the numbers work' discussed in Chapter 7, which pervades the economic motives of organisations. Not only do these financial imperatives impinge on the participants autonomy, they also restrict opportunities for up-skilling, learning and thus future employability. Within the flux of cycles of boom and bust, high pay is almost traded for a 'lack of future'. It is within this balance of high pay and 'lack of future', participants must negotiate opportunities for up-skilling and development - often sourced and conducted by themselves - in order to guard against the inherent instability of the IT industry. 36% of Danish participants explicitly stated that they had experienced a round of redundancies. For the Irish participants this percentage is almost twice as much (71%) with some noting that they had 'survived' four or five

rounds of redundancies due to various takeovers and restructuring of their employers.

...when you are taken over it can be an attempt to close you down because you are the competition....IT is very dynamic though, it changes a lot, investors want a quick return and the trends in IT and technology, they change very quickly so you have to kind of ride the wave or whatever trend is there....they are just waves and trends and they change. It is like the fashion industry...sometimes people just change the name and it is the same thing but just called something else....it creates loads of work for people in marketing to go and create this impression that it is something different, it is just money moving around in different systems and just being sent from A to B....(Paul, Principal Tech Writer, Ireland, high strain).

I would never say my job is secure because you never know what is around the corner...I would never say yes I will definitely still be there in six months' time because you don't know if a company will suffer a loss or if they will decide to sell, to be taken over by some other company. And that is down to experience as well...(John, Senior Technical Writer, Ireland, passive).

...you are not in control of your own destiny anyway (Niall, CEO, Ireland, active).

The IT industry is thus one of flux, where change is common and often viewed as profitable. According to the participants, employment opportunities are plentiful if you are skilled enough, however they are always at the risk of outsourcing or the company being taken over by another company who are more interested in the technology or the customer base than the current staff. John and Paul describe how organisational 'jockeying' (used by Mary in the previous chapter) can leave workers constantly uncertain of what's around the corner and having 'to kind of ride the wave' of economic fashion trends. Simply put, IT workers must be adaptable and ready for change at all times due to the influence of 'numbers' (investor goals and targets) and technological development. Despite the high pay and high control at work, the job itself is always embedded within market-led bureaucracy and motives for competitive advantage. It is here where stressors emerge as the workers relinquish control of their 'destiny'. This has led to experiences of uncertainty for participants working in organisations which are restructuring and seeking rounds of redundancies.

Paul (Principal Tech Writer, Ireland, high strain) described 2010 as '...the most stressful year of my life without a doubt' due to the 'cruel' manner in which his employer was laying people off over the course of a year. He portrayed a scenario in which the workers had no information on what was happening and then 'people would just disappear'. The organisation kept repeating that there would be no more lay-offs, only for more individuals to get 'a phone call' a month later. Mary (Project Manager, Ireland, high strain), highlighted the uncertainty of a period of organisational restructuring where nobody in the organisation knew if they would be in a job in six months time. She also noted being surprised at individuals who were made redundant whom she had presumed would never be; 'One particular colleague was a major shock and afterwards I realised his particular skill was just not popular for the last twelve months'. During a time of restructuring if the skills of individuals were not aligned with those required by the organisation in the coming period, they were in quite a precarious position; '... people would almost just disappear '. On a similar note, Emily (Project Manager, Ireland, active) told of how she took it upon herself to make sure her Java certification and skills were up to date following an all employee meeting where the country manager said they'd like everybody in the organisation to have Java certification. As it turned out this meeting took place six months before a round of redundancies began, in which Emily noticed that some of those leaving would have been the individuals reluctant to improve their Java skills. Organisational stasis is almost non-existent in the IT industry with the need to be flexible, competitive, and respondent to market needs dictating organisational goals.

...a business is nothing unless it is growing, that is the whole point...So the whole point of a business is to continually improve and we are a small microcosm of the business and we have to continue to improve as well....You never get by standing still, so at some point or other if you are trying to stand still you will get caught out (Martin, Chief Information Officer, Ireland, active).

Thus outsourcing, acquisitions, redundancies, and restructuring are common experiences for many of the participants, although noticeably more evident amongst the Irish sample. Not only has flexibility and adaptability become a context for work, it seems to have become a capacity required of IT workers. Noting his

employer's record of making 'acquisitions for the wrong reasons' and subsequently selling ill-fitting organisations on again, Paul (Principal Tech Writer, Ireland, high strain) made an important point in noting '...there were people's lives being wrapped up and packaged onto somebody else'. Within these economically motivated business decisions, the employment rhythms of IT workers are shaped as they adapt to these circumstances. The employment bargain for most participants becomes one of high pay, high control, high responsibility, and little to no traditional job security. However, it was interesting to find that most participants did not regard job insecurity as an issue in their working lives, despite its predominance.

The notion of security was a complex topic for participants in this study. Two of the questions in the psychosocial work environment questionnaire completed by participants related to job security; 'Do you think; "I might lose my job in the next 6 months"', and, 'I feel secure in this job'. Both questions had a five point scale from strongly disagree to strongly agree. It was while answering these questions that Emily noted her contradictory thoughts, illustrated in the quote at the beginning of this chapter. 29% of Irish participants agreed that they might lose their job in the next six months whereas not one Danish participant agreed with this statement. 86% of Danish participants agreed that they felt secure in their job, while 65% of Irish participants agreed. Just under one quarter of Irish participants disagreed with the statement 'I feel secure in this job'. Based on these findings, the Danish participants seem to have a much higher sense of security within their jobs. This may be a consequence of sample composition as four of the fourteen Danish respondents work in organisations in the public sector - which is less prone to market led fluctuations, and nine were union members. However the Danish interviewees were quick to point out that the union was only there as a 'back-up' and they had little need for it in their current jobs. Paradoxically this higher sense of Danish security resides within a highly flexible sector embedded in an increasingly insecure regime of flexicurity. It is worth reiterating that nearly twice as many Irish participants stated that they had experienced organisational restructuring involving rounds of redundancy. Consequently, the Irish sample have been much more

exposed to the fluctuations of the market which may have had an effect on their perception of job security;

...I guess stability rather than security, I am aware that I could get made redundant and in the IT industry if you are not aware of that then you are fooling yourself, so you are aware that you could be made redundant...(Colm, Technical Trainer, Ireland, passive).

Security yes, but even security, if you are working on a technology and you know it and the company needs it you can have some security...at any stage the contract could end... (Frank, Software Consultant, Ireland, passive).

... permanent doesn't mean a whole tonne anymore anyway...even over the last few years when I was still in full time employment...there was this constant possibility, like I don't think my job was particularly at risk but there were two or three rounds of redundancies...So you never think that you are secure in anything...I think I am just doing my own forward planning (Rebecca, IT HR Consultant, Ireland, high strain).

I have always felt quite secure in my job. If my boss came out tomorrow and said I was fired it would be a shock, I don't think that is going to happen. I have always felt that what I can do is appreciated so...I would be able to find another job easily...(Simon, Full Stack Developer, Ireland, passive).

Irish participants discussed the nature of their security in much more precarious terms with an 'awareness' that they could be made redundant at any time based on circumstances out of their control. Previous research has pointed to the detrimental effects of working with such uncertainty - often proving more negative than actually losing a job (Wichert 2002). Colm is searching for 'stability' as he knows job security isn't possible, Frank links his security to particular technological experience which should ensure he is required, and Rebecca notes that 'permanent' doesn't mean what it used to so she must do her 'own forward planning' in order to ensure she can 'ride the waves' of employment rhythms in the IT industry. Simon on the other hand, doesn't appear to have the same cynical outlook on job security. His comment reflects a Danish sample which although acknowledging the cyclical nature of the IT industry, generally had a more positive perspective on job security. This was primarily due to a much less common experience of organisational redundancies and re-structuring compared to the Irish sample. However there is an interesting institutional contradiction in relation to the Danish experience of security.

The Danish flexicurity system, renowned for maintaining high levels of flexibility in the labour market, underpinned by employment insurance (although this has been reduced to two years duration) has very little influence on Danish participants' notion of income security. Lars (Senior Developer, Denmark, active), Herman (Senior IT Advisor, Denmark, high strain), and Simon (Full Stack Developer, Ireland, passive) all noted that with such high pay rates, finding oneself without work and on the employment insurance or social assistance system would mean an approximate three-quarter reduction in salary.

The high wages makes the safety net uninteresting really...people don't think about it the way you do, they just think about the high wages. That is my feeling... if your wages drop to a quarter of what you got before you would go broke...(Lars, Senior Developer, Denmark, active).

Thus the Danish participants did not link the income security of the Danish institutional context to a higher sense of job security. However, the welfare state subsidises education, healthcare, and in particular childcare, and these do have an indirect effect on the sense of long-term career sustainability. Arguably the range of 'capabilities' (Hobson 2014) open to Danish participants to ensure career and working life balance and stability is wider than the Irish participants due to the state taking responsibility for the funding of education, health, and childcare. The high tax rates which subsidise these systems may restrict the financial autonomy of workers, but in turn they also limit the individual worker's responsibility for securing and providing these vital supports. In the Irish context, workers have more financial autonomy (lower taxes) but also need to ensure and maintain a high salary as the responsibility for subsidising much of these vital social services lies at the private level. This balance between institutional support and financial autonomy also has side effects for work life balance;

Denmark is about family and children and social life...children come first. I mean childcare, nurseries and all that stuff is heavily subsidised, very cheap for the Danes because the taxation is so high so they get the things covered the other end...the taxation here is 57% on anything over DKK3, 800 a month. So a lot of people in Denmark pay 57% tax on the top bit. So if they came to us and said, would you rather have DKK2,000 a month more or a day off? Most people would take the day off because that DKK2,000 would be taxed at 57% so it is better value to have the day off. Not everyone would do that but most people probably would... (Tom, IT Consultant, Denmark, passive).

Fascinatingly, Tom links the Danish taxation regime to work-life balance. High tax rates mean people may shun pay rises and extra hours which will be heavily taxed, for time away from work. A further example of restricted financial autonomy leading to more freedom and choice within working life. The Irish version is characterised by lower taxes, more financial autonomy, more individual responsibility, and perhaps less working life choice. Linking institutional (tax, childcare, health) and societal factors (working time norms, less financial motivation) offers an expanded range of choices and mechanisms for the Danish workers to manage the demands of working life and limit the boundarylessness of autonomous work discussed in Chapter 7. From a general perspective, the security and sustainability of working lives in Denmark is less reliant on an individual workplace and individual compensation. It is perhaps here where the differences between the two samples' experience of security and associated stressors manifest. However both the Irish and Danish participants shared a view that, should they lose their job, they would find another one relatively quickly.

...even at the end of my stint with [previous employer]...I knew that I wasn't going to be out of work for very long if I decided to leave so as an industry in Dublin it has always been very buoyant. There has always been jobs available... (Peter, Software Development Engineer, Ireland, high strain).

It's intense, it is always in short supply....So no matter where you go, if you have experience you will always find work... (David, Editor, Ireland, active).

The bizarre thing is after the downturn in the economy...I don't know any of my friends who were out of a job for any length of time that there is a certain level of confidence that there is enough demand for people who are good in IT. That even if I did get let go tomorrow I don't think I would be spending too long looking for another job...I think there is just a belief that there is enough IT work around Dublin...(Colm, Technical Trainer, Ireland, passive).

I have never had a problem. Every time I needed something there has been one... I am a good developer, I know that (Lars, Senior Developer, Denmark, active).

Confidence in finding new employment opportunities was high amongst both samples. The message was that if you had the experience you would always find work. Employment opportunities within the IT industry in Ireland and Denmark were generally 'buoyant', even within times of economic recession. For the Irish participants, the feeling of job insecurity seemed to be offset by a belief in employment security. In negotiating some sense of security within their working lives and careers these participants seemed to trade off job security for opportunities for employment security. When discussing the nature of career security and sustainability in the IT industry the Irish and Danish participants seemed to describe it in similar terms - as something which is not necessarily linked to one employer. The stability, security and sustainability of a career in the turbulent IT sector thus hinges on the individual worker maintaining their own employability.

Employment in IT - arguably in many post-industrial occupations - is rife with 'low status control' (Siegrist 1996). Linked to self-efficacy, low status control relates to a threat to continuity of an occupational role and career sustainability i.e. job insecurity and career fragmentation (see Chapter 4). In line with Siegrist's (1996) ERI model critique of Karasek's (1979) D-C model which emphasises the importance of status control - as opposed to task control - in producing job-related strain, for many of these participants ensuring employment security is something which needs to be constantly addressed and negotiated. Boundaryless demands, organisational goals, job insecurity, and an unstable industry mean the workers themselves must seek stability (status control) through keeping a constant eye on future employability. For Stinchcombe (1997) the search for these 'solid enough futures' is institutionally shaped. In this case by an impatient, erratic, and marketised knowledge industry. The 'lack of future' in the IT industry means workers must ensure it themselves via the maintenance of employability and doing their 'own forward planning' as Rebecca put it. For the Irish participants in particular, security

is no longer linked to any one place. Instead it is based on ensuring their skills and experience are up to date and in demand, and they are proficient in the technology organisations will require. Security always seems to be in the future tense and, paradoxically, often requires mobility in order to keep up with industry trends and skills;

...the worries about changing jobs have been about progression, am I advancing, am I getting paid more and is my job security, well not looking necessarily at your job security as within a single company, it is across the industry. You know you are going to be able to move onto something else...You have to keep up skills absolutely. That is one of the reasons I left [previous employer]...I felt that my job skills were going to deteriorate while I was there...If I just sat on my laurels and didn't learn anything new that would be a greater impediment to my job security than the company I was working for...When I think of [current employer] I am secure in my job there but at the same time it has also given me the ability to invest in my skills so I am developing new skills and learning new things (Peter, Software Development Engineer, Ireland, high strain).

...somebody once said that you earn your salary working hours and you earn your career outside and I think that is probably true. A lot of the work I have been doing for the last many years and still it has been important to my company...that was a competitive advantage to them. So of course they gave me the time to do it...you have to communicate it on, otherwise it is worthless...a lot of it is on my own time (Jon, Enterprise Modernization Specialist, Denmark, low strain).

...I have been trying to change as a sort of self-education, I have been trying to force myself to change jobs every three years....Technically I have been working on nearly all platforms and I try to do most different parts of the work you can do in IT...Yes and pushed myself by using some of the skills I had but going for a new area every time...Yes self-development....Changing jobs, that is the only real way to do it (Karl, CTO, Denmark, active).

Peter touches on a number of prevalent aspects of the IT employment bargain. Security is not found in 'a single company, it is across the industry'. As such, learning new skills and keeping up to date with technological developments are key to 'progression'. This can occur on the job but also in the workers' own time. Jon highlights how his up-skilling was key to the 'competitive advantage' of his company but also meant 'earning' his career in his own time. Karl describes the mobility required in order to ensure self-development opportunities. These comments illustrated how employment demands can lead to an intensification of the experience of work in a number of ways; meeting targets, earning a salary, updating

experience, and earning a career. Peter blurs the boundaries of job security and employment security in noting that sitting on his 'laurels' and not learning anything new is a greater obstacle to job security than the company. This blurring emphasises the individualisation and internalisation of job security evident in how the Danish and Irish participants discussed their careers. For Peter, 'job' security requires that he is constantly learning and advancing while the company seems absolved of any responsibility. The employers part of deal is to provide opportunities to learn new skills, although this sometimes must occur in the workers' own time. The organisation, rather than providing any capabilities for status control, becomes the location in which an individual worker must enhance their own capabilities for employment. These employment rhythms of workers seeking 'status control' in an unstable sector may thus feed into boundaryless working time if not only jobs, but careers, are being earned. For the majority of participants, security is sought in their own employability rather than any company or workplace. This employability requires the interviewees to consistently focus on the experience being gained, and skills required in the industry. The company, or workplace, represents the site in which this may occur.

You constantly have to evolve or change in this business or you will die. And I think my little life bulb moment in the USA, seeing a room full of people who could be replaced by five kids from Ireland, that was a lesson I didn't lose. If you are not constantly innovating, if you are not constantly evolving... you will die. It is a cruel business (Derek, Head of Professional Services, Ireland, active).

...the company you work for is just a place where you sit and work... (Lars, Senior Developer, Denmark, active).

... trying to maintain a high level of visibility, if you don't you won't get noticed. If you don't get noticed you end up with a dead product or a dead career (Barry, Independent Software Consultant, Ireland, low strain).

...where I am today, the one man band that is managing himself but also looking for opportunities (Luke, Consultant, Ireland, low strain).

Negotiating some sense of career stability and control within an unstable industry requires the participants to become comfortable with uncertainty, and constantly 'evolve'. Exemplifying this, Derek recalled how he and a small number of colleagues

arrived in a company in the USA and realised that their technology could produce more output than an entire department, much of whom were laid off as a result. He elaborated; '...if you don't stay current and don't stay up to date you will become that dinosaur and you will be replaced'. Remaining employable means being aware of industry trends and experienced in sought after skills. Here the 'competitive advantage' of organisations fuses with that of the worker in the IT labour market. Consequently companies and workplaces no longer represent secure jobs, but rather locations in which to develop, 'get noticed', and 'look for opportunities'. Typifying this, Tom (IT Consultant, Denmark, passive) described a colleague who used an online team management system to make up 'tasks' which when signed off by managers would allow the colleague to use this time to learn new skills and techniques online. This represents a 'game' where work time is used to improve employability and potentially 'earn' a career. In line with this, participants in Ireland and Denmark noted that their loyalties and commitment were generally attached to customers and colleagues rather than the company;

The situation when you love your colleagues and you love your customers and you hate your company...That is quite ordinary...(Jon, Enterprise Modernization Specialist, Denmark, low strain).

In a world of an ever-present threat of restructuring or redundancies, the participants have responded by ensuring they are utilising their present insecure position to improve future employment opportunities. Thus an employment bargain of high task control, high pay, low job security, embedded within an industry typified by low status control, has de-linked security from the employer. In response participants pointed to their own employability - which requires constant renewal in line with industry trends and requirements - as an attempt to ensure some form of security. The risk here is an employment bargain - and working lives - which fuse the constantly evolving employee and market.

Much like the analysis presented in the previous two chapters which identified the antinomies of individual and interdependent labour processes, maintaining a sustainable and secure career in IT also has individual (employability) and

interactive (networks) facets. Employability relies not only on skills and experience but also on the cultivation of networks, and a positive reputation. Negotiating insecurity and employability within the IT industry therefore often involves emotional labour.

'It is Important What People Think of You': The Emotional Labour of Reputations

...the first port of call would always be your personal network and your personal connections. There are the hard and very solid ones and...the more modern technology enabled ones, your LinkedIn group, there is probably a good percentage of people there you are connected with. And either you or them have taken an initiative. The most likely way you are going to get in or get a job or get started in a new place is going to be through referral or a connection...a lot of people see it as being a technology thing, it is a human behaviour enabled by technology...So in LinkedIn I would be very active in managing my profile and sharing and making contributions and working with groups, Twitter to a lesser extent...I think you have to do that, all those things are important (Luke, Consultant, Ireland, low strain).

With job security at the mercy of market fluctuations, the interviewees repeatedly highlighted the importance of networks to their future employment. IT is a relatively young industry and the labour markets of Ireland and Denmark are similarly limited. As a result there are not many degrees of separation within the IT labour market. 38% of Danish participants acquired their current job via a personal contact while 53% of the Irish participants did. A key part of the almost disregard for the extent of job insecurity was the confidence in opportunities arising from networks. Ensuring employability is thus not only about skills and experience. It is also about contacts and relationships. Whether these are the 'solid ones' or the 'modern technology enabled ones', employment security requires the successful managing of networks of associates. In addition to 'evolving' with the required skills and technologies of the IT industry, maintaining networks and reputations places further demands on these IT workers to ensure their own career security. This locates the re-regulative demands of boundarylessness (Alvin 2008) within the employment bargain also. A de-regulated, insecure, and competitive IT labour market, transmits occupationally distinct employment rules, requirements, and

expectations onto the individual worker. Although these workers have flexible and mobile skills, the 'rules of the game' are primarily directed by organisational strategies and economic imperatives. Within this post-industrial employment bargain, individuals attempting to maintain functional working lives must contend with the antinomies of interdependent demands and boundarylessness time discussed thus far. However, these informal networks are part of the reason that participants had confidence in finding other work should they lose their job.

With every single solitary job except [previous employer] I was sought by people. It is a different balance, a different set of rules in that somebody you know or has respect for what you have done approaches you deliberately and seeks you, which is quite different modus operandi (Barry, Independent Software Consultant, Ireland, low strain).

...we are not that big an area. If you go to the people in my age plus or minus five who has been working in IT, I think I know all of them personally...you can find the crisis is over when your phone rings and says, 'I have this occupation free for someone, do you know someone?' And usually he knows you, this is a polite way to ask...(Karl, CTO, Denmark, active).

If you are good enough, you will find work. However the 'quite different modus operandi' does bring with it demands of employability which represent the other side of the abundant labour market coin. In order to hear about, and compete for, these job opportunities - which in reality often entailed getting a call from a former colleague of manager - networks and reputations need to be managed. This occurs mainly in two ways; technological and emotional. Technological networks were managed via LinkedIn which was a very popular employability tool amongst both samples. In Luke's statement at the beginning of this section he includes his LinkedIn group within his first 'port of call' when looking for a new job. Just under 40% of the total sample explicitly identified LinkedIn as a key resource in ensuring some form of employment security. However this tool also requires managing. Paul's (Principal Tech Writer, Ireland, high strain) description of the importance of LinkedIn and how it functions as 'a real network' raises a number of important points;

LinkedIn is fantastic for IT...it cuts out the whole old fashioned reference from your manager rubbish, people self refer each other...it is very transparent...Your reputation speaks for itself and you can in some ways manage your own reputation as well if you update your profile...it[reputation] is absolutely important, you stand over your work and you will be found out pretty quick because there is nowhere to hide. You have got to deliver...you are only as good as your last work and anyone can see what you have done, it is publicly available online....I think in the old days people were worried about what their manager thought of them....maybe you had a clash with your manager but maybe you got on really well with the other guys you worked with and what happens in LinkedIn is your mate is working in another company, he sees that you are either working for a company that is going nowhere, he sends you a mail and says, we are hiring...it is peer to peer more so...it is actually a real network in a way that you are trusting your network, you are saying I trust this guy, I trust his friends...I trust the guys he trusts (Paul, Principal Tech Writer, Ireland, high strain).

Firstly LinkedIn has decentralised the reference system as it relies more on public references from colleagues than the opinions of individual managers. The reliance on the opinions and personalities of managers are replaced by a peer to peer network. In terms of employability, LinkedIn almost becomes a transparent network of trust. Secondly, it has 'linked' networks with reputation in a single, publicly available space. The LinkedIn profile becomes a poster for the experience, skills, and reputation of the IT worker - which needs to be managed.

Fundamentally, LinkedIn has decentralised employment prospects via its networking potential. But in doing so it has also made reputations much more visible and therefore important to employability. The job security of the one-to-one employment relationship between a manager (as the proxy of an employer) and an employee has been replaced by the employment security of a one-to-many network of former and potential colleagues and employers. Thus, the employment prospects - and therefore security - of such networks are only as good as the reputation held.

I think it is important that you...did your job and did it well and you have a track record to prove it...I think it matters...it is very well known with a lot of developers but that is something you have to cash in on... because it fades...(Sven, Lead Developer, Denmark, high strain).

Somebody knows somebody....we are hiring a lot of people here and many of them come because somebody knows them and says, hey come here...it is personal stuff and personal contacts. It is important what people think of you. That is very important and I think that might be an answer to why young developers might not say I am going home. Because they might think that managers might know someone and that might reflect badly on me because I am going home...(Lars, Senior Developer, Denmark, active).

...if you have a reputation, like there is also the respect of your peers, if you are somebody who is writing software and you are not there on the night and something goes wrong, you will be very quickly known for that. So you wouldn't get away with that if...you want to have good relations with other contractors and other staff...I wouldn't have got the repeat work in [employer] without that (Frank, Software Consultant, Ireland, passive).

You are only as good as your last job (Luke, Consultant, Ireland, low strain).

Sven and Luke highlight the temporality of reputations where a good 'track record' can fade and you are 'only as good as your last job'. Just as skills and experience need to be kept in line with industry trends, reputations also have a short past. Ironically, maintaining a good performance level and positive internal relations in their current positions seems to have more influence on their future employment prospects than their current job security. Managing personal networks and reputations may therefore present another 'bandwidth issue' in that reputations within a one-to-many network - fundamental to security in an industry that 'lacks a future' - requires constant negotiation and presents its own employability-type demands.

Lars provides the most simple and fundamental point here; 'It is important what people think of you'. Just like autonomy within interdependent labour processes, employment security within IT is normally reliant on other people. Personal contacts and their perceptions of you as a worker are the bedrock of employment security for both Irish and Danish participants. Lars and Frank link the importance of reputations to boundaryless working hours as individuals feel they can't tarnish their reputation amongst their peers and managers, and thus avoid placing too many regulations on work demands. 'Being there' for colleagues often means both boundarylessness demands and a good reputation. These points illustrate the interrelation of all three antinomies of autonomy described in this thesis. Insecure

employability is underlined by the pressures of reputational capital and networks - which themselves rely on meeting boundaryless demands, being available for interdependent labour processes, and risking fusion of a work and non-work self. Furthermore, the different capabilities available to the IT workers to manage their reputations are embedded in the same resources used to manage interdependence and boundarylessness discussed in the previous two chapters. Reputations are underlined by expectations around work performance which, in turn, are based on socially structured norms relating to work practices, working time, management, work-life balance etc. As has been identified, these presented different contexts of resources for the Danish and Irish interviewees. Arguably, the less individually sourced capabilities of the Danish interviewees may present a weaker risk of fusion for these workers as reputations are based on more collective characteristics. However, this may present reputational issues for individuals who do not fit within these characteristics (i.e. the Janteloven of an IT employment bargain). Consequently, maintaining reputational capital in both contexts brings its own form of employability-related demands. One such reputational demand, which is vital to securing some form of status control, manifests in the form of emotional labour.

'Selling Yourself': Emotional Labour, Employability & Fusion

Perversely the networking benefits of LinkedIn may bring with it more demands on the participants in terms of 'managing' their reputation. If the participants' future employment commonly relies on reputation, reputation itself is shaped by how participants perform on the job and, significantly, how they interacted with colleagues and customers. The participants identified a number of varied instances and contexts in which this required emotional labour. Emotional labour originated in traditional service industries (retail, travel) where workers' feelings were expected to be managed in line with organisational goals and expectations (Hochschild 1983).

In the sense that I work with clients I have said to a very large extent that I would hide my feelings...I would work with clients so I don't show feelings... (Rebecca, IT HR Consultant, Ireland, high strain).

When you are contracting as well, no matter how bad a company is you can never say what is wrong or complain to them, it is out of the question, so you have to smile, keep working, send your invoice in and that is all you do...(Frank, Software Consultant, Ireland, passive).

...myself and colleagues are selling ourselves as individuals and saying, you have got to believe us, you are not believing in some large corporate here, it is down to us, it is personal, this is what we will do for you. And you know what, it won't go wrong because we are telling you it won't go wrong, we will do whatever we need to do to make you happy. So you are selling yourself I think now to customers....So there are three different audiences for sure (Niall, CEO, Ireland, active).

Whereas in the start-up or in the services company you are more concerned with the customer, if you know the customer pays the wages then you are kind of in less control. And even if the customer is a pig, that is it, he is still the customer and you put up with it (Luke, Consultant, Ireland, low strain).

...I don't think it is a problem for them that I had different hats. I think we have a very flat structure...They always will come but at the same time...I am still the CFO so it also means that sometimes of course I will have to get into character and say, ok now this is my position...The main thing is that I am a manager...that makes it easier because it is the same level of position I have in all my roles (Anna, CFO, Denmark, low strain).

Rebecca and Frank, both consultants whose employment relies on the contracts secured from clients and companies, portray how they must hide their feelings and never complain in order to provide themselves with the best opportunities for repeated employment. Instead of making full use of their knowledge, discretion, and influence, concerns about reputation and employability mean that even if they don't agree with aspects of their work they must 'smile, keep working, send your invoice in...'. Autonomy and organic feelings are impinged by a concern for employment security. Frank actually elaborated further on the need for emotional labour as a contracted software consultant which often took the form of biting his tongue rather than disagreeing with permanent staff members as 'you are not an equal'. He provided the example of his current manager who is about 25 years old, just out of college, has little industry experience and 'second guesses' Frank even though he has much more experience with the specific technology, yet he 'can't show any frustration'. This provides somewhat emotionally demanding circumstances for Frank on regular basis. However, on the plus side, Frank also noted that being a contracted consultant meant he could detach to a certain extent

from particular workplace cultures and getting over-invested in the fate of specific projects. For Frank, the nature of contracted consultant employment provides both protections and threats in relation to emotional labour. Anna, who is the CFO for a successful medium-sized software company in Copenhagen provides an interesting example of the need for emotional labour that comes with job expansion and an interdependent autonomy. Over time as the company has grown in size Anna has taken on a range of new duties which has left her as the fulcrum between various facets of the organisation (HR, finance, customer relations). In order to manage the various demands that come with this position, Anna reverts back to hierarchy and identifies herself as a manager and CFO first and prioritises from there. Nonetheless, in doing so, she notes that she does have 'different hats' and often needs to 'get into character' in order to manage these demands and the expectations of her colleagues. Here Anna provides an example of the emotional labour required due to the interdependence of her autonomy which entails a wide range of relational tasks within an expanding role.

Even more pertinently, Niall and Luke point to a process where workers' feelings become part of the business transaction between companies and clients. Due to the importance of reputation, the requirement for emotional management serves to align the needs of employers and employees. Luke interestingly points to a lack of control because it is the customer who pays the wages. If they are 'a pig' they just need to be put up with. Both organisational success and employment security are based on positive client relationships which are often maintained through emotional labour. In Niall's role, developers are often sent out onsite to clients to work with local teams and systems. As such the employer is essentially selling these workers 'as individuals' and therefore 'it is personal'. The emotions and personalities of the individual IT workers thus become part of what the organisation is selling. It is not just about skills and experience but also about relationships and rapport. The IT worker is to some extent the product being sold. These circumstances represent a merging of work and employment requirements and consequently serve to reduce the distance between workers' feelings and organisational goals. Further facilitating this reduction is the intrinsic pride many

participants have in their work. When completing their psychosocial work environment questionnaires, 88% of Irish participants and 79% of Danish participants agreed that their job was important to their sense of self-identity.

...you actually care, I mean you care about what you do, you give a damn and I suppose you feel good when you do a good job, not even because you are doing it to please your manager, just for yourself (Paul, Principal Tech Writer, Ireland, high strain).

Due to the importance of networks and reputations for future employment opportunities, the demands of autonomous work are permeated with the need for emotional labour. Interdependent labour processes require regular relations with customers, clients, and colleagues who are sometimes based in another continent. Employability prospects are based on a positive management of these relationships, alongside the maximising of up-skilling and networking opportunities. These IT positions present a curious mix of autonomy, insecurity, and intensity. The working conditions of the constant networker (e.g. consultant), or the developer being 'sold' as a package of skills and personality traits, represent an intertwining of organisational goals, work demands, employability motivations, and work-related behaviours and feelings. Where the expectations and demands of these employability practices become boundaryless, the feelings expressed in order to improve employment prospects can become indistinguishable from the self, leading to a 'fusion' of work and self (Hochschild 1983, Wharton 1999).

No it doesn't leave you because no matter who you meet, you don't know who your next client is. You could be out, not so much socialising but let's say in a sports club or something, you are still potentially that because that person or their brother or sister or husband, wife, could be your next client because you don't know where they are working or what their needs might be so one thing could come from another. So from a certain extent that persona is just only partially removed from the exterior...I am not going looking for it and that is the difference (Rebecca, IT HR Consultant, Ireland, high strain).

...I find I am very focused on work when I am here, don't do a lot of coffees, I do a lot of ten minute coffees as opposed to half hour coffees, I use my lunches for meeting people. For social catching up with somebody who is going to be good for me...or have lunch with my team because I haven't caught up with them for a while in ones and twos, so I tend to use the hours that I am here, they are very dense (Laura, Head of IT, Ireland, active).

...I am trying to postpone going out on Saturday or going to the private bar on Friday, the social stuff around, beer drinking and partying and all that, and I am trying to get out of that. I do once in a while but that is one of the sacrifices that you have to make....I know it is a big part of this, our culture, the social life after work....It is important for networking that you meet other people... if [current employer] decided to move to San Francisco, then I might think I need to find a new job...I am trying to attend as much as I can...I know there will be employers or other types of my kind...(Sven, Lead Developer, Denmark, high strain).

As Siegrist (1996) noted in his original ERI model, in circumstances of uncertainty and precarity, status control may be a more pivotal aspect of working life than control over work tasks. Maintaining some form of stability in an industry which 'lacks a future' presents employability demands for the participants. Eloquenty put by Rebecca, her employment security relies on a work self being 'only partially removed from the exterior'. This provides a perfect example of potential 'fusion' as even during leisure time where she is meeting friends she is always aware that her next client could be in the room. During non-work time, the demands and requirements of organisations as potential employers are always present, and consequently so is her professional persona; 'you are still potentially that'. In such a context, professional emotions and feelings may become indistinguishable from the self. This is partly due to the nature of consultancy as an occupation but it is also the result of the type of contracts available and the inherent job insecurity within the IT industry. Remember Rebecca was the one who commented earlier that permanent doesn't mean a whole lot anymore. Laura describes work based behaviour which links the intensity of work time to potential fusion. Allocated break time from the demands of work is actually used to further work and employment purposes. Thus non-work time is replaced with social interactions that are 'going to be good for me'. The 'good' here is entirely in sync with the needs of the team and the organisation. What is 'good' for the organisation is implicitly also viewed as 'good' for Laura's performance and employability. Sven also provides an example of the balance that needs to be struck between employability and the self. In fact the effort required here may be evident in his contradictory comments where on the one hand he states he is trying to postpone attending lots of work social events but then claims he is trying to 'attend as much as I can'. The social life around IT teams

is seen as an important opportunity to build networks and contacts, and therefore hugely significant to employability potential. Sven is aware of this but is trying to cut back on the number of events which cut into his non-work time. Yet his acknowledgement that his employer could move to another country means he is constantly aware that he may need to call on his network for employment opportunities in the future. Subsequently, he is trying to balance time away from a non-work or non-networking self with the maintenance of employment prospects. Luke (Consultant, Ireland, low strain) also noted a time with a previous employer where he had given up drinking, yet as the team lead felt he had to go out with the team to the pub on Friday after work; 'I continued to go to them, you have to...'. These examples present an institutional context where constructing 'solid enough futures' (Stinchcombe 1997) relies on the use of most of the participants' time to prep for work or future employment (Davies 2015).

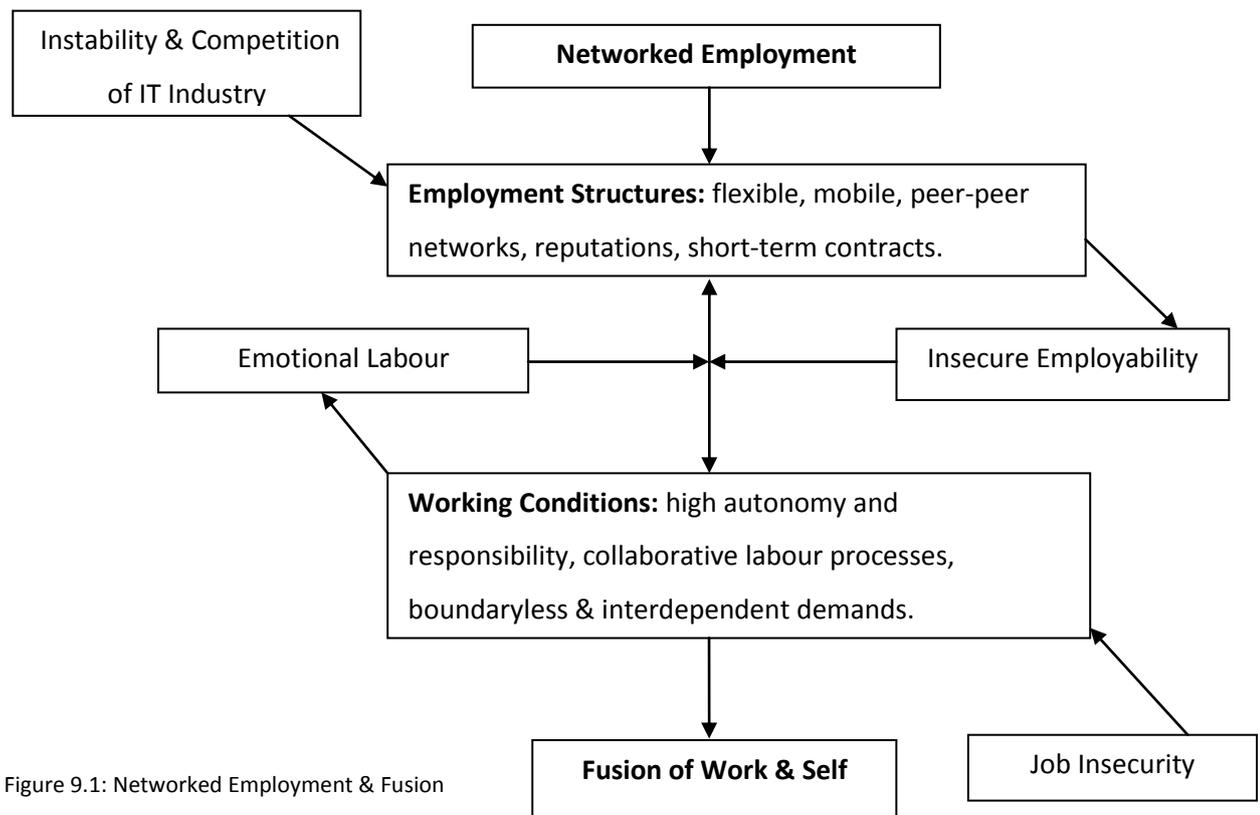


Figure 9.1: Networked Employment & Fusion

Thus, as depicted in Figure 9.1, employment opportunities have become less reliant on single organisations. Embedded in an unstable IT industry, employment structures built on networks, reputations, and mobility have led to an ideology of individualised and insecure employability. This is evident in many of the interviewees comments on the nature of security in IT. Organisations therefore offer jobs and working conditions that are insecure yet high in autonomy, pay, collaboration, and learning opportunities. Within the employment structures noted, this creates demands for emotional labour in order to manage collaboration in the present position, and reputations for future employment. The participants described numerous ways in which networks and reputations - underpinned by emotional labour - are pivotal to a sense of employment security in an industry permeated by instability. Much of the 'constructing' of stability and security is falling on the individual IT workers. Acknowledging the relative insecurity of jobs, the participants noted that they must take advantage of organisations in terms of maximising their learning, up-skilling, and networking opportunities. Employers thus become a site for ensuring future employability rather than present security. Meeting demands and delivering on targets, which are organisational motives, become tied to worker goals and lives via the importance of reputation to career progression. Employment security therefore requires IT workers to keep up to date with industry trends and requirements (up-skill), meet organisational targets (deliver), grow networks of associates, and relate to customers and colleagues in such a way as to not harm their reputation. Underpinning these processes are emotions and feelings which are becoming less and less distinguishable from those required by economically motivated organisation. Thus the demands of employability bring with them the potential for 'fusion' where the emotions, feelings, and behaviours of workers become entirely synced with those required for both employers, and their own future employment. Here, prospective strategies of individual employability intersect with present demands of emotional labour.

'Juggling': Role Expectations & Gender Inequality

The interrelated antinomies of autonomy - boundarylessness, interdependence, and fusion - present the participants with a shared array of additional demands and expectations in terms of working conditions, labour processes, and employment security. Despite the low numbers, there were some notable differences for female IT workers in the sample with regard to positions held, working life demands, and career trajectory. This experience was further differentiated by the balancing of work expectations with caring responsibilities, themselves shaped by the 'capabilities' (Hobson 2014) embedded within Irish and Danish institutional structures.

...it is funny to say that because I love people but maybe it is just because the roles I put myself into, I am dealing with so many different personalities. When you have got that client relationship you have got all sorts, you have got the really difficult clients that just ring all day every day but then you have got the really sweet ones that you love talking to. But yes probably around people generally, so the stressors would have maybe around the different personalities...(Lisa, Senior Compliance Officer, Ireland, passive).

Comparing the women and men in the sample, it is striking to see the types of roles taken up by the seven female participants. Every single one is in a position where the primary duties are communication and management, rather than technical or developmental. As Lisa points out, the roles she ends up in are generally about dealing with different personalities, which brings its own emotional labour type stressors. Rebecca (IT HR Consultant, Ireland, high strain) spends most of her time training in relation to IT HR issues, Laura's (Head of IT, Ireland, active) position - despite being called 'Head of IT' - is essentially managing various project leaders, while both Emily (Project Manager, Ireland, active) and Mary (Project Manager, Ireland, high strain) are project managers. Similarly, Anna (CFO, Denmark, low strain) and Karen's (IT Consultant, Denmark, passive) responsibilities are in relation to dealing with colleagues and customers rather than technical services or products. While Anna must negotiate her 'different hats' in dealing with different sections of the company, Karen's position involves being the link between

customers using software and developers seeking to improve the system and fix any bugs. The disparity between the roles taken up by men and women in her company was not lost on her;

It is not that equal though...they still talk about it as an issue of making it more equal, pay wise as well...Sometimes for the same job as well it is not equal but most of the time they try and compare it with the same sort of, like if you have got a male dominated job or a female dominated job, and they have had the same amount of years studying, then it wouldn't be paid the same still...we have three female developers and the rest are male, and we have about twenty of those I would say. And in our department, which is the business consultants, it is vice versa, we have seventeen and two of them are men, because it is a more, I don't know if you would call it touchy-feely job, but it is a communicative job. You have got to please one part and please the other part, so we do that well...talk this language with this person, and talk that language that they understand because beforehand it was developers speaking directly with the clients and they had no idea. So that is basically through words, written or spoken...(Karen, IT Consultant, Denmark, passive).

Karen points to what Holt and Lewis (2011) have called 'sliding gender segregation' and Grosen et al. (2012) refer to the naturalisation of gender segregation in the workplace. This describes a process where women with similar skills to men end up 'sliding' into particular positions which bring specific responsibilities, and often limited technical experience, and unequal pay. Due to the demands of insecure employability, this 'sliding' not only impacts work experience but also career opportunities. The development world seems to be a male one, whereas the world of 'words' (written or spoken) is female. In the IT industry, ability with 'words' is worth less than technical ability, reinforcing gender inequality in pay. Trying to explain the reasons for this Karen noted that most of the women in her company had developed their IT skills on the job, whereas the male developers had taken a formal education and had come into the job with technical skills. This contrasts with the educational profile of the Danish interviewees in this study where most of the training occurred on the job. Karen's hope is that more women will begin learning these technical skills during their education. Emily (Project Manager, Ireland, active) thinks women are more suited to management. Using herself as an example she described how she could 'see' what was going on in her team 'on the emotional level' and how people are working together. Whereas her manager, who is male, would not see this at all.

....I think women have certain skills that are very suited to management (Emily, Project Manager, Ireland, active).

Emily described a major element of her job as coordinator of project managers as 'asking people to do things'. This is a skill she feels she has a natural inclination towards whereas the males in her team are better at the technical aspects of the job. Expanding on this she also provided an example of how such distinctions can lead to a segregation of tasks between males and females in teams. When a solution has been found to a technical problem, she noted that she is more often than not the person who will document this solution. The male developers who came up with the solution have no interest in documenting it because they 'could come up with it again in a second'. Here Emily links her weaker technical skills to the gendered segregation of project tasks. Her willingness to document it, and her male colleagues disinterest, is perpetuated by the gendered distinction of skills which she identified previously. This, in turn, consolidates the gender essentialism underlining her thoughts on male and female skills. Elaborating further she noted that within the scrum teams in her company, the scrum-master was often the woman on the team. Discussing the barriers for women advancing to senior technical positions in IT, Emily pointed to the incompatibility of work and care expectations.

Well it is a barrier to women in work...Who wants to have their child in a childcare facility or with a child minder for more than eight or nine hours a day? Not many people. So if a manager position generally requires you to work, maybe it is perceived that you have to work nine hours a day, you are thinking my kids deserve more than that, I will just keep doing my job that I am doing because I can do it well and then I have time for my kids. So it is that kind of juggling that might be a barrier as well. I mean that might be the barrier that I see in my head until it was suggested to me, no you could so do management...I was probably thinking I am not putting myself forward for management because I would have to work more... and my kids are more important than that. So that might be a decision that a lot of women are making in their heads, my kids are more important than my career (Emily, Project Manager, Ireland, active).

Emily had recently been informed that she was being promoted to a higher management position. A position which she was not applying for until a senior colleague encouraged her to apply. Discussing her initial reluctance in relation to

the 'juggling' of childcare and a career, she identifies barriers based on the expectations of what a management role would require, particularly in terms of porous time and demands. Expectations underpinned by the antinomies of autonomy discussed throughout the thesis i.e. boundaryless time and demands, linked to a broader network of interdependent tasks and responsibilities. As noted in Chapter 8, children are often a protective sanctuary from work demands. For Emily, the demands of management positions would mean impinging on this boundary. Due to the continued dominance of the female caregiver role, Emily believes women may be more cautious in their career progression choices as their time and attention is divided between children and the job. Women may be more hesitant to apply for manager roles unless they are certain they can incorporate it into the temporal rhythms of their current working life. This cautiousness may restrict their opportunities to up-skill and enhance their employability prospects.

In terms of ensuring employment security, women with childcare responsibilities cannot allow their 'selves' to be wholly dedicated to maximising work and networking opportunities. In general, the demands of work and employment in IT highlight the difficulties in balancing work and family roles - for men and women. The gendered and patriarchal nature of these working practices are evident in the difficulty dividing time between work and family. Thus, many of the working lives of this sample are underpinned by traditional gender roles whereby men dedicate more of their time to meeting work demands - to the detriment of family time, and women dedicate more of their time to family responsibilities - to the detriment of their careers. Even where women dedicate their time to work, they face gendered barriers. The antinomies of autonomy actually delineate the barriers to women's advancement in the IT industry. Boundaryless and interdependent work demands, and the limited employability prospects of 'sliding gender segregation', restrict women's capabilities via self-fulfilling constraints; the incompatibility of IT work and caregiver expectations and demands, and a gendering of workplace roles and opportunities based on these incompatible expectations.

In balancing the demands of childcare and work autonomy, the effective choices and options offered by the different institutional contexts form the nature of the stressors arising for women. Consider the following two statements from Emily (Project Manager, Ireland, active) and Karen (IT Consultant, Denmark, passive) on balancing childcare and work,

That is made much easier over here. First of all I had maternity leave for a year with nearly full pay all the way through. And then after that there was day care facilities which were easy. So not a problem really...we are allowed to take a day off to organise care for the child if the child is sick. And the possibility of working from home as well...people here, if somebody calls you to a meeting at 3:00 but you have put into your calendar that I need to leave at 3:00 because I need to fetch my children before the day care closes, that is an accepted excuse for not coming to the meeting. Pick another time. Family is prioritised a lot higher than your work...(Karen, IT Consultant, Denmark, passive).

With help from my parents and child minders...I had four baby sitters last week, I used four different baby sitters...It is a lot of juggling yes, you get used to it. It can be a little bit stressful sometimes because you think, 'oh who is minding the kids tomorrow, will they be ok, will the child be ok, will they remember to give him dinner, will they this, will they that?' ...It is ok but it is ok because you have made it ok because you have juggled and you have got all this plan A, plan B, you have got a plan C sometimes, you have this one dropping and this one picking up...I am one of the lucky ones, I live in a small town, my work is 25kms so it is 20 minutes' drive. My child minder is in the same town, my parents are in the same town. I know different baby sitters I could call on if I needed them in that same town (Emily, Project Manager, Ireland, active).

The contrast between the two statements is striking. Karen describes a context where balancing childcare and work responsibilities is easy due to maternity leave of 'nearly full pay', almost entirely tax-subsidised childcare facilities, flexible working arrangements, and the prioritisation of family over work, which serves to reinforce the strength of children as a protective space from the demands of work. This provides another example where the high tax rates in Denmark can be linked to higher work-life balance through childcare facilities assisting in the maintenance of boundaries between work and non-work life. In terms of the dynamics of autonomy, the participants give up some financial autonomy (high tax rates) to fund collective capabilities which can be utilised to manage the demands of autonomous working lives. The 'self-regulation' of autonomy in Karen's working life is actually enhanced by collective regulation. Emily, on the other hand, paints a

picture of constant 'juggling' in order to ensure her children are taken care of. Ironically describing herself as 'lucky' because her parents and child minder are in the same town and work is not too far away, Emily must constantly negotiate the demands of childminding at an individual level; '...it is ok but it is ok because you have made it ok'. The stressor of ensuring there is a 'Plan C' stands in stark contrast to Karen's comment; 'not a problem really'. For the former, the self-regulated demands of childcare are a considerable strain on her working life. For the latter, publicly funded childcare becomes a resource in work - non-work boundary regulation.

The relationship between childcare and 'fusion' is a complex one. Negotiating the balance between employability and the self is different as the self is always partly a caregiver. In some ways the demands and expectations of the traditional caregiver role protect women from the risk of 'fusion'. Yet, these same demands and expectations reinforce the structural barriers for women looking to advance in IT due to the incompatibility of caregiver and 'good' IT worker roles. Self-selecting out of senior positions and the IT industry altogether, or 'sliding' segregation, are the results of gendered expectations and the demands associated with insecure employability in the IT sector. Balancing work demands with traditional care-giver responsibilities represents a stressor for the Irish women which is negotiated almost on a daily basis. The capabilities provided by the Danish context (paid maternity leave, publicly funded childcare, work-life balance) convert to resources for managing the demands of work and family. However they do not seem to mitigate the gendered barriers of IT work.

Conclusion

The IT Industry is unstable and as such feeling secure and having job security are not necessarily the same thing. The Danish and Irish IT workers were confident in their skills, experience, and ability to find work, yet this does not translate into a feeling of long-term job security. The participants, particularly those in Ireland who

had experience with redundancy rounds, acknowledged that takeovers, outsourcing, and restructuring were always lurking round the corner and they had no influence over organisational strategies which impinged on their job security. Paradoxically, job security was both irrelevant and a stressor. In order to ensure some form of mastery (status control) over their employment and career, the participants described how they must take advantage of most up-skilling and networking opportunities in order to construct 'solid enough futures' (Stinchcombe 1997). Security itself needs to be achieved. In a context of organisations jockeying for competitive advantage in the market, individual IT workers must find their own competitive advantage. Responding to the uncertainty of the IT industry, the participants focus on their own employability, which must be maintained. Key to this is not only skills and experience but also networks and reputation. Relationships (technological and real) with customers, colleagues, and associates present potential sources of employment which must be managed alongside day to day tasks. LinkedIn was identified as a 'true network' where peers can assist in presenting employment opportunities. However the participants must manage this public network and reputation in order to 'put their best foot forward'. Within the LinkedIn format, there is even a politics of endorsement where reputations are built on individuals endorsed also. Employability thus relies on an individual's reputation, based on skills, and interaction with customers, colleagues, and clients. This often requires emotional labour.

For these IT workers, ensuring employment security is linked to organisational goals via the need for positive reputations emerging from interactions with customers and clients. In other words the feelings and emotions required by organisations become synced with the feelings and emotions required for employability. This can lead to a significant reduction in the distance between work and non-work behaviour. Attempting to ensure employment security can often involve work being 'only partially removed from the exterior' (Rebecca, IT HR Consultant, Ireland, high strain). The participants must often negotiate a balance between employability and 'fusion' (Hochschild 1983, Wharton 1999) in order to counteract the insecurity of a

career in IT. It is these demands of employability which lead to the inequality between men and women in IT in the Irish and Danish samples.

In both countries women tended to take up the more communicative and management roles within IT companies. Even within the same team, Emily (Project Manager, Ireland, active) noted that women tended to do the documenting and managing rather than anything technical. This segregation also leads to a segregation of employability opportunities. For Emily, this inequality is strengthened by women's reluctance to apply for senior management positions due to a perceived inability to meet the expectations of boundaryless demands and interdependent labour processes, as well as meet the demands of childcare. The persistence of traditional gender roles in the home thus restricts women's ability to meet the up-skilling, networking, and reputational demands required to ensure career progression in IT. In a context of job insecurity and traditional gender stereotypes, the consequence is often 'sliding gender segregation' (Holt and Lewis 2011) or women falling out of the IT industry altogether. The stressor of work-life conflict for women in traditional care-giver roles is formed by the entitlements available in different institutional contexts. Karen (IT Consultant, Denmark, passive) and Emily (Project Manager, Ireland, active) present strikingly contrasting experiences of balancing work and childcare. Emily emphasises the stress of 'juggling' childcare 'plans' and work demands. For Karen it is 'not a problem really'. Emily's self-regulation in terms of childcare is actually a stressor. Karen's autonomy within her working life is aided by higher levels of regulation i.e. high tax rates funding childcare facilities and maternity leave. While these institutional and social capabilities do not seem to eradicate the structural barriers impeding the career advancement of the women in this study, they do equip them with different sets of tools to manage the stressors arising from the incompatibility of autonomous IT work and childcare.

Deregulated conditions pervade the working practices (discussed in the previous two chapters) and the employment bargain of these IT workers. Networked employment offers high pay, up-skilling opportunities (mainly for men), and

flexibility. However, the employment structures of an unstable, competitive, and heavily marketised industry built on networks, reputations, and mobility has led to an ideology of individualised and insecure employability. Embedded within the requirements and goals of organisational economic imperatives and market competitiveness, the workers must 'regulate' (i.e. construct) their own security and stability (Allvin 2008). These regulative strategies lead to an intensification of working conditions and practices. Within the insecure employability of these autonomous working lives, stressors emerge where networks, reputation and emotional labour need to be regularly negotiated in order to balance the needs of employment security, and a non-work self. The intensification of current work opportunities for future employability constructs - and is constructed by - the antinomies of boundaryless working time and interdependent labour processes.

Chapter 10 Conclusion: Converging Antinomies, Diverging Capabilities

Introduction

The relationship between working conditions and psychological well-being is a complex one involving individuals, environments, events, processes, experiences, and responses. However the increasing popularity of resilience training and mindfulness can serve to keep the structure of working conditions in the dark. In recent years companies have developed elaborate employment assistant programmes (EAP's) which have become an almost standard response to issues around mental health and work. However the source of these issues may originate in the same place as the EAPs - the work. This thesis has attempted to shift working conditions and their contexts into the analytical spotlight. Working lives comprise a package of institutionally shaped bargains affected by employment policies, health and safety legislation, economic regulation, welfare policies, organisational procedures, occupational practices, and working conditions. The demands, resources, and stressors of these packages represent the socially structured conditions of working life.

Central to the notion of job quality, and the relationship between working conditions and well-being outcomes, is job control. Research from various scientific fields has identified perceived control as a psychosocial resource which buffers the emergence of stress outcomes (Gallie and Zhou 2013, Pearlin 1989, Ross and Mirowsky 2013). While modern modes of work organisation have seen a widespread increase in levels of job control for most workers (Green 2006), this has been accompanied by increased levels of intensity, insecurity and cognitive workloads. The question thus arises whether the nature of autonomy at work has changed. Studying the mechanisms and potential hazards of autonomy presents an opportunity to qualitatively unpack this crucial working condition. This study uses IT

based roles to investigate the ways in which autonomous work presents its own unique stressors of working life, the intricate strategies of managing the responsibilities and demands of highly autonomous work, and how these practices are filtered through the effective choices and options embedded in different social contexts. Autonomy is relational and interdependent. The organisation and features of modern economic life and the nature of the demands placed upon working lives are so interconnected that autonomy at work is never the possession of one individual. As the threshold between work and non-work life becomes increasingly indistinct, so have the boundaries protecting autonomy at work. Techno-economic advancement, networked production, organisational flexibility, and the hegemony of the economic imperatives of the abstract, ever-present market (Ó Riain 2010), have rendered autonomy a novel contested terrain (Edwards 1979) of modern working life. How this contestation becomes negative for workers is really what this study is all about.

Autonomy and Demands in Context

Data from the EWCS consistently points to different types of working conditions for Irish and Danish workers. Most notably higher levels of autonomy for Danish workers and higher levels of intensity for Irish workers. Utilising a D-C framework (Karasek 1979) to compare key psychosocial working conditions for the Irish and Danish samples in this study, the distribution of IT workers also displayed higher levels of decision latitude for the Danes and a higher level of demands for the Irish workers. Most interesting is the finding that higher levels of job decision latitude are associated with higher levels of job demands in Ireland but not Denmark, pointing to a different set of mechanisms linking autonomy and demands in both countries. It also illustrates the changing nature of job control and discretion within a post-industrial working context as the experience of the Irish sample suggests higher levels of decision latitude bring with them a higher level of demands. For these workers the dynamics of autonomy do not behave as predicted by theoretical

models from occupational health psychology (Karasek 1979). The impact of these working conditions on job-related feelings also presented some surprising results.

An analysis of the job-related feelings of the IT workers, using Warr et al.'s (2014) affect quadrant circumplex, found a surprisingly wide range of scores for feelings of enthusiasm, excitement, inspiration, and joy (HAPA) for the entire research sample. Feeling calm, relaxed, and at ease (LAPA) was similarly wide ranging, but only for Ireland. These IT workers who are in roles with high levels of discretion, learning, and responsibility, do not regularly feel anxious or tense, or excited or enthused. Thus an analysis that went looking for the anxiety and stress of autonomy actually found a lack of enthusiasm, excitement and calm, especially in Ireland. There is little to no unpleasant feelings felt at work at both high (anxiety, tension) and low (depression, dejection) activation, across all D-C quadrant conditions. Emphasising the role of working context, the more positive Danish working conditions seem to translate into a higher frequency of pleasant feelings. Pointing to the influence of high work demands - underpinned by moderate-strong positive association between high decision latitude and high job demands - it is unsurprising that Irish workers report less frequent feelings of calm, relaxed and at ease at work and a slightly more frequent sense of anxiety and tension.

Exemplifying the utility of the Warr et al. (2014) model, a relative absence of unpleasant feelings, does not equal an abundance of pleasant feelings. For these IT workers, 'job strain' conditions are not experienced in the form of anxiety, tension, depression, or worry. If strain is evident, it is in the form of a lack of excitement, enthusiasm, at ease, or calm, and it is more evident in Ireland. This points to an experience of autonomy impinged upon by a range of demands which limit feelings of excitement and calm for the Irish workers. As the qualitative analysis details, the mechanisms underlying the antinomies of autonomy (e.g. quantitative targets, deadlines, colleagues, managers, and employability) can perforate the assumed positive consequences of autonomous work. In other words, because autonomy is relational, interdependent, and associated with boundaryless demands, the ability to manage these conditions also influences the feelings associated with work. The

analysis of working conditions and job-related feelings for these IT workers indicates an intensity of working styles and range of demands which now permeate - and are even augmented by - the autonomy these workers have. An autonomy constituted by the effective choices (Hobson 2014) available within the conditions of working life for the Irish and Danish IT workers. Just as Bell (1973) pointed to different institutional responses to the common questions of post-industrial society, the findings of this study illustrate the dissimilar capabilities used to respond to the common antinomies of autonomy for IT workers in Ireland and Denmark.

The Antinomies of Autonomy

Figure 10.1 presents the three decisive antinomies of autonomy (interdependence, boundarylessness, and fusion) emerging for the research participants in Ireland and Denmark as they negotiate the effort, time, and employment bargains of post-industrial work. Unpacking the complexity of these working conditions and the participants' strategies, the findings illustrate not only the balance that must be negotiated for these workers between the rules, responsibilities, requirements, and resources (Allvin 2008, Giddens 1984, Hobson 2014) of autonomous positions, but also the mechanisms linking these balances with the three potential stressors. Put simply, autonomy can facilitate stressors of working life.

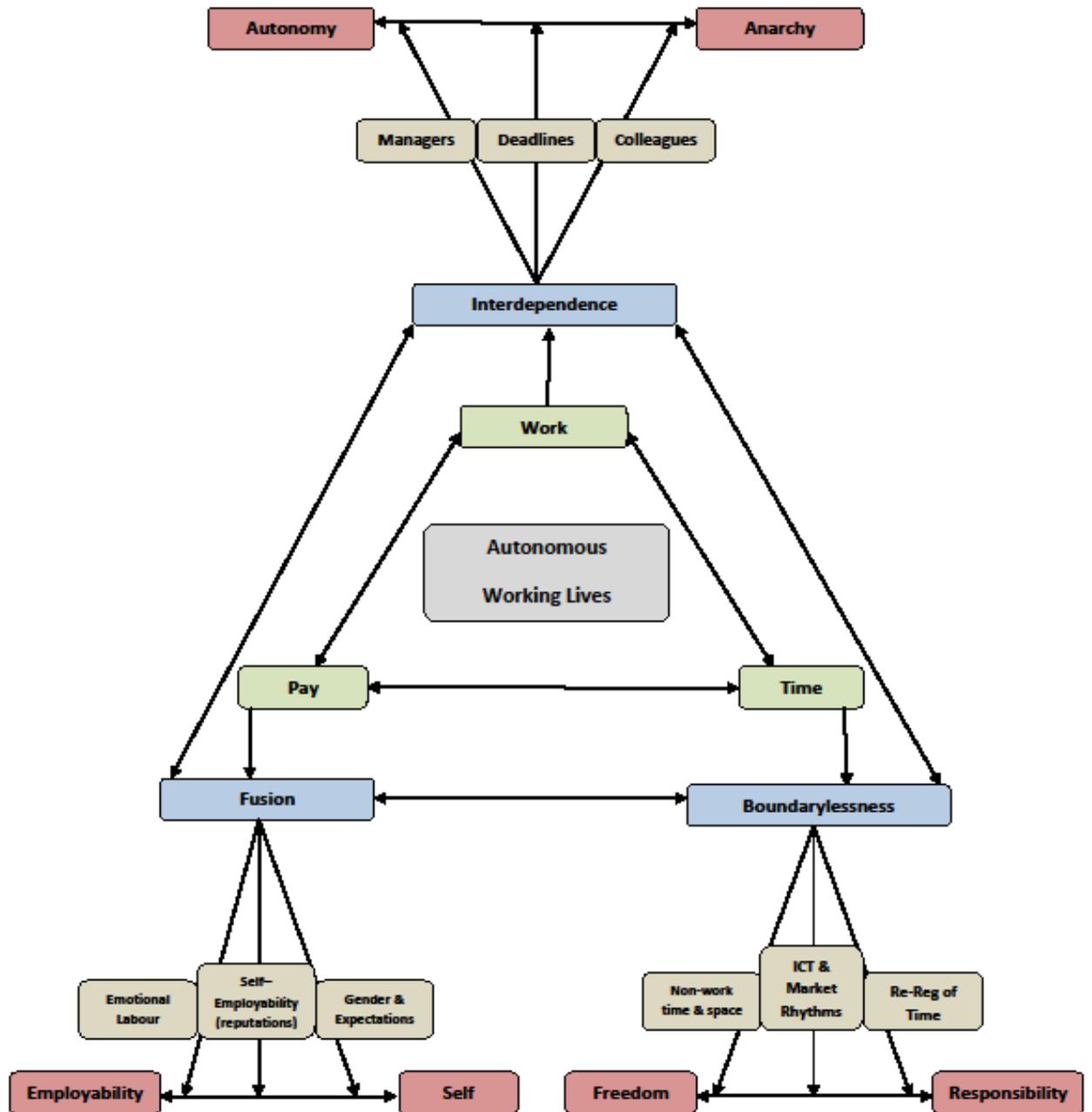


Figure 10.1: The Antinomies of Autonomy

Interdependence

Between the autonomy and anarchy that comes with a labour process involving multiple interconnected workers across occupational, organisational, and national boundaries, all of whom have high discretion over their tasks, the findings highlight how IT workers' experience of autonomy is often at the mercy of its interdependent nature.

The labour process of IT work is simultaneously individual, interactive, varied, and interdependent (Benson and Brown 2007, Lund et al. 2011, Perlow 1999). The interviewees' experience of autonomy is therefore regularly pierced by the quantitative demands of organisational goals ('making the numbers work'), ensuring their daily tasks are completed, colleague requests, customer demands, and management styles. The demands made of the participants are actually complicated by the presence of autonomous colleagues and associates within the labour process - each of whom have their own numbers to 'work', colleagues to work with, and managers to please. High autonomy within these labour processes often meant low associational control (Hvid et al. 2010). Irish and Danish IT workers referred to the interruptions of colleagues as a significant influence in their working day, as well as the typical 'one-to-many' relationship between themselves and their various customers ('the bandwidth problem'). The over-arching frame here, and probably most significant demand for the interviewees was the deadline.

Interestingly both the Irish and Danish IT workers identified the deadline as artificially constructed. However, and importantly, Irish workers still seemed to work (intensively) towards the deadline as if it were fixed. Whereas the Danes were more likely to treat an artificial deadline as fictional and therefore flexible. The instrumental mechanism shaping these differing processes is the role of manager.

Danish participants described a number of examples of managers pushing back against unrealistic deadlines with one Danish manager explaining his tactic of adding an extra month when initially timing a project - even if it will not be required. A case of fighting fiction with fiction. Management of IT projects in

Denmark seems to bring with it some mandatory tasks in terms of organisational time-use, communication, and taking account of workers' private lives. If work time is more bounded within an industry which is inherently boundaryless, organisational planning is paramount for managers. This context may actually provide Danish IT workers with more power to contest the deadlines of organisations. If working time is acknowledged as limited; deadlines, timeframes and managers must take this into account. In effect this represents a positive feedback loop where bounded time requires organisational planning, which requires necessary management tasks, which includes respecting the private life of workers, resulting in a more powerful contesting of deadlines and a restriction of boundarylessness. Here the collective synchronisation of associational control (Hvid et al. 2010) is sourced within the norms and capabilities of the Danish institutional context. For the Irish participants, management seemed to be much more individualised i.e. entirely based on the personality, expectations, and style of the manager. Consequently, Irish participants provided many more examples of managers who were identified as the source of stress due to unpredictability or unrealistic expectations. In some ways a more limited autonomy for the Danish managers (i.e. standardised and scripted) provides a more protected autonomy for the IT workers. A wholly protected and bounded autonomy within IT labour processes is impossible. Due to this relational nature of autonomy, it can actually become a facilitator for, rather than protection from, stressors of work; '...the things that generate the stress and the pressures tend to be the behaviours of the source of demand, whether the source of demand is your internal or external customer or your boss' (Luke, Consultant, Ireland, low strain).

Boundarylessness

Between the freedom and responsibility that comes with high levels of control over work hours and locations, the study specifies the antinomy of boundarylessness (Allvin 2008) further in illustrating the various ways in which the IT workers studied re-regulated their work and non-work time and space.

Flexibility, which assists the Irish and Danish workers in managing work and non-work demands, coexists with the responsibility to participate in often international labour processes, meet deadlines and performance targets, and be available to colleagues at an almost ever-present rate. This particular combination of individual flexibility and accountability leads to the deregulation of work and non-work boundaries, which require re-regulation in line with individual working lives. Firstly this entailed the re-regulation of work time. While offering examples of 'time-work' (Moen et al. 2013), the interviewees actually extended this argument by pointing to it as a necessary skill rather than just an inevitable strategy. The participants must 'make hours', 'manage' their work time, and 'time well' in order to avoid sleepless nights. Working conditions with high control over *work time* inevitably lead to the need for more *time work*.

Working rhythms (Hvid et al. 2008) are contoured by the regulation of a work time which permeates the entire day. The shape of these self-managed rhythms is also dependent on their connection to the volatile rhythms of the market, and the workers' ability to construct temporal spaces which can resist the pressure of these work demands. The 'intimate' (Gregg 2011) reach of market-dictated work demands via various technological routes (especially the smartphone and laptop) combined with the accountability of their autonomous position, leaves these workers' lives in danger of being composed by the cadence of capitalism (Berardi 2009). The rhythms of these working lives become increasingly accelerated (Rosa 2015), and shaped by the link between the market and their phone. The deferring of present non-work time - sometimes holidays - to avoid future (potential) intensification thus becomes a rational decision. In such circumstances how the participants disengaged with work becomes a vital element of the stressor process. Not only is work time re-regulated, but non-work time and space must be created and maintained to avoid any negative outcomes, or what Berardi refers to as a 'cognitariat' (workers whose labour is mental) form of alienation (2009). The participants identified a number of non-work environments or 'demarcations'; children, different clothes, de-synced work emails on phone, laptop left in a different room, and the commute.

Irish and Danish participants were both required to do 'time-work', but there were distinctive differences in the strategies available to each sample. Perhaps due to a long history of collective bargaining around work issues such as time, Danish working time - even in IT - was described in terms which were bounded, as long hours were linked with negative outcomes for employers and employees. The Danish emphasis seemed to be on organisational 'time work' in order to fit the extensive demands of IT labour processes into a standard working week. Danish participants' construction of non-work environments involved more collectively oriented solutions such as the expectations associated with a good manager (taking account of worker's private life), the importance of a good transport system which turns the commute into an extended office but avoids demands coming home, and a generally negative perception of the value of really long hours. The two most striking differences in the boundary construction process were that managers in Denmark seem to have to take into account the private lives of their workers in order to maintain a satisfied work team, and the responsibility for compartmentalising took on a more organisational or collective form in Denmark whereas the Irish participants described much more individually shaped solutions. The collective norms described by the Danish participants arguably provide a more powerful defence against the boundaryless demands of autonomy.

Fusion

Between the requirements of employability and the self, IT workers in Ireland and Denmark must find a balance between the network, reputation, and emotion management of employment security, and the requirements of a non-work life.

IT workers have been at the forefront of the volatile nature of capitalist markets and thus are all too aware of the non-permanent nature of their positions and the conditional nature of their employment (Cushen and Thompson 2012, Thompson 2003). Many of the Irish workers spoke of their experience with outsourcing, redundancies and organisational restructuring - all of which they had very little control over. Whilst both Irish and Danish respondents were confident in their skills

and abilities, they were rarely convinced of long-term job security. However this indeterminacy also leads to an intensification of the present with a constant eye on the level of skills and learning opportunities being gleaned from the current job. As such, mobility is a common career characteristic with one Irish respondent breaking his career into 'laps'. Security is future tense in IT and in order to maintain some form of 'status control' (Siegrist 1996) individual workers consistently sought to ensure their own employability.

However in the interconnected world of the IT industry, employability relies not only on skills and experience but on networks and reputations which must be managed in order to 'put their best foot forward'. Technological (LinkedIn) and real relationships present potential sources of future employment and thus must be managed alongside day to day tasks. Employability thus relies on an individual's reputation, which is based on skills and on how the individual has interacted with customers, colleagues, and clients, and as such often requires emotional labour (Hochschild 1983). 'Putting the best foot forward' to maximise employability often requires managing emotions in line with customer, client, and organisational expectations. Employment security involves the worker's feelings and emotions becoming linked to organisational goals through a requirement for a positive reputation emerging from interactions with customers, clients, colleagues, managers etc. This can lead to a significant reduction in the distance between work and non-work behaviour. It is here that participants must find a balance between employability and 'fusion' (Hochschild 1983, Wharton 1999) while counteracting the instability of a career in IT. Underlining these endeavours are expectations of a 'good' IT worker which are based on the need for constant visibility and availability, and the ability to adapt to unpredictable demands. These expectations - which may be based on myth (O'Carroll 2015) - can lead to a gendered experience of the IT employment bargain.

Despite the relatively small number of women interviewed, there was evidence for the naturalisation of gender segregation (Grosen et al. 2012, Holt and Lewis 2011) as women in both samples tended to take up more communicative and

management roles within IT companies rather than the technical positions. This often filtered right down to the tasks taken up within IT project teams. The risk of 'fusion' points to the inability for women in traditional breadwinner contexts to play the 'good' reputation game required to ensure employability in the IT industry. The unstable employment bargain intensifies work practices due to the potential significance of meeting expectations and maintaining reputations, and may lead women to be reticent to take on the perceived demands of technical or senior positions. The persistence of traditional gender roles in the home may restrict women's ability to meet the up-skilling, networking, and reputational demands required to ensure career progression in IT. However the capabilities of women with childcare responsibilities to play this employability game is aided by the institutional context. The study highlights a striking contrast between Karen (IT Consultant, Denmark, passive) and Emily (Project Manager, Ireland, active). Karen points to the subsidised and state regulated childcare as a huge weight lifted off her attempts at managing her career and work-life balance, while Emily depicts a picture of constant 'juggling' often involving different childminders and various family members. Again a scenario where collective regulation (high tax rates, norm of childcare) provides more autonomy, while individual self-regulation (in terms of childcare) becomes a stressor. The requirements of employability in IT intensify current working conditions and in doing so compose, and are composed by, the rules, requirements, responsibilities, and resources of boundaryless working time and interdependent labour processes.

The antinomies emanating from the *work bargain balances* (time, relations, and career) of autonomous IT workers in Ireland and Denmark are interlinked. For example, it isn't difficult to envisage how a management style may lead to an increase in work demands permeating non-work time thus requiring the development of new re-regulation strategies. Or how a difficult client or customer can lead to an increase in the need for emotional labour (so as not to affect reputation) and new working rhythms. Or, perhaps most worryingly, an IT worker who is worried about their future employability (e.g. a young inexperienced developer) and keen to develop an extensive network and positive reputation,

allows their working life to be dictated by a deleterious combination of ICT enabled market rhythms combined with meeting all the requests of managers and colleagues. In line with Figure 4.5, where these antinomies surpass the 'elastic limits' (Wheaton 1999) of an individual's capacity, they become stressors which require addressing and if not, could lead to the development of psychological disorders. These mechanisms are undoubtedly shaped by the feelings, experiences, and personal resources of the individual. However the findings from this study highlight how the institutional context in which these antinomies are embedded also significantly shape the form and balance of these stressor processes.

This thesis is a study of the balancing mechanisms underpinning the relationship between autonomous work and psychological well-being. In addition to the regular negotiation of these balances at the root of the antinomies of autonomy, the manner in which this is achieved is the result of a capability set of agencies (Hobson 2014) made up of individual, institutional, and social factors. The 'capabilities' (Hobson 2014, Sen 1999) framework presents a complimentary psychosocial approach in locating workers' choices, entitlements and practices within their specific structural context, and thus offers a sociological link to the stressor process (Figure 4.5). The 'elastic limits' (Wheaton 1999) of IT workers in Denmark and Ireland are influenced by their conditions of working life, or more specifically for these samples, the 'ecology' (Schwartz 2005) of their autonomy. Capabilities - shaped at the macro and meso level - provide the participants with an array of resources from which to manage the antinomies of autonomy. One of the primary findings from this study is the difference in the institutional versus individual composition of these resources for Irish and Danish IT workers. These different dynamics of autonomy reflect the socio-political contexts in which this autonomous work is situated. In Ireland, social and political conservatism, weak left politics and a deference to neo-liberal ideologies underpinned by the traditional male breadwinner model, create a 'politics of informal consensus' (Carey 2007) which leave the responsibility for funding and organising many of the key facets shaping working life at the individual's door. In Denmark, the resilience of social democratic ideals, Nordic corporatism, and ideologies of co-operation and mutuality facilitate a

social compact of high regulation and collective organisation which renders the private troubles of working life as public issues (Mills 1959). In responding to the conditions wrought by the antinomies of autonomy - which were similar for both samples - the Danish IT workers could call on more collectively sourced and institutionalised options which seem to allay the stressor process.

While the Irish workers identified different clothes, de-synced emails on phones, laptops in other rooms, and road toll charges, for boundary creation practices; the Danes pointed to norms around standard working time, the obligations of a good manager, and the importance of non-work life for work performance. Both samples identified the deadline as an important, yet fictional, influence in work. However the Irish workers seemed to work towards it as if it were fact whereas the Danes were more likely to discuss the contesting of a deadline, or the need for a new one. Pivotal to this contestation is the role of the manager, which seems to come with particular tasks for the Danish sample, and is left relatively autonomous according to the Irish IT workers. Due to a more bounded work time (linked to the timing of state funded childcare facilities), and the role of deadlines in IT, Danish managers are required to plan in detail the tasks and timelines of their group. This lifts some of the 'time-work' (Moen et al. 2013) burden from the individual workers. Furthermore, and linked to these points, 'good' managers in Denmark take note of the private lives of their workers. Thus the institutional norms around management and work time, actually end up reducing the need for re-regulation for the Danish IT workers.

The range of capabilities for the Irish sample, partly due to the prominence of Silicon Valley sourced FDI, is primarily individual in nature and thus they regularly face the full gamut of demands in balancing flexibility with accountability, autonomy with anarchy, and employability with the self. While the core building blocks of work and employment in IT are similar in Ireland and Denmark - thus the shared antinomies - the more collective range of resources available for the Danish workers may mean they are less at risk of 'fusion'. The expectations of what represents a 'good' IT worker (fundamental to reputation and employability) may

be different in Denmark due to institutional norms which place more responsibilities for regulation on the organisation. Whilst this does assist in managing stressors associated with work-life balance for women in traditional gender roles (e.g. childcare facilities, less time based commitment norms, socially legitimate boundaries), there was still some evidence of 'sliding gender segregation' (Holt and Lewis 2011) in terms of the positions taken up by women in IT in Denmark. Here the incompatibility of the temporal logics (expectations and demands) of IT and caregiver roles seem to reinforce gendered barriers in the workplace. Nonetheless, the study findings illustrate the institutionally distinct 'conversion factors' (Fahlén 2014) which shape the options available for the Irish and Danish IT workers interviewed to respond to the shared antinomies of autonomy.

The Contributions of The Study

The analysis, methods, and findings of this doctoral research offer a number of contributions to knowledge. To summarise, these include:

1. An extension of labour process literature via the three interlinked dimensions of the post-industrial bargain framework.
2. The term 'antinomies of autonomy' which describes circumstances where workers with high autonomy experience this as a challenge to their self-regulation, freedom, and choice within working life.
3. The importance of emotional labour within the employment bargain of IT workers.
4. A theoretical framework which depicts a sociological path between working conditions and well-being outcomes via socially structured stressors and capabilities.
5. The key role of the institutional context on the experience of autonomous work through the interplay of antinomies and capabilities as conditions of working life.
6. The use of PWE and job-related feeling surveys with a work bargain structured interview topic guide to provide a comprehensive method for the comparative investigation of key dimensions of working life.
7. Highlighting the socio-political nature of the work and well-being relationship through the identification of the social structures of stressors.

Literature

Building on techno-economic advancements and macro trends in work organisation, the study presents a post-industrial work bargain framework which re-locates labour process literature in the working conditions of a more modern form of 'service relationship' (Goldthorpe 1982). The framework pushes the literature beyond the traditional workplace restricted effort-bargain to include the negotiation of work time and work-life balance (the boundary bargain), and pay and career expectations (the employment bargain). These processes and practices take place at the level of the labour process, working conditions, and labour market. This framework adds three interrelated dimensions to the analysis of working conditions and systematises related literature and models in terms of the dynamics, practices, and effects of these bargains. At the core of the labour process problematic of control - and this post-industrial framework - is worker autonomy.

The analysis unpacks and problematises high levels of autonomy at work. Pushing forward job control literature by highlighting the relational and interdependent nature of post-industrial work autonomy, the study introduces the 'antinomies of autonomy'. These are demands and dilemmas which come with high autonomy at work and yet seem to counter-intuitively challenge the experience of self-regulation, freedom and discretion which define autonomy. The negotiation of these antinomies occurs within each work bargain (effort, boundary, employment) for the IT workers interviewed in Ireland and Denmark. Thus, the interlinked dynamics of the post-industrial work bargains lead to interlinked antinomies for autonomous workers. The three crucial antinomies for the samples studied were: interdependence, boundarylessness, and fusion. Building on the gaps in much of the workplace autonomy literature (Allvin 2008, Benson and Brown 2007, Hvid et al. 2010, Perlow 1999, Lund et al. 2011), the findings indicate how the dynamics of these antinomies of autonomy are linked between labour processes, working conditions, and employment structures, and significantly influenced by the structural context in which they are embedded. The 'regulative' rules, responsibilities, requirements, and resources of working life (Allvin 2008, Giddens

1984, Hobson 2014) represent the sociological mechanisms linking the demands and effects of these antinomies.

The study extends the work of Hvid et al. (2008, 2010) and Lund et al. (2011) in highlighting the international interdependence of IT labour processes, and linked 'low associational control' of IT workers in Ireland and Denmark, due to the combination of quantitative targets and qualitative interactions within the organisational context. The participants described the interdependence of their autonomy (colleagues and managers in particular) as a demanding aspect of their work. In attempting to balance work demands and non-work life, these workers are 'free' to create their own strategies, yet are hindered by the economic imperatives of organisations and the strategies of other 'free' workers. Unpacking the temporal demands of autonomous work, the study specifies Allvin's (2008) work on boundarylessness through an illustration of the different - institutionally shaped - strategies used by IT workers to re-regulate their working conditions. These strategies relate not only to temporal re-regulation but also the construction of non-work spaces and activities constructed out of socially legitimate resources (family, transport, clothes). Linking the effort and boundary bargains, Perlow (1999) did note the sometimes contradictory relation between the demands of time and interaction. However, the findings from this study indicate that these dynamics are further complicated by the structures of the employment bargain of IT work in Ireland and Denmark.

In identifying the psychosocial risks associated with the conditional nature of the post-industrial employment bargain (i.e. insecure employability), the study also extends the work of Smith (1997) and Thompson (2003). For both the Danish and Irish participants, job security was irrelevant. Acknowledging the volatile nature of their industry, their sense of security existed in future employment opportunities. This led to an intensification of current work due to the need to maximise skill and experience opportunities. However, achieving and maintaining employability also requires the individuals to develop networks of associates and uphold a positive reputation amongst this network in order to foster future employment

opportunities. In a number of instances this required emotional labour for the participants (Hochschild 1983). The insecure yet networked nature of professional work means the need for emotional labour may have moved beyond the original confines of interactive service work. Individually created, and curated, networks and reputations are key to future work, and thus emotional labour becomes part of the demands that need to be met to ensure employability.

Following the risks of emotional labour, 'fusion' (Hochschild 1983, Wharton 1999) also becomes a psychosocial risk within this employment bargain as the economic imperatives of markets and organisations define what is expected, and therefore what type of work behaviours are perceived as positive. Deadlines, revenue streams, and profit margins thus control the rhythms of workers looking to secure and sustain positive reputations and employability. In such circumstances, the distance between a work self and a non-work self becomes significantly reduced (fusion) and can lead to negative outcomes such as burnout. In some ways this may represent the stressors associated with the opposite of Braverman's (1974) alienation. Knowledge of, and responsibility for, labour processes (in collaboration with others), and employment, are laid almost entirely at the individual worker's feet. Tied to the aims, rhythms, and pace of profit motivated organisations, working lives become intensified by boundaryless demands, accountability, interdependence, and insecure employability endeavours. Where 'fusion' occurs this may represent a post-industrial form of alienation (Berardi 2009, Rosa 2015).

Hvid et al. (2010) present a socio-technical solution to the antinomy of interdependence in stressing the positive influence of organically composed and externally supported 'collective synchronisation' which could bring workers with high job control together in shared rhythms (Hvid et al. 2008). Locating some form of collectivity is key to managing the paradoxes of autonomous working lives. The thesis offers a new perspective on the sources of this 'collective synchronisation' by highlighting the importance of the different structurally shaped sets of capabilities and norms from which the Irish and Danish IT workers drew on to manage the demands of their autonomous working lives. In particular the Danish participants

pointed to collectively sourced norms with regard to working time, managers tasks and duties, and childcare as common frames from which these individual workers could source strategies. Not only do we need to acknowledge the complexity of autonomy within post-industrial knowledge labour processes where 'self-regulation' can have its disadvantages, but with the increasingly porous boundaries between work and non-work life, we need to acknowledge the role of the institutional context in shaping 'autonomous' working rhythms. Depending on the specific circumstances of an individual's working life, and the institutional context in which it's embedded, autonomy can be a resource, or a filter through which additional demands and stressors are generated. When it comes to how autonomy engenders stressors, context matters. Social structures have a role to play in the effect - and affects - of autonomy. This has a number of implications for work and well-being models founded on the notion of work autonomy as a sovereign resource.

Figure 4.5 depicts the theoretical framework underpinning this study. Building on the integrated frame of the post-industrial work bargains, this framework brings together the well substantiated aspects of the D-C (Karasek 1979), ERI (Siegrist 1996), and JD-R (Bakker and Demerouti 2007) models (specifically task control, job strain, status control, extrinsic and intrinsic demands, demand-resource relationships) within a broader post-industrial context. Thus pushing the psychosocial impact of work beyond the effort-bargain of the workplace. High levels of autonomy within working life provide freedom and flexibility. But it can also abandon (Allvin 2008) the worker within a complex system of interdependencies and indeterminacies (Berardi 2009) and it is here where the institutional context becomes important. The analysis of working conditions, job-related feelings, and experience of autonomy for the participants in Ireland and Denmark has highlighted: the importance of task control for flexibility alongside the demands generated by responsibility; the presence of job strain in the form of high intensity leading to a lack of positive feelings; the balance that needs to be maintained between intrinsic employability goals and extrinsic organisational

demands; and, the role of the institutional context in providing variegated strategies to manage all these demands.

Stressor manifestation (Wheaton 1999) highlights the external demands and internal 'elastic limits' of individuals to cope with the pressures of their environment. This offers a more sociological perspective on the process rather than outcomes (Abbott 2005), through which work demands become too much for individual workers. Although not in the remit of this study due to its primary focus on work, it is also worth noting that life-work relations (e.g. family make-up, partners job, domestic context etc.) also play a significant role in the stressors of working life. In an effort to sociologise what are usually more psychologically oriented relationships, the framework emphasises the role of the institutional context in shaping the interplay of stressors (Wheaton 1999) and capabilities (Hobson 2014). It captures the multidimensionality of individuals and outcomes, the common pressures of autonomous work, and the structural resources available to manage working life demands. These social structures of stressors define an expanded notion of work-related psychosocial risks within autonomous working lives according to the resources afforded by institutional and social contexts to manage the demands of boundarylessness, interdependence, and fusion.

Methodological

The methodology of the thesis provides a number of contributions to the study of working conditions and psychological well-being. Firstly, a critical realist ontology can function as a 'philosophical underlabourer' and provide a foundation to conceptually clarify the multifaceted relationship between work and psychological well-being. The antinomies of autonomy are shaped by the mind-independent realities of globalisation, networked production, and macro-economic trends as well as by the constructed experience of local working conditions. Secondly, the combination of psychosocial work environment and job-related feelings (Warr et al. 2014) surveys (Appendix A: Research Instrument for Worker Interviews) provide a comprehensive and domain specific frame to analyse the type of working

conditions encountered by workers, and how these conditions are experienced in terms of job-related feelings. Thirdly, following on from the previous point, the use of a semi-structured topic guide, based on the key bargains and associated stressors of post-industrial work provides a holistic approach from which to investigate the key facets shaping working lives. A reinterpretation and reconfiguration of psychology models and measures, supported by rich qualitative data on the conditions and experience of autonomy at work, can provide a better understanding of the generative mechanisms and processes shaping the experience of stress at work.

Policy

Over the last half century, techno-economic developments and the hegemony of finance have dramatically altered the organisation of work and employment. At a very general level, trends in working conditions indicate increased levels of autonomy, intensity, and insecurity. The findings of this study have provided an in-depth analysis of the demands stemming from the interplay of these trends for IT workers in Ireland and Denmark. Moreover, the OECD (2012) and EU (Eurofound & EU-OSHA 2014) have noted that these altered circumstances of working may impact negatively on the mental health of workers. The EU has highlighted 'sustainability' as one of its key priorities in its growth strategy for the next decade. However the findings from this study suggest that the impact of new production methods and demands of working life on the social reproduction of the labour force requires a perspective on work which extends beyond the work 'place'. Just as the demands of work are moving beyond the work environment, the production of stressors is no longer confined to the production process. The consequence is that job control - a revered constituent of job quality - is not enough to know the true picture of the impact of work. Corroborating with Schieman et al. (2006), high levels of task control can coexist with demanding, stressful, and potentially detrimental conditions. Ensuring 'sustainable' working conditions therefore involves more than just increasing autonomy at work and more than just organisational endeavours such as EAP's. It requires an acknowledgement of the effect institutional contexts

and states can have on the nature of autonomy at work, and the ability to manage the demands of working life. Yet, the capabilities offered by institutional contexts do not always convert working life autonomy into a resource (Drobnič and Guillén Rodríguez 2011). Studying the autonomy of IT workers in Ireland and Denmark has illustrated that the stressors of working life are not just contoured by levels of flexibility, discretion, and control, but by the structural circumstances in which these key aspects of work are embedded. Put simply, for the IT workers, Danish working life autonomy is different, and perhaps more economically emancipated, when compared to Irish working life autonomy. Aspiring towards 'sustainable' work practices therefore requires looking past organisational practices and individual outcomes to critically analyse the structural circumstances which compose the conditions of working life. The stressors of working life are a socio-political issue rather than just psychological or economic (Davies 2015).

Conclusion

Freedom within working lives requires an acknowledgement of the complexity of reality (Bhaskar 1979, Sayer 2000), society (Polanyi 1944), and other autonomous workers (Lund et al. 2011). The experience of autonomous working conditions, and their correlated stressors, are not bound to the workplace. Work psychology models (Karasek 1979, Siegrist 1996, Bakker and Demerouti 2007) are unable to account for the complex, multidimensional, and institutionally influenced psychosocial risks of autonomous working rhythms (Hvid et al. 2008). The limited workplace effort bargain focus is replicated in much of the sociology of autonomous work literature (Hvid et al. 2008; 2010, Moen et al. 2013, Perlow 1999, Schieman et al. 2006) which overlooks how interrelated employability requirements reinforce the dynamics, demands, and effects of autonomy at work. The qualitative analysis has shown how the rhythms of high autonomy work shape, and are shaped by, structures of employment and the capabilities of the societal context. The effective choices and 'capability sets' (Hobson 2014) offered by an institutional context can temper the ill effects of self-regulation (Allvin 2008), fragmentation

(Sennett 1998), disconnection (Thompson 2003), or fusion (Wharton 1999) of working lives within contemporary capitalism. The core organising aspects of work (teams, deadlines, autonomy) and employment (job insecurity, networks, reputation) within IT were similar across both contexts. Yet, the societal contexts of Ireland and Denmark provide a different repertoire of resources from which the research participants can attend to the demands and stressors of autonomous working life. The means of managing the demands of autonomous working life are not always found in work.

The institutional norms identified by the Danish IT workers (especially regarding bounded work time, manager obligations, and the knock-on expectations of an employable IT worker) lead to a higher level of what might be termed *cadence control* of autonomous working lives i.e. the ability to contest or detach from the accelerated rhythms and demands of firms and markets. Paradoxically the higher levels of regulation (high taxes, regular collective bargaining, working time norms) in Denmark may enable more freedom within working life; '...liberty itself is the product of regulation' (Durkheim 1984:320). This is enabled through a broader range of capabilities (individual and collective) to tackle the antinomies of autonomy faced by workers in boundaryless knowledge labour processes. Unfastening their day to day lives from working demands appeared to be an easier process for the Danish participants. The Irish IT workers could only describe individually tailored responses which, while working, were at the mercy of organisation and market led directions. Where participants discussed stressors which threatened their psychological well-being, they tended to originate in the inability to contest or detach from the interrelated demands of autonomous working life i.e. the responsibility for regulating work and non-work time and space, respond to variously sourced demands, all the while striving to maintain a good reputation in order to ensure employability. A cadence of working life dictated by the antinomies of autonomy.

In the relationship between working conditions and psychological well-being, autonomy matters. In the relationship between autonomy and psychological well-

being, societal context matters. Working life autonomy has become a contested terrain. A terrain which encompasses individual limits, other autonomous workers, managers, organisational objectives, institutional contexts, and social norms. A genuinely liberating autonomy must acknowledge its interdependence and tether to an extensive institutional anchor in order to avoid becoming alienated amongst the volatile rhythms of capitalist work demands.

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And now for your employment status since you were a young adult (not part-time jobs during school, but including jobs during V or U that lasted more than 1-2 weeks).

Please add E for every change of job. Code: E = Employed, U = unemployed, HD = Home Duties, S = Sick, SE = Self Employed, FB = Family Business, O = Other.

1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	
1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	
1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015

Now I'd like to ask for a little more detail on each of those jobs that you have held. Please start with Job 1 as the first job after vocational or university education (ignore smaller courses etc)

For each E, SE or FB above (write years in this box)	Occupation	Sector	FT/PT	Perm/Temp/Casual		For each E, SE or FB above	Occupation	Sector	FT/PT	Perm/Temp/Casual
JOB 1			FT PT	PERM TEMP CASUAL		JOB 5			FT PT	PERM TEMP CASUAL
JOB 2			FT PT	PERM TEMP CASUAL		JOB 6			FT PT	PERM TEMP CASUAL

JOB 3			FT PT	PERM TEMP CASUAL		JOB 7			FT PT	PERM TEMP CASUAL
JOB 4			FT PT	PERM TEMP CASUAL		JOB 8			FT PT	PERM TEMP CASUAL

I would now like to ask you about membership of organisations relating to work

ID: _____

PAGE 3

	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
Union member (*other than pension fund)																			
Coll. Agreement																			
Professional Association																			
Other																			

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Union member*																			
Coll. Agreement																			
Professional Association																			
Other																			

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Union member*																			
Coll. Agreement																			
Professional Association																			
Other																			

Number	Type of Organisation
1	
2	
3	
4	
5	

FIRST JOB : JOB Number: _____ (from calendar)

Occupation (fill in detail, will be coded later)	
Sector (fill in detail, will be coded later)	
# of employees at site	
FT/ PT	FT PT
Perm/ Temp/ Casual	PERM TEMP CASUAL
Entry/ Medium/ Senior Position on entry	ENTRY MEDIUM SENIOR
Received a promotion while in the job?	YES NO
Employer- funded Training?	YES NO
Pension linked to job	YES NO
Could you make plans for the future while in this job?	YES NO
How got?	
Why left?	

How got? (code main channel): 1 – Formal advertisement/'cold call'; 2 – Personal Contact (Strong tie); 3 – Word of Mouth (weak tie); 4 – Private Agency; 5 – Public Agency; 6 - Other

Why Left? (code main channel): 1 - To take up or seek better job; 2 - End of temporary contract; 3 - Obligated to stop by employer (business closure, redundancy, early retirement, dismissal etc.) 4- Sale or closure of own/family business; 5- Child care and care for other dependent; 6- Partner's job required us to move to another area or marriage; 7- Other reasons

FIRST JOB : JOB Number: _____ (from calendar)

	Please Circle/Bold ONE Answer				
Were you able to choose or change your order of tasks?	Always	Often	Sometimes	Seldom	Never/hardly ever
Were you able to choose or change your methods of work?	Always	Often	Sometimes	Seldom	Never/hardly ever
Could you decide where you worked?	Always	Often	Sometimes	Seldom	Never/hardly ever
Could you decide when you worked?	Always	Often	Sometimes	Seldom	Never/hardly ever
Were you able to apply your own ideas in your work?	Always	Often	Sometimes	Seldom	Never/hardly ever
Could you influence decisions that were important for your work?	Always	Often	Sometimes	Seldom	Never/hardly ever
Was your work varied?	Always	Often	Sometimes	Seldom	Never/hardly ever
Did your job involve working at very high speed?	Always	Often	Sometimes	Seldom	Never/hardly ever
How often did you not have time to complete all your work tasks?	Always	Often	Sometimes	Seldom	Never/hardly ever
Did your job involve complex tasks?	Always	Often	Sometimes	Seldom	Never/hardly ever

Was your work emotionally demanding?	To a very large extent To a large extent Somewhat To a small extent To a very small extent
Did your work require that you hide your feelings?	To a very large extent To a large extent Somewhat To a small extent To a very small extent
You thought; 'I might lose my job in the next 6 months'	Strongly Disagree Disagree Neither Agree nor Disagree Agree Strongly Agree
I felt secure in this job	Strongly Disagree Disagree Neither Agree nor Disagree Agree Strongly Agree
The work I did on this job was very important to me	Strongly Disagree Disagree Neither Agree nor Disagree Agree Strongly Agree
The job was important to my sense of self-identity	Strongly Disagree Disagree Neither Agree nor Disagree Agree Strongly Agree

FIRST JOB - JOB Number: _____ (from calendar)

Please indicate below (circle/bold) approximately how often you felt the following while working in this job. Everyone has a lot of overlapping feelings, so you'll have a total for all the items that is much greater than 100% of the time. It's important to remember here that the focus is on how work made you feel, rather than an assessment of general mental health.

	0%	1%-20%	21%-40%	41%-60%	61%-80%	81%-99%	100%
Anxious	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Enthusiastic	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Depressed	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
At Ease	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always

PREVIOUS JOB Number: _____ (from calendar)

Occupation (fill in detail, will be coded later)	
Sector (fill in detail, will be coded later)	
# of employees at site	
FT/ PT	FT PT
Perm/ Temp/ Casual	PERM TEMP CASUAL
Entry/ Medium/ Senior Position on entry	ENTRY MEDIUM SENIOR
Received a promotion while in the job?	YES NO
Employer- funded Training?	YES NO
Pension linked to job	YES NO
Could you make plans for the future while in this job?	YES NO
How got?	
Why left?	

How got? (code main channel): 1 – Formal advertisement/‘cold call’; 2 – Personal Contact (Strong tie); 3 – Word of Mouth (weak tie); 4 – Private Agency; 5 – Public Agency; 6 - Other

Why Left? (code main channel): 1 - To take up or seek better job; 2 - End of temporary contract; 3 - Obligated to stop by employer (business closure, redundancy, early retirement, dismissal etc.) 4- Sale or closure of own/family business; 5- Child care and care for other dependent; 6- Partner’s job required us to move to another area or marriage; 7- Other reasons

PREVIOUS JOB - JOB Number: _____ (from calendar)

	Please Circle/Bold ONE Answer				
Were you able to choose or change your order of tasks?	Always	Often	Sometimes	Seldom	Never/hardly ever
Were you able to choose or change your methods of work?	Always	Often	Sometimes	Seldom	Never/hardly ever
Could you decide where you worked?	Always	Often	Sometimes	Seldom	Never/hardly ever
Could you decide when you worked?	Always	Often	Sometimes	Seldom	Never/hardly ever
Were you able to apply your own ideas in your work?	Always	Often	Sometimes	Seldom	Never/hardly ever
Could you influence decisions that were important for your work?	Always	Often	Sometimes	Seldom	Never/hardly ever
Was your work varied?	Always	Often	Sometimes	Seldom	Never/hardly ever
Did your job involve working at very high speed?	Always	Often	Sometimes	Seldom	Never/hardly ever
How often did you not have time to complete all your work tasks?	Always	Often	Sometimes	Seldom	Never/hardly ever
Did your job involve complex tasks?	Always	Often	Sometimes	Seldom	Never/hardly ever

Was your work emotionally demanding?	To a very large extent To a large extent Somewhat To a small extent To a very small extent
Did your work require that you hide your feelings?	To a very large extent To a large extent Somewhat To a small extent To a very small extent
You thought: 'I might lose my job in the next 6 months'	Strongly Disagree Disagree Neither Agree nor Disagree Agree Strongly Agree
I felt secure in this job	Strongly Disagree Disagree Neither Agree nor Disagree Agree Strongly Agree
The work I did on this job was very important to me	Strongly Disagree Disagree Neither Agree nor Disagree Agree Strongly Agree
The job was important to my sense of self-identity	Strongly Disagree Disagree Neither Agree nor Disagree Agree Strongly Agree

PREVIOUS JOB - JOB Number: _____ (from calendar)

Please indicate below (circle/bold) approximately how often you felt the following while working in this job. Everyone has a lot of overlapping feelings, so you'll have a total for all the items that is much greater than 100% of the time. It's important to remember here that the focus is on how work made you feel, rather than an assessment of general mental health.

	0%	1%-20%	21%-40%	41%-60%	61%-80%	81%-99%	100%
Anxious	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Enthusiastic	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Depressed	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
At Ease	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always

CURRENT JOB - JOB Number: _____ (from calendar)

Occupation (fill in detail, will be coded later)	
Sector (fill in detail, will be coded later)	
# of employees at site	
FT/ PT	FT PT
Perm/ Temp/ Casual	PERM TEMP CASUAL
Entry/ Medium/ Senior Position on entry	ENTRY MEDIUM SENIOR
Received a promotion while in the job?	YES NO
Employer- funded Training?	YES NO
Pension linked to job	YES NO
Could you make plans for the future while in this job?	YES NO
How got?	
Why left?	

How got? (code main channel): 1 – Formal advertisement/‘cold call’; 2 – Personal Contact (Strong tie); 3 – Word of Mouth (weak tie); 4 – Private Agency; 5 – Public Agency; 6 - Other

Why Left? (code main channel): 1 - To take up or seek better job; 2 - End of temporary contract; 3 - Obligated to stop by employer (business closure, redundancy, early retirement, dismissal etc.) 4- Sale or closure of own/family business; 5- Child care and care for other dependent; 6- Partner’s job required us to move to another area or marriage; 7- Other reasons

CURRENT JOB - JOB Number: _____ (from calendar)

	Please Circle/Bold ONE Answer				
Are you able to choose or change your order of tasks?	Always	Often	Sometimes	Seldom	Never/hardly ever
Are you able to choose or change your methods of work?	Always	Often	Sometimes	Seldom	Never/hardly ever
Can you decide where you work?	Always	Often	Sometimes	Seldom	Never/hardly ever
Can you decide when you work?	Always	Often	Sometimes	Seldom	Never/hardly ever
Are you able to apply your own ideas in your work?	Always	Often	Sometimes	Seldom	Never/hardly ever
You can influence decisions that are important for your work?	Always	Often	Sometimes	Seldom	Never/hardly ever
Is your work varied?	Always	Often	Sometimes	Seldom	Never/hardly ever
Does your job involve working at very high speed?	Always	Often	Sometimes	Seldom	Never/hardly ever
How often do you not have time to complete all your work tasks?	Always	Often	Sometimes	Seldom	Never/hardly ever
Does your job involve complex tasks?	Always	Often	Sometimes	Seldom	Never/hardly ever

Is your work emotionally demanding?	To a very large extent To a large extent Somewhat To a small extent To a very small extent
Does your work require that you hide your feelings?	To a very large extent To a large extent Somewhat To a small extent To a very small extent
Do you think; 'I might lose my job in the next 6 months'	Strongly Disagree Disagree Neither Agree nor Disagree Agree Strongly Agree
I feel secure in this job	Strongly Disagree Disagree Neither Agree nor Disagree Agree Strongly Agree
The work I do on this job is very important to me	Strongly Disagree Disagree Neither Agree nor Disagree Agree Strongly Agree
The job is important to my sense of self-identity	Strongly Disagree Disagree Neither Agree nor Disagree Agree Strongly Agree

For the past month, please indicate below (circle/bold) approximately how often you have felt the following while working in your job. Everyone has a lot of overlapping feelings, so you'll have a total for all the items that is much greater than 100% of the time. The focus here is on how work makes you feel not an assessment of general mental health.

	0% of time	1%-20%	21%-40%	41%-60%	61%-80%	81%- 99%	100%
Tense	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
At Ease	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Depressed	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Nervous	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Laid Back	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Enthusiastic	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Relaxed	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Hopeless	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Inspired	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Worried	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Calm	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Dejected	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Anxious	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Excited	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Despondent	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Joyful	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always

SEMI-STRUCTURED WORK BARGAIN TOPIC GUIDE

(S) = Stressor Type Question

1. The Work

- a. Could you please describe a typical day at work for you?
- b. What are the main tasks that you carry out yourself?
- c. Who are the main people that you deal with on a regular basis?

2. Effort Bargain (Work - Pay)

I'd like to ask you about how your work is coordinated with that of your colleagues and managers

- a. Coordination
 - i. How much collaboration with others in your work? Do you work in a formal team?
 - ii. Is there anything you would change about how your work is coordinated? (S)
- b. Autonomy
 - i. How much freedom do you have in deciding how you do your own work?
 - ii. Do you think you have enough influence/say/control (autonomy) over your work in order to get it done efficiently? (job strain = low autonomy + high demands) OR (too much autonomy = too much responsibility?) (S)
- c. Features of work
 - i. Knowledge
 1. How do you build the skills and knowledge over your career? Investments in training – self, company, external etc
 2. In a technology company there are lots of different people with different kinds of expert knowledge and skills. What are the areas where your expertise is recognised and where you can make your own decisions? How do you work with others who have different expertise from you?
 3. Do you get the opportunity to practice your skills and learn new things? (S)
 4. Do you feel that your skills are fully recognised and made use of? (S)
 - ii. 'Service'
 1. How much do you deal with users and/or customers in your work?

2. How do they affect your work, directly and/or indirectly?
(S)
- d. Monitoring and Management
 - i. Who is in charge of the team/ the work? How does that work in practice?
 - ii. In what ways is your work and output monitored on an everyday basis?
 - iii. What are the main influences on the pace of your work? What are the main sources of pressure? (S)
 - iv. Does your work ever get too demanding? Describe how, when, why? (more demands, higher pace, measured productivity). If so, does coordination of work change? (S)

3. Time Bargain (Work – Time) & (Extensification- Intensification)

- a. Hours
 - i. Typical working hours
 - ii. Working time – experience of it? How are hours, starting times, finishing times etc decided?
 - iii. If you could, would you change your working hours? How? Why? (capabilities – choice of alternatives) (S)
- b. Deadlines and Overtime
 - i. What happens if the work doesn't get done within the time given to it?
 - ii. What is the impact of deadlines and 'crunch time' on working hours? How do you manage this?
 - iii. Compensation for extra time worked?
- c. Porosity
 - i. Work at home? Contactable at home? How do you manage this?
 - ii. If working long hours/at home/in free time – why? (S)
 1. Responsibilities of job? (extrinsic demands of job/employer - high autonomy as threat)
 2. Occupational expectations? (intrinsic effort - commitment)
 - iii. If not working those long hours, how do you keep a lid on this?
 - iv. How do you manage and organise working at home? How does it work? (boundarylessness, self-regulation of work hours) (S)
- d. Work and Life
 - i. Is it easy for you to combine work hours with your leisure/family time? (capabilities for work-life balance)(S)
 - ii. Is there a pressure/ opportunity to take identities from work into your personal life (do people expect you to 'be a software guy' outside of work)? Do you want to do that? (S)

4. Employment Bargain (Time – Pay – Career)

I'd like to talk now about your career and employment conditions

- a. The Employment Relationship
 - i. What do employers expect of you?
 - ii. What do you expect of your employer?
 - iii. Judgments
 1. How do employers judge if someone is good
 2. How do employees judge if employer is good
 3. Reputation seems crucial – how do developers manage that?
- b. Employment Security
 - i. Contract
 - ii. Do you feel secure in your current job? Stability of employment - how does the dynamism and instability of the software sector, pressures of the recession, changing technology etc affect your view of employment?
 - iii. What would be the possible career paths over the next five years for someone in your position?
 - iv. Do you worry about job security? Does job security matter to you? Why? (S)
 - v. Do you think feeling insecure could lead to intense working patterns and/or presentee-ism?
- c. Pay
 - i. How is pay determined
 - ii. What is in it bar pay
 - iii. Trading off hours for pay?
 - iv. Describe the typical individual contract negotiation process
 - v. What is the frame of reference / comparator? Does the existence of collective agreements/social partnership affect individual negotiations?
 - vi. Do you think the awards/benefits (wage, perks, training opps) offered by your employer are fair for/equivalent to the work you do? (eri = lack of reciprocity between effort and rewards) *** (S)
- d. Career
 - i. What are the other key resources in building a career?
 1. Personal networks
 2. Professional organisations
 - ii. Advantages of big vs small organisation / cross organisational careers?
- e. Risk
 - i. What are the main risks associated with losing your job?
 - ii. Insurance against risks?
 1. Debt
 2. Pension

- iii. Household financial strategies and accumulation
 - 1. Partner's employment
 - 2. Stress on household and partner of insecurity?
- iv. If you lost your job, would you have difficulty finding an equivalent job? (employment insecurity expectations) (S)
- v. If you lost your job, would be able to manage financially? Is this something you worry about? (income security expectations) (S)

5. Conclusion

- i. What is a good career?
- ii. What would count as success in your working life (broadly)?

Appendix B: Positions Held by Participants

The following table displays the most recent positions held by each research participant at the time the interviews took place.

Denmark	Ireland
Tech Lead	Senior Compliance Office
Chief Tech Officer/Architect (2)	Head of IT
Enterprise Specialist	Consultant (4)
Software Developer (3)	Chief Information Officer
Chief Financial Officer (CFO)	Technical Trainer
IT/System Consultant (3)	Senior Tech Writer (2)
IT Project Manager	Software Developer
Senior Developer/Advisor (2)	Project Manager (2)
	Editor
	CEO/VP (2)
	Head of Professional Services

Appendix C: Information and Consent Forms

New Deals in the New Economy, Maynooth University PI: Prof. Seán Ó Riain Information Sheet

March 1st 2015

Dear Participant,

We are grateful to you for agreeing to be interviewed as part of the New Deals in the New Economy study. It is important for you to know that your participation in the research is entirely voluntary. You may withdraw your consent to participate at any time, without obligation to provide reasons for your withdrawal. While your employer may have facilitated the research, the project is completely independent of any non-academic institutions.

The project is funded by the European Research Council, the Irish Research Council, Maynooth University, and the National Institute for Regional and Spatial Analysis at Maynooth, where the project is based. The research will be carried out by a team of postgraduate and postdoctoral researchers under the supervision of Prof. Seán Ó Riain, principal investigator. In the following we will provide you with the main details of the research, how the information provided by you will be used, and ask you for written consent to a number of purposes.

The study seeks to gain an understanding of how European workplaces are being transformed. It is interested in the diversity and commonality of workplace bargains around Europe, particularly Denmark and Ireland. In undertaking this research, semi-structured interviews will be held with managers and employees across three sectors (ICT, Health, and Retail) in Ireland and Denmark. Interviews will last no more than 90 minutes and will usually take place in a meeting room on company grounds. The purpose of our interview with you is to explore new understandings of work and employment in networked, flexible systems of care, production and services. We are interested in investigating emerging effective workplace practices and the challenges and dilemmas of these new ways of working across careers. Topics of discussion will include;

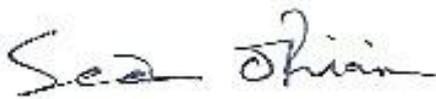
- work and employment histories;
- how work is organised on a daily basis (division of labour);
- how working time, pay and duties are negotiated within the workplace;
- expectations regarding career paths, managerial authority, employee autonomy, and skills development;
- what new challenges arise for both employees and employers;
- how employees perceive their working conditions and psychosocial work environment;
- the quality of working life for employees broadly speaking;
- how employment and careers are built and sustained.

With your permission, the interview will be recorded and transcribed afterwards. All data emerging from interviews will be made anonymous so that no participants can be identified. No transcripts or individual or team level details will be made available to the employing organisation. All files used for research will be encrypted, and stored in a password protected file. Both the recording and transcription will be stored in a secure location in the project head office at Maynooth University.

Our findings will be published in academic journals, books, and conferences. We will ensure that references to people or events made by participants are written in such terms in any published work that the participants will not be identifiable. Participants can also request to see their transcripts and resulting publications. If we discuss the findings with your employer, we will ensure that no individuals or work groups are identifiable and our discussion will focus on learning and training needs and challenges faced by employees. We are also happy to discuss the findings with employee representative and professional organisations, under the same terms. Once again, we thank you for your participation.

It must be recognized that, in some circumstances, confidentiality of research data and records may be overridden by courts in the event of litigation or in the course of investigation by lawful authority. In such circumstances the University will take all reasonable steps within law to ensure that confidentiality is maintained to the greatest possible extent.

Please feel free to contact us for any further information.



Prof. Seán Ó Riain

00353 1 7086177

sean.oriain@nuim.ie

National Institute for Regional and Spatial Analysis

National University of Ireland Maynooth

Maynooth, Co Kildare

Ireland

Having read this information sheet, please read and sign the consent form.

Consent Form

Project Title: New Deals in the New Economy

Principal Investigator: Prof. Seán Ó Riain [0035317086177] [e: sean.oriain@nuim.ie]

Researcher:

Material gathered during this research will be treated as confidential and securely stored at Maynooth University. You have the right to access any of your interview materials (recordings, transcripts and notes) at any time.

Please answer each statement below concerning the collection of the research data (circle as appropriate).

1.	I confirm that I have read and understand the information sheet for the above project. I have been given the opportunity to ask questions and they have been answered satisfactorily.	Yes	No
2.	I understand that I can withdraw from the study at any time without having to give an explanation.	Yes	No
3.	I agree to the interview being audio recorded and to its content being transcribed and used for research purposes (publications, presentations).	Yes	No

Below are sets of statements that give you, the interviewee, a series of options about how you wish your interview to be used. Please answer each statement.

4.	I agree to the inclusion of the anonymised interview transcript in the Irish Qualitative Data Archive (please see information sheet for further information on the IQDA).	Yes	No
5.	I agree to be contacted for follow-up research purposes. When contacted, I can choose not to participate further without having to give an explanation.	Yes	No

Name (printed) _____ Date: _____

Signature

If during your participation in this study you feel the information and guidelines that you were given have been neglected or disregarded in any way, or if you are unhappy about the process, please contact the Secretary of the Maynooth University Ethics Committee at research.ethics@nuim.ie or +353 (0)1 708 6019. Please be assured that your concerns will be dealt with in a sensitive manner.

Appendix D: EWCS and Participant Mean Scores for Job Discretion/Influence and Job Demands

The following points detail the recoding process undertaken in comparing mean scores for the EWCS and research participant samples.

Job Demands

The EWCS 2010 job demand variable 'does your job involve working at high speed' had a 7 point scale from all the time (1) to never (7). The scale was recoded to 5 point range from 'never' (1) to 'always' (5) to match research question 'Does your job involve working at very high speed?'

The EWCS 2010 job demand variable 'you have enough time to get the job done' with scale ranging from 'always' (1) to 'never' (5) was reverse coded to corroborate with question asked of participants " How often do you not have time to complete all your work tasks?" with a 5 point scale of 'always' (5) to 'never/hardly ever' (1). The EWCS 2010 job demand variable 'your job requires that you hide your feelings' with a scale ranging from 'always' (1) to 'never' (5) was reverse coded to corroborate with question asked of participants 'Does your work require that you hide your feelings?' with scale ranging from 'to a very large extent' (5) to 'to a very small extent' (1).

The mean score presented was the average of these three variables.

Job Discretion/Influence

The EWCS job discretion variable 'you are able to apply your own ideas in work' with scale ranging from 'always' (1) to 'never' (5), scale was reverse coded to match question asked of participants ' Are you able to apply your own ideas in your work?' with a scale ranging from 'always' (5) to 'never/hardly ever' (1).

The EWCS job influence variable 'you can influence decisions that are important for your work' with scale from 'always' (1) to 'never' (5), scale was reverse coded to match question asked of participants ' You can influence decisions that are important for your work?' with scale from 'always' (5) to 'never/hardly ever' (1). The mean score present was the average of these two variables

Appendix E: Eurofound (2012) EWCS Construction of Karasek Quadrants Variable

The following information details Eurofound's construction of Karasek Quadrants within the EWCS 2010 dataset:

Autonomy score is sum of following variables recoded into binary groups of 0 "no" and 1 "yes":

- q50a. Are you able to choose or change your order of tasks? [Yes, No]
- q50b. Are you able to choose or change your methods of work? [Yes, No]
- q50c. Are you able to choose or change your speed or rate of work? [Yes, No]
- q51a. Select the response which best describes your work situation - Your colleagues help and support you [1: Always, 2:Most of the time, 3: Sometimes, 4: Rarely, 5: Never] *recoded into (1 thru 3=1) (4,5 =0)*
- q51b. Select the response which best describes your work situation - Your manager helps and supports you [1: Always, 2:Most of the time, 3: Sometimes, 4: Rarely, 5: Never] *recoded into (1 thru 3=1) (4,5 =0)*

Intensity score is mean of two variables below with 7 point scale [1: All of the time, 2: Almost all of the time, 3:Around 3/4 of time, 4: Around half of the time, 5: Around 1/4 of the time, 6: Almost Never, 7: Never] *recoded into (1=1) (2=0.9) (3=0.75) (4=0.5) (5=0.25) (6=0.1) (7=0)*

- q45a. Does your job involve working at very high speed?
- q45b. Does your job involve working to tight deadlines?

The Quadrants were finally created using the medians.

Appendix F: SPSS Correlation Coefficient Output

The following information presents the SPSS scatter-plot and table output from a bivariate correlation analysis for job decision latitude and job demands in Ireland and Denmark.

Ireland

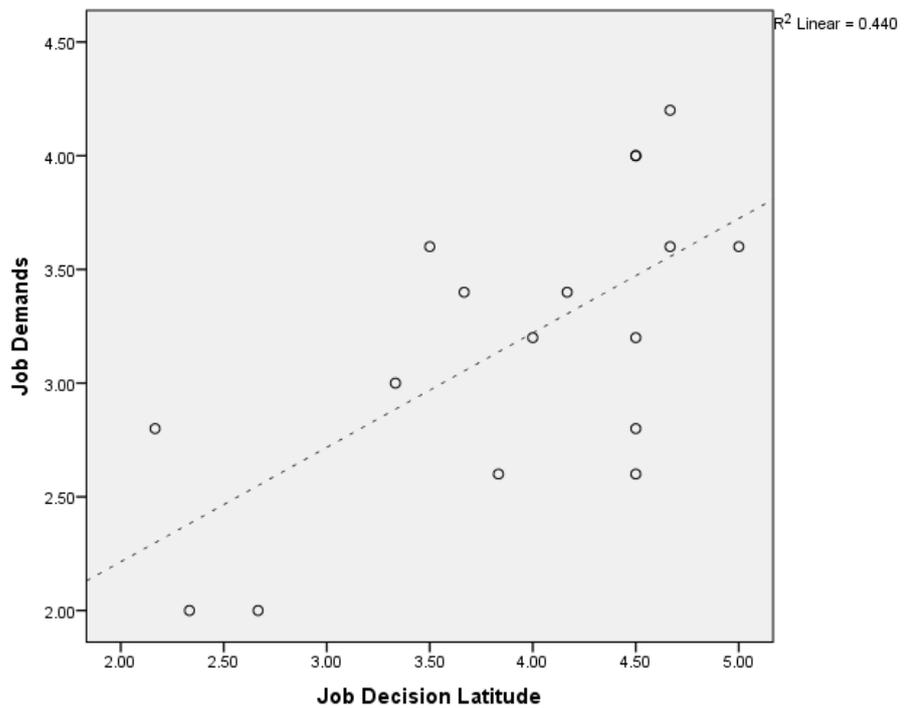


Table: Correlation Between Decision Latitude & Demands in Ireland

		CURRENT JOB Decision Lat score - average across 6 items	CURRENT JOB Demands score - average across 5 items
CURRENT JOB Decision Lat score - average across 6 items	Pearson Correlation Sig. (2-tailed) N	1 17	.663** .004 17
CURRENT JOB Demands score - average across 5 items	Pearson Correlation Sig. (2-tailed) N	.663** .004 17	1 17

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

Denmark

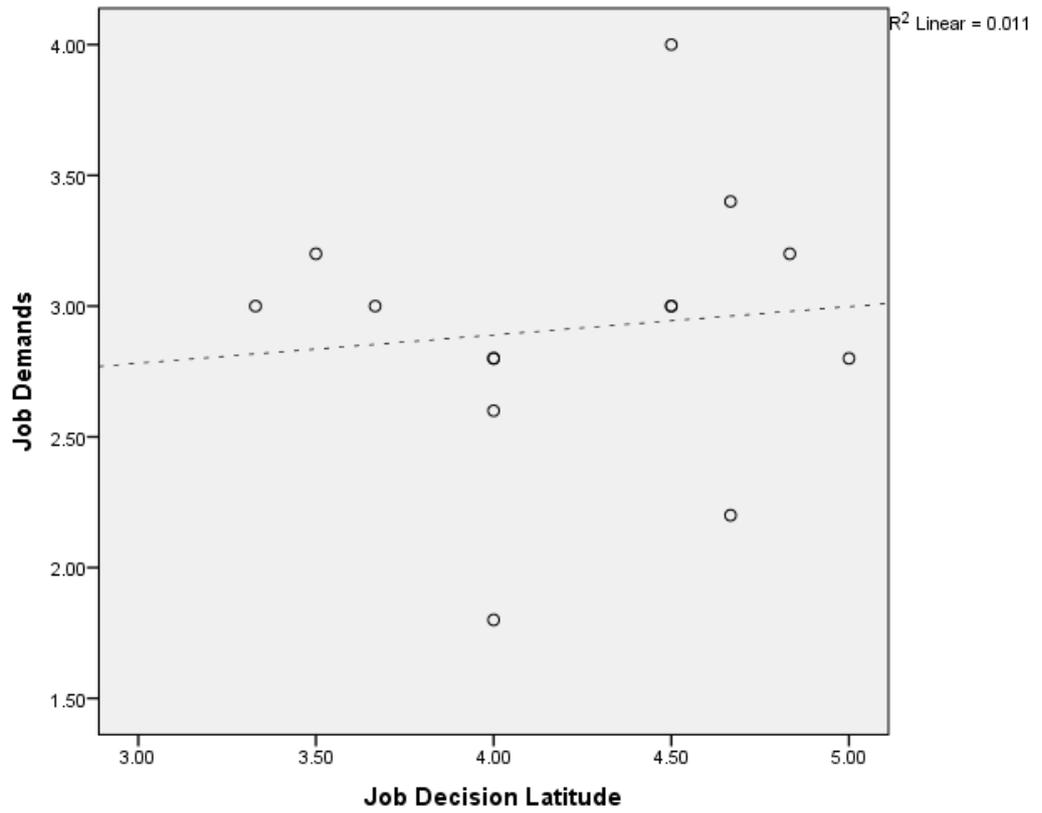


Table: Correlation Between Decision Latitude & Demands in Denmark

		CURRENT JOB Decision Lat score - average across 6 items	CURRENT JOB Demands score - average across 5 items
CURRENT JOB Decision Lat score - average across 6 items	Pearson Correlation Sig. (2-tailed) N	1 14	.107 .715 14
CURRENT JOB Demands score - average across 5 items	Pearson Correlation Sig. (2-tailed) N	.107 .715 14	1 14

Appendix G: Construction of Research Participant D-C Framework

The following information shows the psychosocial work environment questions as they were presented to research participants:

	Please Circle/Bold ONE Answer				
Are you able to choose or change your order of tasks?	Always	Often	Sometimes	Seldom	Never/hardly ever
Are you able to choose or change your methods of work?	Always	Often	Sometimes	Seldom	Never/hardly ever
Can you decide where you work?	Always	Often	Sometimes	Seldom	Never/hardly ever
Can you decide when you work?	Always	Often	Sometimes	Seldom	Never/hardly ever
Are you able to apply your own ideas in your work?	Always	Often	Sometimes	Seldom	Never/hardly ever
You can influence decisions that are important for your work?	Always	Often	Sometimes	Seldom	Never/hardly ever
Does your job involve working at very high speed?	Always	Often	Sometimes	Seldom	Never/hardly ever
How often do you not have time to complete all your work tasks?	Always	Often	Sometimes	Seldom	Never/hardly ever
Does your job involve complex tasks?	Always	Often	Sometimes	Seldom	Never/hardly ever

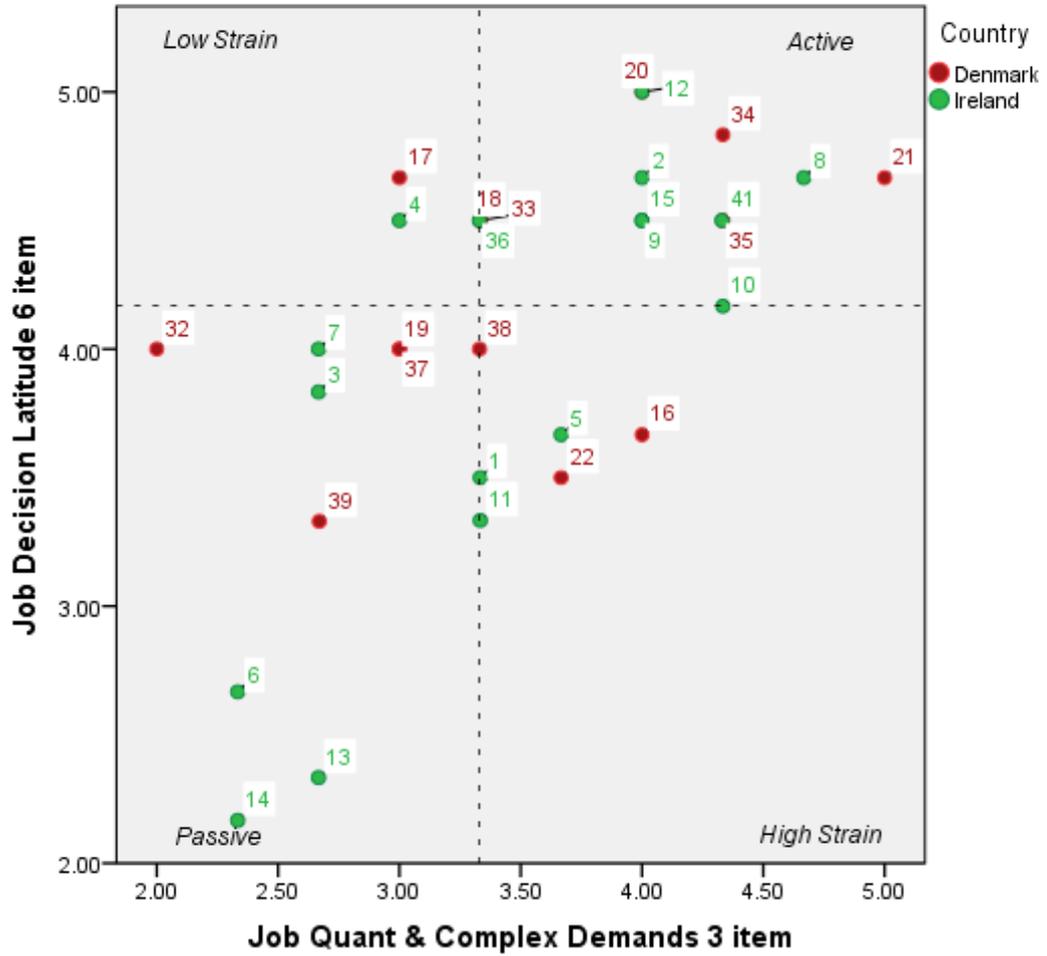
Is your work emotionally demanding?	To a very large extent To a large extent Somewhat To a small extent To a very small extent
Does your work require that you hide your feelings?	To a very large extent To a large extent Somewhat To a small extent To a very small extent

Each participant received a job decision latitude and job demands score based on their responses to these questions. Scores represented the average for the six decision latitude questions and the five demands questions. Participants were then located within a D-C model framework where then quadrants were created the median scores for decision latitude and demands. Participants were thus located according to following score thresholds:

- Passive: <3 Demands and <4.17 Decisions Lat
- Low Strain:<3 Demands and >4.17 Decisions Lat
- Active: ≥ 3 Demands and > 4.17 Decision Lat
- High Strain: ≥ 3 Demands and ≤ 4.17 Decision Lat

Another version of the D-C Model was also created which was based on the six decision latitude variables and the three quantitative and complex demand variables. See Figure below.

Figure??: Participant D-C Model 6*3



A NOTE ON CASE MOVERS

There are 7 cases which move position when comparing the 6*5 D-C model to 6*3 models. These cases only move horizontally as it is the job demands variable which is being altered. The case numbers which move position are: 4, 7, 15, 20, 36, 38, 39. Four cases are Irish (4, 7, 15, 36) and three Danish (20, 38, 39). Three are women (7, 20, 38). Removing emotional demands from the job demands scale leads to the following movements: 4 increases (15, 20, 36, 38) in job demands score (suggesting emotional demands are not a factor), and 3 decreases in score (4, 7, 39) (suggesting emotional demands are influential). The following represent the mean scores for the affect quadrants for those who move position.

QUADRANT MOVERS (n=7)				
	HAPA	HAUA	LAPA	LAUA
Mean	4.18	5.39	3.86	6.54

Appendix H: Operationalising Warr et al. (2014) Affect Quadrant Circumplex

In line with Warr et al.'s (2014) model, participants were asked the following: 'For the past month, please indicate below (circle/bold) approximately how often you have felt the following while working in your job. Everyone has a lot of overlapping feelings, so you'll have a total for all the items that is much greater than 100% of the time. The focus here is on how work makes you feel not an assessment of general mental health'. The 16 feelings were then presented as in the template on the next page. Participants were free to discuss their decisions as they made their way through the survey if they chose to.

Unpleasant feelings were reverse scored so that higher scores always equalled greater pleasantness i.e. presence of pleasant feelings and absence of unpleasant feelings. The full range of scores for feelings are:

- Pleasant - 1: Never 2: A little of the time 3: Some of the time 4: About half 5: Much of the time 6: A lot of the time 7: Always
- Unpleasant – 1: Always 2: A lot of the time 3: Much of the time 4: About half 5: Some of the time 6: A little of the time 7: Never

The feelings were then rearranged into their respective quadrants as follows:

- High Activation Pleasant Affect [HAPA]: excited, enthusiastic, inspired, joyful
- High Activation Unpleasant Affect [HAUA]: anxious, tense, worried, nervous
- Low Activation Pleasant Affect [LAPA]: relaxed, calm, at ease, laid back
- Low Activation Unpleasant Affect [LAUA]: depressed, dejected, despondent, hopeless

Each respondent was then given a score for each quadrant based on their average score across the four feelings in each quadrant. The following page displays the survey as it was presented to the participants.

	0% of time	1%-20%	21%-40%	41%-60%	61%-80%	81%-99%	100%
Tense	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
At Ease	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Depressed	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Nervous	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Laid Back	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Enthusiastic	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Relaxed	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Hopeless	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Inspired	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Worried	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Calm	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Dejected	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Anxious	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Excited	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Despondent	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always
Joyful	Never	A little of the time	Some of the time	About half of the time	Much of the time	A lot of the time	Always

Appendix I: SPSS Output for Participant Job Intensification Variables

Recoded CURRENT JOB job involve working at very high speed? * Country Crosstabulation

			Country		Total
			Denmark	Ireland	
Recoded CURRENT JOB job involve working at very high speed?	Never/Hardly Ever	Count	0	1	1
		% within Recoded CURRENT JOB job involve working at very high speed?	0.0%	100.0%	100.0%
		% within Country	0.0%	5.9%	3.2%
		% of Total	0.0%	3.2%	3.2%
Seldom	Count	1	3	4	
		% within Recoded CURRENT JOB job involve working at very high speed?	25.0%	75.0%	100.0%
		% within Country	7.1%	17.6%	12.9%
		% of Total	3.2%	9.7%	12.9%
Sometimes	Count	6	1	7	
		% within Recoded CURRENT JOB job involve working at very high speed?	85.7%	14.3%	100.0%
		% within Country	42.9%	5.9%	22.6%
		% of Total	19.4%	3.2%	22.6%
Often	Count	4	8	12	
		% within Recoded CURRENT JOB job involve working at very high speed?	33.3%	66.7%	100.0%
		% within Country	28.6%	47.1%	38.7%
		% of Total	12.9%	25.8%	38.7%
Always	Count	3	4	7	
		% within Recoded CURRENT JOB job involve working at very high speed?	42.9%	57.1%	100.0%

	% within Country	21.4%	23.5%	22.6%
	% of Total	9.7%	12.9%	22.6%
Total	Count	14	17	31
	% within Recoded CURRENT JOB job involve working at very high speed?	45.2%	54.8%	100.0%
	% within Country	100.0%	100.0%	100.0%
	% of Total	45.2%	54.8%	100.0%

Recoded CURRENT JOB how often did you not have enough time to complete work tasks? *

Country Crosstabulation

			Country			
			Denmark	Ireland	Total	
Recoded CURRENT JOB how often did you not have enough time to complete work tasks?	Never/Hardly Ever	Count	2	2	4	
		% within Recoded CURRENT JOB how often did you not have enough time to complete work tasks?	50.0%	50.0%	100.0%	
			% within Country	14.3%	11.8%	12.9%
			% of Total	6.5%	6.5%	12.9%
	Seldom	Count	4	4	8	
		% within Recoded CURRENT JOB how often did you not have enough time to complete work tasks?	50.0%	50.0%	100.0%	
		% within Country	28.6%	23.5%	25.8%	
		% of Total	12.9%	12.9%	25.8%	
Sometimes	Count	5	7	12		
	% within Recoded CURRENT JOB how often did you not have enough time to complete work tasks?	41.7%	58.3%	100.0%		
			% within Country	35.7%	41.2%	38.7%
			% of Total	16.1%	22.6%	38.7%

Often	Count	2	4	6	
	% within Recoded CURRENT JOB how often did you not have enough time to complete work tasks?	33.3%	66.7%	100.0%	
	% within Country	14.3%	23.5%	19.4%	
	% of Total	6.5%	12.9%	19.4%	
	Always	Count	1	0	1
		% within Recoded CURRENT JOB how often did you not have enough time to complete work tasks?	100.0%	0.0%	100.0%
% within Country		7.1%	0.0%	3.2%	
% of Total		3.2%	0.0%	3.2%	
Total	Count	14	17	31	
	% within Recoded CURRENT JOB how often did you not have enough time to complete work tasks?	45.2%	54.8%	100.0%	
	% within Country	100.0%	100.0%	100.0%	
	% of Total	45.2%	54.8%	100.0%	

Recoded CURRENT JOB work varied? * Country Crosstabulation

			Country		Total
			Denmark	Ireland	
Recoded CURRENT JOB work varied?	Seldom	Count	1	1	2
		% within Recoded CURRENT JOB work varied?	50.0%	50.0%	100.0%
		% within Country	7.1%	5.9%	6.5%
		% of Total	3.2%	3.2%	6.5%
	Sometimes	Count	2	2	4
		% within Recoded CURRENT JOB work varied?	50.0%	50.0%	100.0%
		% within Country	14.3%	11.8%	12.9%
		% of Total	6.5%	6.5%	12.9%
	Often	Count	4	6	10

	% within Recoded CURRENT JOB work varied?	40.0%	60.0%	100.0%
	% within Country	28.6%	35.3%	32.3%
	% of Total	12.9%	19.4%	32.3%
Always	Count	7	8	15
	% within Recoded CURRENT JOB work varied?	46.7%	53.3%	100.0%
	% within Country	50.0%	47.1%	48.4%
	% of Total	22.6%	25.8%	48.4%
Total	Count	14	17	31
	% within Recoded CURRENT JOB work varied?	45.2%	54.8%	100.0%
	% within Country	100.0%	100.0%	100.0%
	% of Total	45.2%	54.8%	100.0%

Appendix J: SPSS Output for Participant Career & Security Variables

how did you get CURRENT job DENMARK

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Formal advert/Cold call	6	42.9	42.9	42.9
	Personal contact (strong tie)	5	35.7	35.7	78.6
	Private Agency	2	14.3	14.3	92.9
	7	1	7.1	7.1	100.0
	Total	14	100.0	100.0	

you thought 'i might lose my job in the next 6 months' in CURRENT job DENMARK

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neither Agree nor Disagree	1	7.1	7.1	7.1
	Disagree	4	28.6	28.6	35.7
	Strongly Disagree	9	64.3	64.3	100.0
	Total	14	100.0	100.0	

i felt secure in this job (CURRENT job) DENMARK

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	9	64.3	64.3	64.3
	Agree	3	21.4	21.4	85.7
	Neither Agree nor Disagree	2	14.3	14.3	100.0
	Total	14	100.0	100.0	

the job was important to my sense of self-identity (CURRENT job) DENMARK

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	5	35.7	35.7	35.7
	Agree	6	42.9	42.9	78.6
	Neither Agree nor Disagree	3	21.4	21.4	100.0
	Total	14	100.0	100.0	

how did you get CURRENT job IRELAND

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Formal advert/Cold call	1	5.9	5.9	5.9
	Personal contact (strong tie)	9	52.9	52.9	58.8
	Private Agency	3	17.6	17.6	76.5
	Other	4	23.5	23.5	100.0
	Total	17	100.0	100.0	

you thought 'i might lose my job in the next 6 months' in CURRENT job IRELAND

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	5	29.4	29.4	29.4
	Neither Agree nor Disagree	3	17.6	17.6	47.1
	Disagree	5	29.4	29.4	76.5
	Strongly Disagree	4	23.5	23.5	100.0
	Total	17	100.0	100.0	

i felt secure in this job (CURRENT job) IRELAND

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	4	23.5	23.5	23.5
	Agree	7	41.2	41.2	64.7
	Neither Agree nor Disagree	2	11.8	11.8	76.5
	Disagree	3	17.6	17.6	94.1
	Strongly Disagree	1	5.9	5.9	100.0
	Total	17	100.0	100.0	

the job was important to my sense of self-identity (CURRENT job) IRELAND

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	4	23.5	23.5	23.5
	Agree	11	64.7	64.7	88.2
	Neither Agree nor Disagree	2	11.8	11.8	100.0
	Total	17	100.0	100.0	