What is a 'good' job?

Modelling, measuring and improving job quality

by

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Abstract

Job quality is important: there is a substantial evidence base which illustrates the potential risks of poor quality work. These arise from the occurrence of accidents and disease due to unmanaged hazards, as well as from psychosocial factors such as poor pay and security, shift working or the combination of low control and high demands. There is also a body of evidence which demonstrates a positive impact from good quality work, with contributions to longevity, improved health and happiness, and business success. Despite this recognition of the importance of job quality, there is a lack of agreement around exactly what it is: particularly when trying to define it as a single construct.

This research aimed to address this insufficiency by exploring the concept of the good job, and seeking to define job quality from an ergonomics perspective. This approach encourages a broad outlook, taking account of the physical and psychosocial aspects of work, the interactions between them, and the impact of individual variation. A theoretical model is presented to summarise the concept of job quality based on these considerations: this was applied to a study of three bus companies using both a quantitative survey tool and qualitative methods.

In developing the model, an initial study was undertaken using repertory grid interviews to explore notions of work and job quality, and to identify the most important areas for further investigation. Interviews were conducted with individuals (n=18) who were employed in a wide range of jobs, and varied substantially in their priorities and preferences. Job content and relationships were often identified as more important than pay levels; but there was also evidence of compromise, where interviewees had prioritised jobs which met their practical needs. Also, individuals perceived a 'good' job differently from one which was good for their health, and overall did not consider good health to be an essential outcome of a good job.

Two subsequent studies were undertaken with a focus on jobs commonly done by those with low formal education, who may have more to gain from improved job quality. Semi-structured interviews were carried out firstly with cleaners and manufacturing employees (n=30) and then with bus drivers (n=80). A number of job features such as safety and job/employment security were found to be important for almost all interviewees, and thus were identified as core features of a good job. Other factors such as autonomy and preferences for particular working patterns were more variable, highlighting the importance of job-employee fit. The theoretical model of job quality constructed was based on these findings and the literature.

The model was applied in a qualitative study of bus and coach drivers in three companies to assess whether this was a good job, whether it could be a good job, and what the barriers to this might be. In two of the companies bus driving was found to be a poor job, with low pay and inadequate health and safety management. In the third company it was better but there were still challenges: particularly time pressures, low physical activity, and varied and unsociable working patterns. It was identified that some of the barriers to good job quality for bus drivers and potentially in jobs more generally are difficult to address as they are intrinsic to the job. The best solution to these difficulties is to ensure a good fit between job and employee. Other barriers were identified which appeared to be financial, such as low pay in the two smaller companies, but they could also reflect cultural factors within the organisation or within wider society.

A final study considered the measurement of job quality, in the light of the importance and extent of individual variation highlighted throughout the research. The DGB-Index (Deutscher Gewerkschaftsbund Index), a questionnaire tool designed and used in Germany which specifically accounts for this, was used in the same three bus companies (n=423). The results were compared with those from the qualitative study and reached

similar conclusions, thus confirming the utility of the DGB-Index for job measurement and comparison when translated into English.

The research demonstrated that it is possible to define and measure job quality and to compare it between organisations. The model of a 'good' job constructed to facilitate this differs from those found in the literature: it takes into account the variation between individuals and the fact that they construe good jobs in different ways. Thus it highlights the importance to job quality of a good fit between job and individual in addition to the need for work to be good in terms of the more universal features such as job security, safety and adequate pay.

Here I am, brain the size of a planet and they
ask me to take you down to the bridge. Call
that job satisfaction? 'Cos I don't.

Douglas Adams *The Hitchhiker's Guide to the Galaxy*

Acknowledgements

Publications

Conference papers

Jones W., Haslam, R.A. and Haslam, C.O., 2013. Bus driving – can it be a good job? In: *Contemporary Ergonomics and Human Factors 2013* (edited by Anderson, M.) (CRC Press: Boca Raton), pp 69-76. Proceedings of the international conference on Ergonomics & Human Factors, Cambridge, UK, 15-18 April 2013.

Jones, W., Haslam, R., & Haslam, C., 2012. How do people differentiate between jobs: And how do they define a good job? *Work, 41*, 818-821. Proceedings of the 18th World Congress on Ergonomics, Recife, Brazil, 12-16 February 2012.

Journal paper

Jones, W., Haslam, R.A., & Haslam, C.O. **(**submitted to Applied Ergonomics) Measuring job quality: a study with bus drivers.

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Abbreviations

ASHE	Annual Survey of Hours and Earnings
BHPS	British Household Panel survey
BITC	Business in the Community
CPC	Certificate of Professional competence (for PCV drivers)
CSDH	Committee on Social Determinants of Health
DGB-Index	Deutscher Gewerkschaftsbund Index (German Trade Union Confederation Index)
DOH	Department of Health
DVLA	Driver and Vehicle Licensing Agency
DWP	Department for Work and Pensions
EC	European Commission
ERI	Effort Reward Imbalance
EU	European Union
EWCS	European Working Conditions Survey
GDP	Gross Domestic Product
GHQ	General Health Questionnaire
HAD	Hospital Anxiety and Depression Scale
HSE	Health and Safety Executive
ILO	International Labor Organization
ISSP	International Social Survey Programme
JD-C	Job Demand-Control
MIS	Minimum Income Standard
NRCP	National Research Council Panel on Musculoskeletal disorders and the Workplace
PCT	Personal Construct Theory
PCV	Passenger Carrying Vehicle
SRH	Self-rated Health
UK	United Kingdom
VOSA	Vehicle & Operator Services Agency
WHO	World Health Organization

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Chapter One   Introduction

1.1   Why does the quality of work matter?

The nature of modern work is very different from that in early subsistence cultures where individuals undertook activities to provide themselves and their families with food and shelter. The most common contemporary model of work involves 'specialisation' (Rose 1985), where individuals undertake paid employment in order to purchase these essentials rather than gathering or producing them directly. Such labour, in addition to its practical purpose, has been identified as having moral and philosophical benefits. This view was espoused, for example, by the puritans of the 16th and 17th centuries, and is central to Weber's depiction of the Protestant Work Ethic (Weber 1930), which emphasises the moral benefits of working diligently, of deferring gratification, and of complying with the orders of one's employer. Work continues to be a moral issue in the UK at least, as highlighted by recent parliamentary distinctions between 'strivers' and 'skivers'. However, there are also more tangible advantages which accrue from work and which might contribute to positive benefits for health. These include the financial gains of paid employment which enable individuals to meet their basic needs and to participate in society; the social aspects of working with others and building relationships (Lowe et al 2003; Cooke et al 2013); the benefits of physical activity (Straker and Mathiassen 2009); and the impact on self-esteem of striving against adversity and achieving success (Warr 2007b; Schumacher 1979). Consequently, a substantial review of the literature by Waddell and Burton (2006) has found evidence that employment is generally good for health.

Set against these positive outcomes of work are the potential adverse effects of man or woman's labours. Writing in 1713, Ramazzini noted that *"porters all become round-shouldered;…potters take in the lead poison. Hence they are soon attacked by grievous maladies;…bakers and millers cannot help taking*

in floating particles of flour…which makes them very liable to coughs, short of breath, hoarse and finally asthmatic;…..'chairworkers' suffer from general ill-health caused by their sedentary life" (Ramazzini translated by Wright 1964; condensed by Franco & Franco 2001). The cost of employment has remained high for many in the 300 years since then: 20,000 deaths, largely from malaria and yellow fever amongst those building the Panama Canal (Avery & Haskins 1913); many thousands of cases of lung disease, often fatal, associated with cotton production in North West England (Bowden & Tweedale 2003); 25% of Victorian railway workers suffering from back and joint problems related to their work, and two thirds of metal workers in the same era suffering from hearing loss (Dembe 1996). Regrettably this is not an issue of historical interest only. Over 2 million people continue to die each year worldwide as a result of their work (International Labor Organization (ILO) 2013). The majority of these deaths relate to ill health in developing nations, with conditions such as pneumoconiosis and asbestosis accounting for the largest proportion of deaths. In other parts of the world work-related mortality is much lower, but occupational ill-health persists nonetheless. In the United Kingdom for example, work-related conditions such as deafness, hand arm vibration syndrome and asthma continue to occur; musculoskeletal and mental health conditions are particularly prevalent, with around 360 thousand new work-related cases each year in the UK (HSE 2012).

The persistence of work-related ill-health would seem to indicate that many continue to be employed in poor quality jobs. It has been suggested that the existence of these, with poor safety and low wages, is widespread in the Western world and 'no smaller today than it was several decades ago' (Osterman 2010). Variations in job quality arise in part due to differences between industries with some such as agriculture, hospitality and transport being particularly problematic (Jettinghoff & Houtman 2009). There are also differences between countries: for example longer working hours and worse working conditions are found in Eastern and Southern Europe compared to other countries in the European Union (Wallace et al 2007). In addition, however, there is variation within industries with some employers providing

better quality work than others in the same field whilst apparently operating under the same constraints (Muñoz de Bustillo et al 2011a). This suggests that poor job quality is not inevitable - there is scope for improvement provided that we have a clear understanding of what is required.

Unfortunately, despite the wealth of literature which exists on the topic, there is still a lack of agreement regarding the definition and measurement of job quality (Muñoz de Bustillo et al 2011b). Various reasons have been proffered for this deficiency, including the complexity of the topic and the multitude of perspectives adopted in the academic and government literature (Burchell et al 2013). Consequently, there is no clearly defined picture of what constitutes a 'good' job, making it difficult to draw robust comparisons between jobs, or countries, to drive improvements in job quality or to measure the success of interventions: assessment is limited to the consideration of individual aspects. Thus the establishment of a norm or standard would be beneficial. This requires consideration of a number of key factors.

1.1.1 How can we describe a good job?

The first challenge is to decide which features are essential contributors to job quality and should be assessed under the heading of a good job. As alluded to above, a good job should be one which is safe, such that those who undertake it are not at risk of illness or injury from unmanaged hazards. Issues of pay and benefits are also important. In fact, as will be explored in the literature review, there are many features which are considered to influence job quality, and priorities vary amongst authors and between academic disciplines. Some take a relatively narrow approach, concentrating on closely defined areas, such as pay and security (Grzywacz & Dooley 2003), or psychological demands (Karasek 1979). Others have attempted to map the whole territory and draw up a list of all the key features which may contribute to job quality. Again, there is wide variation with some focussing on psychosocial elements (Warr 2007b), and others giving greater attention to the physical and safety hazards mentioned earlier. Some go further still, including social elements such as levels of unemployment or the use of child

labour (Bonnet et al 2003; ILO 2006). Hence any definition or depiction of job quality has to determine where its boundaries lie, which job features to include and which to leave out. An additional challenge is in identifying not just what the relevant features are but how to measure them and what is an acceptable 'level'. For example, when considering the level of pay necessary for a job to be considered good, should this be specified as a minimum pay rate, a pay rate which is proportionate to the skill or effort involved, or a pay rate which meets an individual's needs? Similar issues surround many of the other features involved.

1.1.2 **Is a good job the same for everyone?**

The working population has a wide range of abilities, preferences and personality characteristics, making it inevitable (and generally fortuitous) that different people will favour different jobs and job characteristics (Edwards & Cooper 1990; Warr 2007a). In addition, individuals change over time in terms of their priorities, their family commitments and also their work capacity. For example, the older worker may have reduced muscle strength, visual acuity or tolerance to heat and cold stress, but such deterioration varies between individuals, as well as being offset by experience and training in some cases (Stedmon et al 2012).

This variation introduces a further consideration in job quality – if all jobs are not the same, and individuals vary both in their preferences and in their work capacity, how effective are the mechanisms which match individuals and jobs? Are most employees able to choose a job which suits them, which they consider to be 'good' even if it may not suit others? If there is a mismatch or incompatibility between jobs and the individuals who do them, this could have an effect on job quality as experienced by those undertaking work, even for employment which appears good in terms of features such as pay and safety. There are also consequences for employers of such mismatches, and this has driven the growth in ability and personality testing which is a key part of recruitment and selection processes for many organisations (Robertson & Smith 2001; Carless 2009). Therefore, a comprehensive model of a 'good job'

must take account of this variation, giving consideration to the factors which influence individual preferences and work capacity and the impact of this in practice.

1.1.3 How can we measure job quality?

It has been identified that the process of defining job quality is complicated by the need to decide what specifically should be 'good' for each feature, for instance what particular attribute of pay or safety should be measured. The next step is considering how this might be done. For example, data may be gathered at the individual level with assessment being subjective: '*do you think your pay is fair?';* independent: '*what level of risk arises from undertaking this task?';* or objective: '*what is the hourly pay rate for doing this job?'* Alternatively they may be gathered for a whole organisation: '*what is the median salary for the organisation?'; 'what policies and procedures are in place to improve health and safety?'* Finally, they may be drawn from national data sets or metrics: '*what is the prevalence of workplace ill-health?'; 'what is the median salary for unskilled employees?'* Which of these is chosen will depend on the purpose of assessment, as well as on the resources available.

If the aim of measurement is to assess job quality as a single entity, the different sets of data will then have to be combined – to collate findings regarding the quality of a job in terms of pay for example, with that in terms of safety and of job content. The additional decisions needed at this stage will include whether to weight some features more highly than others, and whether to have a single overall score only, or whether separate scores for different aspects are also required (Muñoz de Bustillo et al 2009).

1.1.4 What are the outcomes of a good job?

The concept of a good job is only of significance if some benefit accrues from jobs being 'better': if there are outcomes and impacts, either for the individual doing a job, the organisation which offers the job or the society in which it operates. It was outlined in the opening paragraphs of this chapter that many jobs and employment situations are known to carry high risks to the health of

those who do them; by definition then, one way of recognising a good job may be that it does no harm. An alternative view of a good job is that it should actually have a positive effect on health, or perhaps on wider factors such as wellbeing or happiness. This view is illustrated by Waddell and Burton's extensive literature review (2006) which concludes that work is generally good for health, and Warr's identification (2007b) of the contribution that employment can make to health through opportunities for self-validation.

Outcomes beyond the wellbeing of employees may also be of interest to some such as employer productivity or profit, or national Gross Domestic Product (GDP). However, there are difficulties here in correlating these directly with changes in job quality, given the myriad of other influencing factors, and they are generally beyond the scope of this thesis.

1.1.5 Can we improve job quality?

If we can define and measure job quality, and can demonstrate that a better job has positive outcomes, this then provides an argument for making jobs better, or for increasing the proportion of jobs which are good. However, this leads to further questions – what are the best mechanisms or processes to drive improvements in job quality, and how likely are these to succeed? For example one possible model is that of benchmarking. This is used by the Health and Safety Executive (HSE 2007) in its Management Standards for Stress, and by Business in the Community (BITC 2011) which highlights exemplars of good practice for others to use to guide their own improvements. However, there is an underlying assumption that any necessary changes are within an organisation's control. If there are external barriers to improvement, for example if poor job quality is influenced by national or international factors, significant improvements are less likely.

Even if an organisation has the potential to improve, it is unlikely to do so unless its decision makers perceive a benefit. The priorities of employers relate largely to improved product quality or productivity (Constable et al 2009), and arguments will need to be presented in these terms.

Demonstrating that an intervention might improve employee health will generally be insufficient to motivate change unless data are also presented which show that a return on investment is likely (Miller & Haslam 2009).

1.2   The construct of job quality as used in this research

As outlined above, the research described in this thesis addresses the theme of job quality, considering this as a broad construct encompassing the many facets of jobs which contribute to or influence experiences of work: as well as the relationships between work and health. It takes into account the ways individuals choose certain jobs, and also reflects interactions with life outside of work. The term 'job quality' was chosen for this research in preference to 'job design' to support this broad characterisation. The term job design, by comparison, has often been used in the literature in a narrow context, focussing predominantly on the nature of tasks and specific job context (Hackman & Oldham 1976). In recent years it has been used more broadly - Oldham and Hackman (2010) for example have identified the need to take into account the impact of working relationships and teams; and to consider the importance of individuals modifying their work to suit their particular skills and circumstances (job crafting). However job design is still a term which is used largely in relation to the job itself, considering this to a high degree of detail and complexity (e.g. Holman et al. 2002). Thus Morgeson and Humphrey (2006) have identified pay levels or the need for training as outcomes of job design, rather than as central features. Neither are features such as working hours or job security commonly discussed explicitly. Overall then, job quality was chosen as being a wider construct than job design and one well suited to drawing comparisons between jobs, industries and countries.

1.3   Aim of this research

The aim of this research was to define and describe a 'good' job taking into account the issues outlined above in relation to the assessment of job quality: namely the relevant job features, measurement, outcomes, the extent of

individual variation and the potential for improvement. The research was conducted from an ergonomics perspective, and this section will proceed by outlining the reasons why this is an appropriate discipline within which to study job quality.

1.3.1 Ergonomics and job quality

Ergonomics has been described as 'the scientific study of the relationship between man and his working environment' (Murrell 1965). A traditional role of ergonomics has been in reducing the burden of workplace morbidity which is an important undertaking, as ill-health is expensive for individuals and societies. However, the study of good quality work and its effect on the worker also falls within its remit. Dul et al (2012) have identified three fundamental characteristics of ergonomics and these highlight the contribution that the discipline can make to this field of study:

- Ergonomics takes a systems approach
- Ergonomics focuses on two related outcomes – performance and well-being
- Ergonomics is design driven

A systems approach is one which recognises the interactions between the different components within an environment or situation (Wilson 2014). Ergonomics takes a 'broad perspective' over a wide range of factors – human, environmental, physical, psychological; and frequently operates in highly complex situations. This makes it an ideal discipline within which to study the multifaceted, often contradictory nature of job quality. This research has focussed predominantly on a model for individual jobs but it has also considered the impact of factors within the wider environment and the interactions between these. This systems perspective included the recognition of individuals as an active and widely varying part of the process, providing scope to consider job quality in terms of the fit between job and individual rather than as a single, immutable entity.

The impact of job quality is often measured in health or wellbeing terms. As mentioned above, this is not necessarily sufficient to engage industry leaders and motivate them to implement changes. Ergonomics has experience of demonstrating improved performance to organisations, and of illustrating that changes which benefit individuals may also have a financial benefit. This research has not considered cost-benefit issues in detail but the importance of gathering such data in order to drive the agenda to improve job quality is acknowledged.

The design driven aspect of ergonomics relates to the ability of its practitioners to take an 'action' view: to be problem solvers (Hancock & Drury 2011). This is key in the field of job quality – mapping the territory and describing a good job is only the beginning and designing such jobs is an important next step. Ergonomics has a distinguished history of improving the design of work and workplaces, including contributions to radio communication, cockpit design and oxygen supply during world war two (Waterson & Sell 2006; Waterson 2011); guidance to improve the design of machines, and their interfaces with human operators in the manufacturing industries (Singleton 1962; Singleton 1972); and input into the design of the Sizewell B nuclear reactor, to ensure that job design, workplace conditions and other ergonomic aspects were considered (Whitfield 1995). More recently, ergonomics has contributed to work design to reflect the changing demographic of the workforce, as the rising retirement age from 65 years (60 for women) to 67 years or older in the UK, and other population changes (mirrored by similar developments in many other countries) increase the proportion of older workers. Currently around one quarter of the workforce is over the age of 50 but this will rise to one third by 2020 (DWP 2012), and work needs to be designed to take into account the changing capacities of this older workforce (Stedmon et al 2012). A further consequence of this change is the need to ensure that employees remain well enough to work for longer than they have previously, which makes it more important than ever to minimise the adverse impacts of work, and maximise the positive effects.

The traditional role of ergonomics then is in improving the design of jobs to take account of the needs of employees and industries. The current research has taken a step back from this to establish more clearly how a well-designed, high quality job might be defined. This extends the role of ergonomics from solving the problems of poorly designed work to assessing job quality and identifying where such intervention is most required.

1.3.2 Research objectives

It was stated above that the aim of this research was to define and describe a 'good' job. Therefore, an initial objective was set as follows:

- Objective one - to assess;
  a) how a range of individuals conceptualise a 'good' job and the features they consider important, and
  b) how the same individuals conceptualise a job which is good for health

The two parts of this objective reflect the different perspectives of job quality found in the literature. Some authors focus on the impact of work on health, whilst others consider employee preferences and job satisfaction. This objective informed an initial exploratory study which is described in chapter 4. In response to the findings of this study, three further objectives were set. Further explanation regarding the reasons for choosing these objectives and how the research programme was designed to meet them is given in chapter 3.

- Objective two - to produce a theoretical model of job quality which reflects the features which make a job good and those which make it good for health, and which accounts for individual variation
- Objective three – to evaluate this model by applying it to different companies within an industry
- Objective four – to identify and evaluate a suitable tool to measure job quality

1.4　Structure of the thesis

This chapter has introduced the topic of job quality, and explained why it is important to have a consensus on what constitutes a 'good' job. It has also described what this involves and why it is an important area of study within ergonomics.

Chapter 2 reviews the literature on job quality, outlining the ways it has been defined and measured and drawing particularly on eight projects which have assessed job quality as an overall construct. It also identifies the job features which have been most commonly associated with good quality work and summarises the state of knowledge for each in terms of their impact on health and their reported importance to employees. The chapter concludes by presenting a model to illustrate the different elements of job quality which are discussed in the literature.

Chapter 3 explains how the research has been conducted. This includes an explanation of the overall study methodology and details of the specific methods chosen and the reasons for these.

Chapter 4 describes an exploratory study which was carried out with eighteen participants from a wide range of backgrounds and jobs. Using repertory grid interviews to minimise interviewer bias, the study aimed to find out how interviewees perceived a range of jobs and how they differentiated between them. Interviewees were also asked to consider the concept of a good job and of a job which was good for health, and these two sets of findings were compared.

Chapter 5 describes a study which builds on these findings within a narrower population of employees in jobs which have low skill requirements. Semi structured interviews were carried out with a total of 30 individuals to assess the perceived importance of a range of features identified from the literature as being important for job quality. The discussion section of this chapter

includes a revised model of job quality building on the findings presented in chapters 4 and 5.

Chapter 6 describes a study with fifty bus and coach drivers drawn from three companies. The aim of this study was to test and extend the conclusions reached in chapters 4 and 5, using similar methods. The chapter concludes by presenting a final theoretical model of job quality, revised to take account of the additional findings.

Chapter 7 tests the model with data from the three bus companies. Qualitative data were gathered through interviews with employees and managers and unstructured observation; they were used to assess the extent to which bus driving might be considered to be a good job. The chapter also explores some of the barriers to the improvement of job quality in this industry.

Given that the studies described in chapters 4, 5 and 6 highlighted the extent of variation between individuals in preferred job features, the study described in chapter 8 tested whether this mitigates against quantification of job quality. The chapter describes a study carried out to measure job quality in the same three bus companies which participated in the chapter 6 and 7 studies. The measurement tool chosen was the DGB-Index (Deutscher Gewerkschaftsbund Index), a tool from Germany designed to take account of individual variation. The scores achieved in the three companies were compared to the findings of chapter 7 to evaluate whether the conclusions reached were the same as those drawn from the qualitative data. Comparisons were also made with results of testing carried out with non bus drivers from one of the companies, and with test results from a comparator population of German bus drivers. Finally, consideration was given to how useful the tool might be to assess job quality more widely.

Chapter 9 discusses the findings of all the studies, illustrating how these have satisfied the objectives identified above and have added to the

knowledge base in terms of the definition and description of a good job. It also reviews the adequacy of the methods used in this research and makes recommendations for future work to follow on from this thesis.

A summary of the thesis structure is shown below (Figure 1-1). This will be shown before each subsequent chapter to highlight where it fits in the overall schema.

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│           Chapter 1 – Introduction            │
│             What is a good job?               │
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│          Chapter 2 – Literature review        │
│             What is job quality?              │
│  What is the relationship between work and health? │
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│       Chapter 3 – Methodology and methods     │
│          How is job quality assessed?         │
│      How will this thesis assess job quality? │
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│          Chapter 4 – Repertory grid study     │
│  How do employees think about work, jobs and health? │
│ Repertory grid interviews with 18 individuals from a wide range of backgrounds │
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│        Chapter 5 – CleanCo and ManCo study    │
│ How do employees in low-skilled jobs describe a good job? What influences this? │
│  Interviews with 30 individuals from cleaning and manufacturing │
│      An initial theoretical model of job quality │
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│          Chapter 6 – First bus driver study   │
│ How do bus drivers describe a good job? What influences this? │
│  Interviews with 50 drivers from 3 bus and coach companies │
│      A revised theoretical model of job quality │
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│         Chapter 7 – Second bus driver study   │
│ Is bus driving a good job when assessed qualitatively? What are the barriers to it being a good job? │
│ Interviews as in chapter 6, plus interviews with managers, informal interviews and observation │
│         Application of the model of job quality │
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│          Chapter 8 – Third bus driver study   │
│ Can job quality be measured? Is bus driving a good job when assessed quantitatively? │
│   Use of the DGBI questionnaire in three bus and coach companies │
│         Comparison with findings from chapter 7 │
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│       Chapter 9 – Discussion and Conclusions  │
│             What is a good job?               │
│         Review and critique of study design   │
│         Suggestions for further research      │
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Figure 1-1 Thesis summary diagram

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| **Chapter 1 – Introduction** |
| What is a good job? |

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| **Chapter 2 – Literature review** |
| What is job quality? |
| What is the relationship between work and health? |

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| **Chapter 3 – Methodology and methods** |
| How is job quality assessed? |
| How will this thesis assess job quality? |

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| **Chapter 4 – Repertory grid study** |
| How do employees think about work, jobs and health? |
| Repertory grid interviews with 18 individuals from a wide range of backgrounds |

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| **Chapter 5 – CleanCo and ManCo study** |
| How do employees in low-skilled jobs describe a good job? What influences this? |
| Interviews with 30 individuals from cleaning and manufacturing |
| An initial theoretical model of job quality |

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| **Chapter 6 – First bus driver study** |
| How do bus drivers describe a good job? What influences this? |
| Interviews with 50 drivers from 3 bus and coach companies |
| A revised theoretical model of job quality |

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| **Chapter 7 – Second bus driver study** |
| Is bus driving a good job when assessed qualitatively? What are the barriers to it being a good job? |
| Interviews as in chapter 6, plus interviews with managers, informal interviews and observation |
| Application of the model of job quality |

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| **Chapter 8 – Third bus driver study** |
| Can job quality be measured? Is bus driving a good job when assessed quantitatively? |
| Use of the DGBI questionnaire in three bus and coach companies |
| Comparison with findings from chapter 7 |

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| **Chapter 9 – Discussion and Conclusions** |
| What is a good job? |
| Review and critique of study design |
| Suggestions for further research |

Chapter Two Literature review

2.1 Introduction

This literature review will begin by considering the notion of job quality – how
it is defined, what its outcomes are and how it varies between individuals.
Secondly, it will summarise how it has been assessed by a range of authors
with a particular focus on the job features considered in each case. The third
part will look in more detail at these individual features of jobs, summarising
the current state of knowledge for each in terms of how it is defined and its
effects on health. Finally, an initial model will be presented to summarise job
quality as it is conceptualised in this literature review.

The literature search strategy for this review began with searches for the
terms 'good job (s) , 'good work', 'job design' and 'job quality', combining
these with the keywords 'measurement' and 'health' to limit scope where
necessary. Searches were also carried out using the keywords 'wellbeing'
and 'quality of life'. Finally, searches were undertaken on the specific
features which were identified as aspects of job quality such as 'pay' 'security'
and 'autonomy'. No specific date delimiters were used, but priority was
initially given to more recent literature. Key references from these papers
were then followed up, and forward citation was also used for papers which
were identified as being highly relevant. Searches were made predominantly
within specific databases including Web of Science, Scirus, and Science
Direct although other databases and indexes such as Primo Central were
used where applicable.

2.2 What is job quality?

2.2.1 Disciplinary differences in interpretation

The literature on job quality extends across a wide range of disciplines, with
different perspectives, different motivations and different definitions. For
example, within the sociological tradition job quality is taken to refer to 'the

intrinsic quality of work' (Gallie 2013), specifically excluding extrinsic factors such as pay and security. However most authors use a wider conceptualisation which is 'multidimensional' (Schokkaert et al 2009), and 'elusive' (Muñoz de Bustillo et al 2011a) including a wide range of job characteristics, some extrinsic and others intrinsic (job content, training, relationships etc.).

The lack of consensus over how to delineate job quality has been widely discussed in the literature (Ashford et al 2007; Kalleberg 2008; Loughlin & Murray 2013). For example Findlay et al (2013) have observed that sociologists focus predominantly on skill and autonomy, and the intrinsic nature of the job. This is typified by Gallie's assessment of the extent to which employee participation influences skill development and wellbeing (2013); and by Hackman (1980) who considered how to redesign jobs to improve employee experience as well as performance. However others within the field have also explored areas such as the impact of low pay and job insecurity (Grzywacz & Dooley 2003), as well as considering how the different factors fit together (Kalleberg & Vaisey 2005).

Some research on job quality focuses largely on pay levels, particularly in the economics literature. A key principle here is the theory of compensating wage differentials which suggests that employees will trade-off different aspects of job quality, expecting higher wages as payment for work which is undesirable, or accepting lower pay for work which is attractive in other ways (e.g. Grund and Schmitt 2013). There is supposedly 'considerable empirical evidence' to validate this theory (Osterman 2010); however, Muñoz de Bustillo et al (2011a) have disputed this, based on evidence that positive attributes tend to accumulate – jobs which are intrinsically good (e.g. interesting and varied) are more likely to be well paid and secure than jobs which are intrinsically poor. As a result some employees, typically those in lower socioeconomic groups, are trapped in jobs which combine adverse working conditions such as long working hours, low security, shift work and low pay, with an associated impact on their health (Siegrist et al 2009).

Psychologists focus largely on job satisfaction when considering job quality (Kalleberg & Vaisey 2005; Findlay et al 2013). However they also take a particular interest in the impact of psychosocial demands on individuals, as illustrated by widely discussed models such as Effort Reward Imbalance (ERI) (Siegrist 1996) and Job Demands-Control (JD-C) (Karasek 1979; Karasek et al 1981). Warr (2007b) has drawn this literature together to produce a list of twelve characteristics of job environments which contribute to 'happiness' (discussed further in section 2.2.3), and which make a job 'psychologically good'. This is a psychosocial model of job quality which only briefly addresses risks to physical wellbeing such as hazardous working conditions, work-related injury, and environmental factors such as noise and temperature.

Finally the quality of people's jobs and the effect on their health is discussed within the ergonomics literature. Although studies often focus on specific aspects such as physical hazards (Li & Buckle 1999), psychosocial risks (Eatough et al 2012) or the environment (Parsons 2002), there is an underlying interest in how these interact and operate as a system (Wilson 2014) and the effects this can have on health, safety, satisfaction and productivity. An ergonomics approach to job design would therefore encompass all these factors in addition to considering their combined impact and the effect of individual variability. This is a much broader scope than that applied to job design traditionally (e.g. Hackman & Oldham 1976). Therefore, whilst ergonomics rarely has the opportunity to focus explicitly on the design of whole jobs, it is well placed to do so, building on its background of designing equipment, workplaces, and systems.

2.2.2 **A historical perspective**

It is useful at this stage to consider early thinking which informs the current research. Firstly, the work of Maslow (1943) on the motivators of human behaviour: his thesis was that humans are in the first instance motivated to satisfy their physiological or basic needs such as the need for food or water. Only once this need is satisfied, at least in part, do other needs emerge

progressively: safety, love and belonging, esteem, and self-actualisation. Maslow's model does not specifically address work-related issues but the basic principle that 'higher order' needs become relevant only once the more basic needs are satisfied has been described by Warr (2007b) as 'plausible' in relation to work and happiness. When translated into employment factors, this would suggest that the first function of a good quality job is to satisfy basic needs through provision of adequate pay; and then to ensure safety, in terms of working conditions and job security. Once these are in place, the working relationships become of importance; and finally the more intrinsic aspects of work, the actual nature of the job and the extent to which this allows achievement, generates respect, and permits an individual to become 'everything that one is capable of becoming' (Maslow 1943, p832). There is evidence that this hierarchy prevails in the workplace. Pay rates have been identified as being more important in countries at an earlier stage of development compared to those which are more affluent (Wallace et al 2007; Helliwell et al 2012). Once economic needs are reliably satisfied, the social factors become more prominent. The wider literature also confirms that pay is a source of increasing wellbeing and happiness only to the point where it permits needs to be met, with a diminishing effect thereafter (Rose 2003; Clark et al 2008; Dolan et al 2008).

Whereas Maslow considered the factors motivating individuals to be sequential, needing to be satisfied more or less in turn, Herzberg et al (1959) envisioned work motivation within a dichotomous structure. Those aspects which Maslow identified as basic needs, such as pay, safety and security (more commonly termed extrinsic factors in the modern literature), were described by Herzberg as hygiene factors. They were, he proposed, important to prevent a job from causing dissatisfaction but had little value beyond that, and would never motivate employees to work hard. True motivators by comparison were those aspects which would enable an individual to 'grow' – the intrinsic factors such as responsibility, achievement and the nature of the work itself. Herzberg's model is considered to be generally outmoded and to have 'few adherents' (Warr 2007b, p235).

Nevertheless it has been suggested that its focus on the importance of enhancing and developing skills as a means of achieving self-fulfilment and happiness is not dissimilar to the perspective of the positive psychology movement (Sachau 2007). Sachau has identified that the distinction between factors which prevent pain and distress and those which create positive outcomes such as satisfaction, wellbeing and happiness is of particular relevance to employers seeking to improve performance and enhance employee skills.

According to both models therefore, work may have a role in supporting individual growth. Herzberg took a rather rigid view of this, expressing an opinion that those who did not seek personal growth in their work were mentally unhealthy and 'doomed to live in dreadful anticipated pain and suffering' (Herzberg 1968). Maslow, however, recognised the scope for individual variation: that some may achieve satisfaction from roles outside of their employment and that others may choose to override 'basic needs' in their search for higher ideals. Maslow's model also illustrates the risk that those in low quality work are trapped there, and that the difficulties they experience in trying to fulfil even their basic needs prevent them from moving on to work which might allow satisfaction of higher factors (Kistler et al 2011).

2.2.3 The impact and outcomes of job quality

The relevance of job quality, however it is defined, arises from its impact. To define a job as 'good quality' is only meaningful if in some way it has a better outcome than a poorer quality job. The impacts to be considered in the current section will be those which affect the individual, as opposed to those which affect, for example, performance or company success. The three outcomes most frequently used in the literature in this context are health, happiness/wellbeing and job satisfaction. Each of these will be considered below.

Health

The definition of health given by the World Health Organization (WHO 1948) is 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity'. This is a broad conceptualisation, having much in common with definitions of wellbeing or quality of life which are discussed below. Generally, the job quality literature uses health outcomes which focus more specifically on the presence or absence of physical and mental illness.

Mental health is frequently measured using subjective tools such as the General Health Questionnaire (GHQ) (Goldberg & Hillier 1979) and the Hospital Anxiety and Depression Scale (HAD) (Zigmond & Snaith 1983); other studies have used more objective measures such as hospitalisation with psychiatric disorder (Joensuu et al 2010). Physical and general health can also be assessed subjectively, methods include the Nordic questionnaire for musculoskeletal symptoms (Kuorinka et al 1987) and broader measures such as self-rated health (Eriksson et al 2001) or SF36 (Ware & Sherbourne 1992). Alternatively specific health outcomes such as coronary heart disease (Kivimäki et al 2011b) may be assessed, whilst other studies have used the incidence of sickness absence as a proxy for illness (Michie et al 2004).

The impact of work on health may be positive as well as negative. In an influential piece of research commissioned by the UK Government, Waddell and Burton (2006) carried out a systematic literature review and concluded that work is generally good for health. One of the key reasons for this conclusion is the adverse health impact of unemployment, which has been widely demonstrated (Grzywacz & Dooley 2003; Kalleberg et al 2000) and which arises from the financial, social and personal esteem consequences of job loss. However, the view that work has a beneficial impact on health extends beyond this, supported by recent evidence suggesting that retirement is bad for health relative to continued employment (Sahlgren 2013).

The view that work is positively good for health relies on a 'salutogenic' perspective. Antonovsky (1996) described as a misconception the view that humans are generally well and merely need to take preventative steps to avoid illness. In fact, he proposed, we are all some way towards illness, and should therefore consider steps to actively improve our health. It has been suggested (e.g. Fuchs 2007) that good quality work is part of such a process.

Happiness and Wellbeing

Happiness, wellbeing and quality of life have all been used as indicators of a general state of good mental and physical wellness, not dissimilar in scope to the definition of health used by the WHO. However they are terms which are often used interchangeably and not well defined (Smith et al 2011). They are commonly measured through the use of global subjective questions such as 'How satisfied are you with your life overall' (Dolan et al 2008) or 'taking all things together, how happy are you?' (Layard 2010).

Warr (2007a; 2007b) uses the term happiness, describing it as a combination of self-validation which is achieved by struggling against adversity and working towards difficult goals; and subjective wellbeing, defined in terms of feeling good or bad: anxious or comfortable: and depressed or enthusiastic. Quality of life has been identified as being synonymous with happiness (Hancock & Drury 2011; Helliwell et al 2012), and broader than wellbeing (Hajiran 2006). Wellbeing in turn is considered to be larger than health, as it also encompasses factors such as family and leisure. Muñoz de Bustillo et al (2011b), for example, have defined wellbeing as reflecting a state of being healthy, self-fulfilled, secure, having enough resources so as to enjoy a decent life and time to have a satisfactory private life.

Warr has identified work as a major source of the self-validation aspect of happiness. This is a potential explanation for the suggestion above, that work can have a positive impact on health. It is not a new idea – Schumacher (1979) highlighted the positive impact of good work, describing it as the 'joy of life': but also cautioned against the damaging effect of 'mindless work'. He

quoted Albert Camus as stating that 'without work all goes rotten, but when work is soulless, life stifles and dies'. Schumacher and others (Sennett 2008; Coote et al 2010) have also recognised that validation can come from sources other than work. In fact, worldwide research by Gallup found that 95% of the differences in happiness between countries was explained by *per capita* incomes, healthy life expectancy, having friends to count on, having a sense of freedom to make life choices, and the absence of corruption (Helliwell et al 2012). The impact of employment here appears to be largely reduced to its scope to provide a good income without adversely affecting health.

Job satisfaction

A final outcome of job quality which will be mentioned here is job satisfaction, which Warr has identified as one of the factors (alongside health, family and leisure) which contribute to overall wellbeing (Warr 2007b). It is generally measured by a subjective question such as 'overall, how satisfied or dissatisfied are you with your present job?' (Rose 2003). It can be used as a subjective output when measuring job quality, to determine which factors are of most significance (Rose 2003; Schokkaert et al 2009).

It has also been posited as a measure of job quality itself, enabling comparison between occupations and countries (Ritter & Anker 2002; Rose 2007). Hence, the work of Rose (2003) comparing jobs using measures of satisfaction and demonstrating that hairdressers have remained highly satisfied as a group and bus drivers generally dissatisfied over a number of years. However there are risks to using job satisfaction as a short cut for job quality in this way, and in assuming that a job which satisfies an individual is inevitably a good one. This limitation can be illustrated by considering the job of hairdresser. Although as a group hairdressers are highly satisfied (Rose 2003), the job is of poor quality when measured objectively. It provides an income which is only slightly above the minimum wage (ASHE 2012), and carries health and safety risks including dermatitis (Kralj et al 2011) and increased cancer incidence (Takkouche et al 2009) as well as lower back

pain (Tissot et al 2009) and varicose veins (Tüchsen et al 2005) if prolonged standing is required.

In view of this potential contradiction, a number of authors have challenged the use of job satisfaction as a proxy for job quality measurement. Reasons given include:

a) satisfaction is an emotional response (Locke 1976), and is therefore highly subjective; for example, those who value rewards may rate a job highly because it provides good levels of pay, even if it is of poor quality in other ways (Brown et al 2012);

b) those who have low expectations of job quality may score highly on satisfaction even where job quality would be low if measured objectively (Schokkaert et al 2009). Examples of this include women who 'satisfice' (Walters 2005), being content with an uninteresting job because it suits their needs in terms of hours and location; and the fact that job satisfaction is generally similar across countries despite substantial differences in wages, working conditions and working hours (Muñoz de Bustillo Llorente & Fernández Macías 2005);

c) if individuals are trapped in jobs which they dislike and are unable to leave, they are likely to revise their expectations (Muñoz de Bustillo Llorente & Fernández Macías 2005) or overstate their satisfaction (Rose 2003) in order to minimise cognitive dissonance and distress;

d) individuals in jobs which, objectively measured, are of good quality, may be dissatisfied if they take for granted the positive features to which they have become accustomed (Tangian 2009).

Job satisfaction is easily measured: it takes account of individuals' preferences, enabling them to summarise and balance out the various aspects of their working lives (Kalleberg & Vaisey 2005) and it eliminates the difficulties of measuring job quality directly such as knowing which characteristics to look at and how to weight them (Clark 2011). However, although it is useful as an output measure to highlight which factors are most

important for individuals, it has substantial limitations as outlined above, if used as an overall measure of job quality.

2.2.4 Influencing factors – job quality is not the same for everyone

The majority of commentators on job quality acknowledge the existence of variation between individuals in terms of their preferences and choices. For example, Edwards and Cooper (1990) refer to the 'common sense notion that one person's pleasure is another's pain', and Burgess and Connell (2008) describe job quality as being 'individual and relative', varying across individuals, occupations, industries and locations.

This variance is widely accepted and explored in the literature regarding the relationship between job factors and health. Many studies either correct for differences between genders, age groups or socioeconomic background when considering interactions (Niedhammer et al 1998; Nabi et al 2008) or specifically explore the differences (Choi et al 2008; Janwantanakul et al 2008; Elovainio et al 2010; Tsutsumi et al 2011). For example, perceived job quality may vary with age. Job satisfaction tends to be high in the early years of employment, drops to a low point in the late twenties/early thirties, then rises steadily through to retirement (Birdi et al 1995; Clark 1996). Subjective job quality is likely therefore to be scored more highly amongst older workers; in particular, such workers find income and promotion less important, and value job security and physical safety although the evidence base is small (Warr 2007b). There are also differences reported according to gender such as increased importance of job security, pay and promotion amongst men, and of social responsibilities and job content for women (Konrad et al 2000; Clark 2005).

The culture of a country or region will influence what is considered to be important in job quality. Muñoz de Bustillo et al (2009) have illustrated this with data from the International Social Survey Programme (ISSP) showing job security and interesting work to be priorities for employees in Europe and America, with those in Japan more likely to favour a job acknowledged as

useful for society. This illustrates the differences between individualistic societies which value autonomy and achievement and those societies, typically Asian, where there is a greater focus on social harmony and the welfare of the collective (Lu & Gilmour 2004). A nation's economic situation will also have an influence: consider the evidence (Wallace et al 2007) that job satisfaction in prosperous countries in continental Europe is associated with career outlook and interesting work, whilst pay and working conditions are stronger predictors in less wealthy Eastern European countries, illustrating that unmet basic needs generally take precedence over higher aspirations. These differences, and the extent to which they 'contaminate the answers' (Muñoz de Bustillo et al 2011a, p200) become particularly important when comparing job quality between countries.

Just as expectations vary between individuals in different countries, so they vary between groups within countries, particularly with regard to education and socio-economic status. For example, Schokkaert et al (2009) found that those with higher education were more likely to be dissatisfied with their work because they had higher expectations. Explanations for this include the possibility that such individuals are more likely to value work which is interesting, useful and autonomous because they have already met their basic income needs (Muñoz de Bustillo et al 2011a, p27): or that those with lower expectations do not consider such job attributes to be within their scope, seeking only a 'working situation which is as good as it can be all things considered' rather than having any higher aspirations (Wadsworth et al 2010b).

Other factors which may influence perceptions of job quality include work orientation (Goldthorpe 1968) and work ethic (Hakim 1991) - why one chooses to work; personal salience - the extent to which an individual wants to attain or avoid a particular work characteristic (Warr 2007b); and personality. These influence overall perception of job quality with those scoring highly on neuroticism or negative affectivity tending to see their jobs as being of lower quality (Warr 2007b). They also influence the likelihood that

work may cause psychological (Doef & Maes 1999) or physical ill-health (Marras et al 2000; Parkes et al 2005).

Given the extent of individual variation, it has been suggested by Cooke et al (2013) that a universal measure of job quality would have no value. Their exploration of the experiences of 88 rural employees concluded that job quality was always relative, influenced by individual experiences and life goals and by the standards of the community to which they compared themselves. This presents a difficulty: if work quality is indeed 'individualistic, dynamic and context-specific,' how can research tools be constructed to measure and assess it (Findlay et al 2013)?

In practice, as will be discussed in section 2.3 below, despite the recognised importance of individual preferences most tools which measure job quality adopt a standard model (e.g. Wallace et al 2007; Leschke et al 2008; Jettinghoff & Houtman 2009), discounting the importance of matching the individual to the job. The consequence of this is that jobs may be identified as 'good' even though they do not suit those doing them. For example, Kalleberg (2008) has discussed the importance of matching individuals to jobs, identifying five types of mismatch – skills, location, time, earning, and work-family conflict. Individuals, he observed, trade off good matches in some dimensions to avoid mismatch in others with adverse impacts for individuals and organisations. Evaluating against a single measure of a good job may fail to reflect this.

2.3   Some current models of job quality

As outlined above, there is limited consensus regarding what job quality should encompass and how a good job might be defined. McDonald et al (2009) observed that a total of 24 different aspects of job quality were identified in published research over a ten year period, but that pay was the only aspect to feature in every study, highlighting the difficulty of reaching a common understanding on this issue.

Table 2-1 summarises eight studies of job quality representing a range of authors. This is not an inclusive list of models but has been constructed to illustrate the breadth of contributions to the topic, and to highlight the differences in focus. However, the table also highlights the extent of similarity between the models, confirming Warr's supposition that the 'overall importance [of the key features] is not in question' (Warr 2007b, p82). The table therefore includes a list of key work factors, highlighting those which are common to most of the models presented.

Table 2-1 A summary of some models of job quality, and the key features they include

	Project or study			
Key work factor	**1. WHO - Closing the gap** CSDH (2008)	**2. European Union Job Quality indicators** Munoz de Bustillo (2009, p26)	**3. Job Quality Index** Leschke and Watt (2008)	**4. Das Gute Arbeit (DGBI)** Mussman (2009)
Security	Secure work;	Type of contract, stability	Nonstandard employment; job security	Job security
Pay	Healthy living wage	Wage; Social benefits	Wages	Income
Job content and demands	Psychosocial hazards, stress	Pace of work and workload Meaningfulness	Work intensity	Meaningful work Creativity Work intensity
Autonomy	Psychosocial hazards, stress	Work autonomy	Work autonomy	Autonomy
Manager	Psychosocial hazards, stress			Management quality Communication
Colleagues	Psychosocial hazards, stress	Social working environment		Relations with colleagues/social climate
Training	Training for work	On-the-job training; Formal training	Education and training at work	Qualification/ development opportunities
Physical demands		Physical working conditions Health implications of work (physical and psychological)	Physical work factors (H&S, ergonomics etc.)	Physical demands
Safety	Avoidance of material hazards	Risks	Physical work factors (H&S, ergonomics etc.)	
Organisational culture	Worker involvement	Participation	Collective bargaining; trade unions; consultation about change	Workplace culture
Fairness				
Hours of work	Work life balance	Working hours; Distribution of working hours (unsocial hours, clear boundaries and flexibility)	Working time, shifts, balance with family	Hours of work
Emotional demands	Avoidance of psychosocial hazards	Health implications of work (physical and psychological)		Emotional demands
Promotion		Opportunities for advancement	Career advancement	Promotion opportunities

Table 2-1 continued

5. The Work Foundation Coats & Lekhi (2008); based on Marmot (2004)	6. Environmental sources of happiness Warr (2007b)	7. EWCS sectoral working conditions and outcomes Jettinghoff & Houtman (2009)	8. ISSP "how important do you personally think it is in a job…" ISSP (2005) cited by Munoz de Bustillo (2009)	Key work factor
Employment security	Career outlook	Security (F/T versus P/T)	Job security	**Security**
Appropriate balance between efforts and reward	Availability of money	Income level (compared to other sectors)	High income	**Pay**
Whether the work is characterised by monotony and repetition	Externally generated goals (demands, load) Variety	Job demands Skilled work	An interesting job Useful to society Help other people	**Job content and demands**
Whether employees have autonomy, control and task discretion	Personal control	Job control	Work independently	**Autonomy**
	Supportive supervision	Social support		**Manager**
Workplace relationships – social capital	Contact with others	Social support		**Colleagues**
Whether employees have the skills to deal with pressure	Skill use and acquisition			**Training**
		Ergonomic risks Musculoskeletal problems (as an outcome)		**Physical demands**
	Physical security	Ambient risks, violence		**Safety**
	Valued social position	Discrimination		**Organisational culture**
Whether workplace procedures are seen to be fair	Equity			**Fairness**
		Working hours; non-standard working hours; work-life balance	Able to decide hours or days of work	**Hours of work**
	Externally generated goals (emotional labour)	(Stress – as an outcome)		**Emotional demands**
	Career outlook		Opportunities of advancement	**Promotion**

2.3.1 Committee on Social Determinants of Health - Closing the gap

The World Health Organization (WHO) has identified 'Fair Employment and Decent work' as a cornerstone of its initiative to reduce health inequalities (CSDH 2008). As a programme with applicability worldwide this reflects the need to raise the standards of those in the worst situations, and hence this document and the subsequent 'Healthy Workplaces: a model for action' (WHO 2010) is concerned largely with the 2.34 million dying from work-related accidents and illnesses each year (ILO 2013), with an emphasis on machinery and toxic substances. Nevertheless, the importance of factors such as pay and security and the risks from psychosocial hazards is also acknowledged. This model has been included in Table 2-1 because of its significance at a worldwide level.

2.3.2 European Union Job Quality indicators

The European Union (EU) has an on-going strategy to improve job quality and this paper (Muñoz de Bustillo Llorente et al 2009) was commissioned to explore the tools and indicators which have been produced to measure job quality and to examine their strengths and weaknesses. The authors reviewed 18 such models, and concluded that none were entirely satisfactory; many were criticised on the basis that they either excluded important information or included unrelated data. The list of factors shown in Table 2-1 are those identified as necessary in an international measure of job quality. The model has been included in this summary because it arises from a systematic, high level review of the literature concerned with measuring job quality.

2.3.3 Job Quality Index

The European Job Quality Index (Leschke et al 2008) was designed to measure job quality across the countries of the European Union. It uses a combination of data sources, including the European Conditions Working Survey (EWCS), which gathers data from individuals; as well as country level

data such as that relating to wage structures and trade union membership. It was identified by Muñoz de Bustillo et al (2009) as having many strengths including being comprehensive, worker oriented, and having a complex and carefully explained weighting process to combine the many different job facets into a single indicator of job quality. It is included in the table for this reason. The disadvantage is that its data are drawn from a range of centrally collected sources, and hence cannot currently be generated on a regular basis. In addition, the data are based on national statistics and cannot be broken down to an individual level to compare different groups or consider relationships between characteristics.

2.3.4 Das Gute Arbeit (DGB-Index, Deutscher Gewerkschaftsbund Index)

This job quality indicator was developed by the German Trade Union Confederation to gather subjective data from employees across Germany about a range of factors (Mussman 2009b). Muñoz de Bustillo et al (2011a) have described it as 'well limited and worker oriented', its main disadvantages being the need for a specific survey to gather data and some 'minor shortcomings' in the process used to combine different aspects into an overall index. The model has been included because it reflects a trade union model of job quality; and because its design enables it to take account of individual employee preferences. It has been validated through correlation with outcome measures showing, for example, that those in poor quality jobs are more likely to look for alternative employment (hence there is a cost to the employer) and less able to remain in their jobs until retirement age (hence there is a cost to society) (Mussman 2009b).

2.3.5 The Work Foundation

This document reflects findings from engagement with industry as well as extensive reviews of the literature (Coats & Lekhi 2008). The shortlist of factors which are important for jobs to be good draw on the work of Marmot (2004) which has a strong academic base, considering the literature on health inequalities and also the outputs of the Whitehall II studies (Stansfeld

et al 2000) into determinants of health. It is included for this reason, and also because it reflects the employers' perspective on job quality.

2.3.6 Environmental sources of happiness

These features have been identified as ones which contribute to a job being psychologically good (Warr 2007b). The list has been designed for use as a framework within which to study individual aspects of job quality rather than as a single measurement tool. It is included because of the systematic evaluation of literature which accompanies it which explores the relationships between the factors and employee health; and in addition, because it espouses the view that work can and should contribute to good health and happiness.

2.3.7 EWCS sector comparisons

This list is not a job quality model *per se*, but is drawn from a review of working conditions and outcomes using data from the EWCS (Jettinghoff & Houtman 2009). It is included because it has been used effectively to highlight differences between job quality for specific jobs and sectors in countries across Europe. It is a large and extremely useful data set (Muñoz de Bustillo Llorente et al 2009) based on individual interviews which are conducted every 5 years with up to 4000 employees in each EU member country (Mezger et al 2011).

2.3.8 ISSP data

The International Social Survey programme collects data from individuals annually in almost 50 countries worldwide. The factors shown in Table 2-1 were the options offered to respondents who were asked the question "how important do you personally think it is in a job…?" in a survey carried out by the ISSP (2005) and cited by Muñoz de Bustillo Llorente et al (2009). This list has been included because of the worldwide perspective of the ISSP. In addition, the work considers what individuals value in their job, this is a

different perspective from the focus on health effects which is found in much of the literature.

2.4 Features included in models of job quality

This review has so far explored the concept of job quality and its measurement. It has also considered the importance of individual variation. The next section will focus in more detail on the most common aspects of job quality as identified in Table 2-1. For each, the review will consider how they are defined and discussed in the literature. The evidence for associations with job satisfaction and choice, and with health will then be summarised. Finally, where appropriate, consideration will be given to whether the aspect is universally important or whether it matters more to some than to others.

2.4.1 Security

Job security is widely acknowledged as an important aspect of job quality, being included in every model listed in Table 2-1. Its significance relates to the loss of status and income that accompany unemployment (Brenner & Mooney 1983). It also reflects the substantial impact of unemployment on health, which contributes to increased mortality from cancer, cardiovascular disease and suicide (Waddell & Burton 2006) as well as increased morbidity from depression and other health conditions (e.g. Frese & Mohr 1987; Beiser et al 1993).

Job security relates to the expectation that employment will continue (Burgess & Connell 2008). Some studies have compared permanent contracts with alternative arrangements such as fixed term contracts (Bernhard-Oettel et al 2005) or casual work (Bamberry 2011); others have used self-report questions, usually in terms of satisfaction (Rose 2003). Subjective perceptions such as this will be influenced by additional factors such as the economic environment, which may explain why perceived job security falls as unemployment rises (Burgess & Connell 2008; Clark 2011).

Job security has been identified by respondents in Europe and America, and British men as being the most important factor contributing to job quality (Clark 2005; Muñoz de Bustillo Llorente et al 2009; Tangian 2009); and as the second most important factor for British women (Clark 2011). It also influences the decisions made by employees about jobs. Rose found increased security to be a key reason given for job change (2003) and job choice (2005): and also observed, based on analysis of data from the British Household Panel Survey (BHPS) that employees lacking job security had 'sharply reduced scores' for job satisfaction, the effect being much more marked than that for pay levels.

One exception to this study is work by Kalleberg and Vaisey (2005), who discovered job security to be less important than other factors such as autonomy, benefits and interesting work. The authors did not explore why their findings differed from other literature, but it may reflect the tendency for a 'common indifference to what one has' (Tangian 2009), as the cohort were generally long serving employees in stable industries. Certainly this has been suggested as a reason why job security is perceived as less important in Japan (Muñoz de Bustillo et al 2011a, p19) despite a traditional employment model based on a 'job for life', which actively penalises employees from changing employer during their career (Chatani 2008).

The literature shows evidence of adverse health effects from poor job security. For example, Marchand et al (2005) carried out a longitudinal study over eight years reporting job insecurity to be associated with a 30% increase in the risk of psychological ill health. There have been similar findings in longitudinal studies by Andrea et al (2009); Ferrie et al (2003); and Rugulies et al (2006), who showed a doubling of the risk of severe depression. A meta-analysis of 72 (mainly cross sectional) studies by Sverke et al (2002) also supported the association between job security and health; and a study by Strazdins et al (2011) discovered the association to be reversible, and therefore likely to reflect causation.

Burgess and Connell (2008) reported individuals' perceptions of insecurity to be a stronger predictor of poor health than objective factors such as employment contract. However, casual employment contracts are still a potential threat to health given their association with worse quality jobs in other ways e.g. in terms of pay, benefits, promotion prospects and job content (Wilson et al 2008; Bamberry 2011).

Job insecurity does not affect all equally. Warr and Jackson (1985) demonstrated that the health effect of unemployment was reduced for those under the age of 20 or above the age of 59. Similarly low impact has been reported for those with lower commitment to employment (Warr 2007b), and those living in areas of high unemployment (Clark 2003), whilst the likelihood of associated financial insecurity has been shown to increase the impact (Ferrie et al 2003). Therefore, the health effects relate directly to the potential personal impact of the situation. An interesting comparison can be drawn with data from Denmark, where the adverse impact associated with job loss is reduced as a result of the culture of 'flexicurity'. This is a model of employment which allows employers to 'hire and fire at will' (Bredgaard et al 2005), but guarantees a high level of social security to those who are thus affected, as well as encouraging training to maintain skills and employability. The result is that the association between job insecurity and poor job quality is broken, and as a consequence, Danish employees rated job security as less important than other national groups in the ISSP data set (Muñoz de Bustillo et al 2011a).

2.4.2 Pay

Pay or income is included in all the job models in Table 2-1, although there is variation there and throughout the literature regarding the particular attribute measured. Some consider absolute salary, others assess how pay is perceived by an employee and whether it is considered to be a fair reward in relation to the work done. There are also varying conclusions across the literature regarding the importance of pay to individuals. For example, Rose (2003) identified salary to be the most common factor influencing job change,

and found an association between pay levels and job satisfaction, which was also reported by Layard (2010). Kalleberg and Vaisey (2005) reported satisfaction with pay to predict overall satisfaction for older workers, and Gerhart (1987) observed a similar association with a population of employees below the age of 24.

An association has also been reported in relation to absolute income by Sweeney and McFarlin (2005); and by Dolan et al (2008) and Clark et al (2008) although they observed a diminishing return, such that increases at the higher end of the pay continuum had less additive benefit than those at the bottom. This would account for the finding by Tausig and Fenwick (1999) that, not unsurprisingly, 'increasingly inadequate pay' over time was a key cause of dissatisfaction. However Clark (2005) found pay to be very important for only one fifth of employees, and less important overall than security (for men) and the nature of work (for women). Muñoz de Bustillo et al (2009) and Tangian (2009) identified even lower associations, with pay coming 4th and 6th respectively in terms of importance or influence on satisfaction for employees across Europe (and 7th out of eight items within the UK (Muñoz de Bustillo Llorente et al 2009)).

Marmot (2004) has distinguished between income levels which lead to absolute deprivation, associated with starvation and lack of sanitary facilities; and those linked to relative poverty, which prevents one having 'control over life circumstances, full social engagement and participation in society'. In the UK, the Minimum Income Standard (MIS) has been calculated as the income level which allows individuals and families to avoid relative poverty and equates to an hourly rate which is 30 – 50% above the current national minimum wage, depending on family situation (Davis et al 2012). However, the way individuals perceive pay reflects not just the actual level of income involved, and how it equates to needs, but also the value judgments which they make. Employees make decisions about the level of pay they consider appropriate for a certain intensity of work (Behrend 1957) and satisfaction

with pay will also take account of comparisons with others in terms of skills, working hours, and so on (Warr 2007b).

Low pay has been associated with worse health. Although this occurs most in poorer countries (Warr 2007b) where it is more likely to lead to absolute poverty, a similar correlation has been demonstrated in studies from Canada and the United States (McDonough et al 1997; Grzywacz & Dooley 2003; Caron & Liu 2010). In addition to this, jobs which are poorly paid are frequently of low quality in other ways (Ritter & Anker 2002; Kalleberg & Vaisey 2005; Grün et al 2010) increasing the potential health impact on those in such roles.

The relationship between pay and health is also influenced by perceptions of fairness. The Effort Reward Imbalance (ERI) model (Siegrist 1996; Siegrist et al 2004) includes a range of factors such as actual pay, individual evaluation of pay, esteem, status control which is influenced by job security, status inconsistency and opportunities for promotion and progression. It is difficult to separate out the importance of 'fair pay' from other reward factors in the model (Tsutsumi & Kawakami 2004), but there is strong evidence overall that a perceived mismatch between effort and reward is disadvantageous for health. A meta-analysis by van Vegchel et al (2005) reports a nine fold increase in death from cardiovascular disease between the highest and lowest scoring groups on the ERI model and many other studies have shown similar results in relation to various aspects of physical and mental health (Stansfeld et al 2000; Kuper et al 2002; Tsutsumi & Kawakami 2004; Stansfeld & Candy 2006; Schreuder et al 2010; Chen et al 2011).

In conclusion, associations between pay and both health and satisfaction are reported, but these vary widely. This is unsurprising given that income is an 'important explanatory variable' for some people (Rojas 2007), and barely significant for others. It is the job facet which shows the greatest spread of perceived importance across Europe (Muñoz de Bustillo et al 2011a). Whilst the specific health effects of low income will only be an issue for those who

rely on their wage to keep them above the poverty level, the subjective dimension of pay can affect a much wider range of individuals depending on a range of factors including financial expectations (Rose 2003), national income levels (Helliwell et al 2012) and perceived fairness of pay (Siegrist 1996).

2.4.3 Job demands

Factors relating to job demands are included in all the models shown in Table 2-1, but there is variation in what exactly is covered. The two most frequently discussed elements are workload and the nature of the work itself; these will be considered in more detail below. The term 'work-related stress' is often used in the literature in relation to job demands, but authors have characterised it in a variety ways. Some early models, for example, considered stress to be a stimulus (such as excessive demands) which could cause adverse reactions (Symonds 1947); others have used it to describe the various physiological responses to such stimuli (Selye 1956). More recently there has been consensus around the so-called psychological models (Cox & Griffiths 2005) which take account of individual variation and context (French et al 1982), and coping abilities (Lazarus 1966). This perspective is reflected by the HSE (2007) who have defined stress in terms of the reactions individuals have to excessive pressures or demands (which includes workload and also a mismatch between skills and abilities). Despite this improved understanding, there is a view that stress has become 'devalued' as a label through overuse (Warr 2007b): this review will consider elements of job quality which are reported to contribute to stress (such as high demands and low autonomy) but not stress as a distinct concept.

Workload

Workload (encompassing aspects such as work volume, pace and intensity) has been negatively associated with job satisfaction in some studies (Rafferty et al 2007; Kanai-Pak et al 2008; Schokkaert et al 2009), and also linked with intention to quit (Lee et al 2003) but the evidence base is small. This may reflect the fact that much literature on job satisfaction has not considered this

factor (see, for example, Ritter & Anker 2002; Kalleberg & Vaisey 2005). Erdogan et al (2012) reviewed almost 200 studies on the work factors which predict life satisfaction, and only twelve of these had assessed work overload or job demands. Further, the outcome was inconclusive - the authors found that some studies showed an effect but others did not, perhaps due to the fact that some individuals particularly seek challenge or high demands, or benefit from feeling needed or secure.

The picture regarding health effects is also complex, compounded by the fact that relatively few studies measure work load as a separate factor. Many studies have measured job strain (Karasek 1979; Karasek et al 1981; Karasek et al 1998), a combination of high demands and low control, and later models also include support (Johnson & Hall 1988) or resources (Bakker et al 2010). Many studies and reviews have demonstrated health effects in connection with job strain (North et al 1996; Belkic et al 2004; Bongers et al 2006; Chandola et al 2008; Tsutsumi et al 2011). La Montagne (2012) reviewed the evidence and confirmed job strain to be a 'fundamental cause' of work-related disease, accounting for up to 25% of cardiovascular disease (Sultan-Taieb et al 2011). Similarly, health effects have been demonstrated as a result of Effort Reward imbalance (Tsutsumi & Kawakami 2004; van Vegchel et al 2005; Kivimäki et al 2006; Stansfeld & Candy 2006) which compares actual and perceived pay and status against workload and working patterns (Siegrist 1996).

However, the evidence that high demand is an independent risk factor is less substantial. An early review of 23 studies by Schnall et al (1994) found evidence of an association with heart disease in only eight, although a subsequent eleven year study of the Whitehall II cohort (Kuper 2003) reported a positive correlation. The evidence for an association between high demands (particularly when measured subjectively) and mental health problems is more consistent, with associations demonstrated by Stansfeld et al (1995), de Santo (2010) and Chen et al (2011) as well as in longitudinal studies by Stansfield et al (1999) and Andrea et al (2009). Lang et al (2012)

confirmed a similar association with musculoskeletal symptoms in an analysis of longitudinal studies.

It has already been mentioned that high job demands are particularly problematic for health when combined with either low control or low reward. They may also have a greater impact on individuals who have particular personality traits – for example Allread (2006) observed associations between introversion and fatigue; neuroticism and anxiety; and type A personality and increased musculoskeletal problems.

Job content

A wide range of terminology has been used to describe the 'nature' of jobs. Positive aspects includes whether a job is interesting (ISSP 2005, cited by Muñoz de Bustillo 2009) meaningful (Mussman 2009b; Muñoz de Bustillo Llorente et al 2009), energising (Ashmos & Duchon 2000), has role clarity (Warr 2007b) or has task significance i.e. an impact on the lives of others (Hackman & Oldham 1976). Negative aspects of job content can relate to underload or monotony typically in manufacturing environments (Johansson 1989; Shirom et al 1999) which generally reduce arousal, although they can be associated with tasks which concurrently require high alertness such as bus or train driving (Cox & Haslam 1985; Belkic et al 2004).

There is certainly evidence that the nature of a job matters to individuals. 'The actual work' has been identified as the most important job facet for British women (the third most important for men) (Clark 2005; Clark 2011) and 'interesting' as the most important feature of a good job for British respondents (Muñoz de Bustillo et al, 2009). Warr et al (1979) showed a strong association between intrinsic job satisfaction and overall job satisfaction. This view was challenged by Rose (2003) who suggested that the intrinsic aspects of work affect the emotions but are less important for job satisfaction and job change than extrinsic factors. This does not necessarily deny the importance of job design and content, it may simply reflect a high

number of people in need of better pay and security, such that meeting these needs is the primary driving force.

The literature on job design and content focuses predominantly on the social (Arnold et al 2007), theological (Chalofsky 2003) and performance aspects (Hackman & Oldham 1976) rather than on the health effects, and a review by Dolan et al (2008) discovered 'insufficient evidence to draw conclusions about the impact of type of work on wellbeing'. Some evidence have been found which associates monotony with increased sickness absence and psychological distress (Melamed et al 1995a), as well as increased blood pressure and cholesterol (Melamed et al 1995b). However, this is confounded by the fact that low quality jobs tend to combine adverse factors (Muñoz de Bustillo et al 2011a) – in this case, the short cycle, repetitive work co-existed with contingent pay systems, which themselves contributed to an increased incidence of depression and somatic complaints (Shirom et al 1999).

The perception and desirability of particular job demands varies between individuals. For example, Schokkaert et al (2011) identified that a challenging and worthwhile job was generally more desired by those with higher education, who had greater aspirations and expectations. Hu et al (2010) found that those in blue collar (e.g. manual) jobs had a less multidimensional view of 'the work itself' than those in white collar jobs (managers and professionals), which the authors attributed to the less complex work involved; but again, this may reflect different expectations of what work should provide. As Rosso et al (2010) concluded, not everybody has the privilege of work which is self-fulfilling, and those in straitened financial circumstances are more likely to emphasise the monetary rewards of employment than its latent rewards. In addition, there is a potential for increasing numbers of people to become dissatisfied with the lack of challenge in their work as a result of increased education and over qualification (Kalleberg 2008; Loukidou et al 2009): underutilisation of skills has been identified as a significant issue in the UK (Coats & Lekhi 2008).

2.4.4 **Autonomy**

Autonomy is included in some form in all the models of job quality in Table 2-1, with most mentioning it specifically. The WHO model refers only to 'psychosocial stressors', but there is greater detail in the Healthy Workplaces document (WHO 2010) which identifies the importance of workers having meaningful input into decisions that affect them. Autonomy and control are most commonly considered within the literature as part of the JD-C model (Karasek 1979) which is discussed above. This considers decision authority to mitigate the adverse effects of high job demands. As Karasek's model has evolved, the specific characteristics measured have included personal schedule freedom, decision authority, intellectual discretion, underutilisation of skills, opportunities for involvement in organisational decision making and union representation. As a result, different studies use different meanings for 'control' (Siegrist 1996), which may influence findings.

There is contradictory evidence regarding the value which individuals place on autonomy. It has been associated with job satisfaction in the UK (Rose 2007) as well as in America (Kalleberg & Vaisey 2005) and Belgium (Schokkaert et al 2011). However, only 20% of UK respondents identified being able to work independently as very important for a job to be good (Muñoz de Bustillo Llorente et al 2009), rating it as the sixth most important feature out of eight options. This may relate to the different ways in which it has been defined in each study or considered by respondents.

The clearest evidence of the impact of low autonomy on health is found in relation to heart disease, where there is 'compelling evidence' (Belkic et al 2004) including Karasek's own longitudinal studies (Karasek et al 1981), and outcomes from the Whitehall II studies (e.g. Bosma et al 1997 and Hemingway et al 2005). The association with mental health is more equivocal, although Karasek (1979) reported that job strain was associated with increased exhaustion and depression in a sample of almost 3000 employees in America. Strazdins et al (2011) showed a reversible effect - an increase in job control predicted improved mental health over a four year period just as

reduced control predicted health deterioration; and Gallie (2013) observed autonomy to have a positive effect on psychological wellbeing. However, other studies (Stansfeld et al 1999; 2000; Marchand et al 2005; Rugulies et al 2006) have found less convincing evidence. A similar pattern has been observed for musculoskeletal conditions, with Bongers et al (2006) reporting only a moderate association with autonomy from a literature review of 24 longitudinal studies.

A possible reason for this lack of agreement may relate to the issues of conceptualisation and measurement mentioned above, as there is some evidence that skill discretion and decision authority, which are generally treated as different aspects of autonomy, show different and to some extent opposite associations with mental health (Joensuu et al 2010; 2012). Further measurement challenges arise from the subjective nature of autonomy; Bosma (1997) showed self-reported control to be uncorrelated with assessment by an independent assessor. Nevertheless, both demonstrated an association with heart disease. Bosma et al (2005) proposed, therefore, that *perception* of low control might be an additional causative factor in the association with heart disease, and showed this to be more common amongst those from poorer backgrounds. It is likely to deteriorate further over time, especially in those who are depressed (Kolstad et al 2011). This compounds the risk for such individuals, given that lower socioeconomic background and poor academic achievement increase the likelihood of individuals being in jobs which are associated with low control (Elovainio et al 2007; Christie & Barling 2009).

2.4.5 Relationships and social support

Relationships are specifically mentioned in five of the eight models in Table 2-1. Some refer generically to 'social support' whilst others distinguish between relationships with managers and those with colleagues, and this variation in definition is found throughout the literature. Johnson and Hall (1988) for example, when incorporating the element of social support into the job strain model (Karasek 1979), used measures which focused on whether

employees had opportunities to talk with colleagues during work or at break times, and also whether they met up with colleagues outside of work. They did not assess relationships with managers, nor did Muñoz de Bustillo et al (2011a) who assessed whether individuals got support from colleagues and had good friends at work. Broader measurements covering both colleagues and supervisors were used by Sinokki et al (2009), MacKay et al (2004) and Cousins et al (2004); based on the latter two reviews, the HSE (2007), in their Management Standards, have used the criteria of employees having 'adequate information and support from their colleagues and superiors.' They also have an additional factor labelled 'relationships' which is specifically about not being bullied. Warr (2007b) defined social content in two ways. He referred to quantitative factors such as the number of colleagues within 50 metres; and the qualitative aspects, such as the nature of friendships. He considered 'supportive supervision' as a separate feature, recognising that it may also influence other aspects of job quality such as role clarity, autonomy, and physical security.

A positive association between good working relationships and job satisfaction was highlighted in a large meta-analysis by Humphrey et al (2007), as well as it being a key correlate of a belief by employees that a workplace is healthy (Lowe et al 2003); and as adding to happiness at work (Bryson & MacKerron 2013). At the same time, poor relationships have adverse effects, being identified as a cause of stress (Kinman & Jones 2005), acting as a motivator for individuals to become self-employed (Johnson & Hall 1988) and being strongly related to turnover intentions (Humphrey et al 2007); although Clark (2001) found that relationships with supervisors did not correlate with actual evidence of job quitting.

Good management has also been associated with job satisfaction (Arnold et al 2007; Rose 2007), although the key elements may vary between different types of workplace (Havig et al 2011). Kahneman et al (2004) reported that individuals were least happy when they were with their manager; Helliwell et al (2012) have interpreted this as evidence that many managers 'fail to

inspire'. However, it is also possible that some managers can create satisfaction by their influence on other job factors (such as autonomy and physical security, as mentioned above), rather than through direct interaction.

Johnson and Hall (1988) showed the incidence of heart disease to be increased by low social support at each level of job strain. The highest level of illness was amongst those with active jobs (i.e. high demands and high control) but low social support. However, subsequent large, longitudinal studies as part of the Whitehall II project have failed to find an association between social support and heart disease (Bosma et al 1997; Kuper & Marmot 2003). The evidence for an association with mental health conditions is stronger. Recent reviews by Netterstrom et al (2008) and Nieuwenhuijsen et al (2010) looked for high quality longitudinal studies. They found only a small number (four and seven respectively) but demonstrated that social support consistently reduced the risk of depression and stress related disorders. Individual longitudinal studies (Frese 1999; Andrea et al 2009; Joensuu et al 2010; Marchand & Blanc 2010) have provided further support for an association between good co-worker support and varying aspects of mental health, as have studies considering depression (Sinokki et al 2009; Chen et al 2011), sickness absence (Schreuder et al 2010) and psychological distress (Bültmann et al 2002).

However, there are variations in the groups most affected and the effect sizes, and some results are contradictory. One reason for this may be the exact nature of the relationship between relationships and health. Wadsworth et al (2010a) discovered that the absence of social support had a greater impact than its presence, tentative support for Herzberg's identification of relationships as a hygiene factor – necessary to prevent work being bad but insufficient to make it good. Frese (1999) also found evidence that good social support had no positive impact by itself – it only compensated for specific problems. An alternative view, that good relationships can have a positive effect on well-being was illustrated by Ganster et al (1986) and Cohen and Wills (1985) and has been supported in more recent literature

(Humphrey et al 2007; Sachau 2007; Oldham & Hackman 2010). Finally, there is the possibility of an 'additional decrement' or curvilinear relationship (Warr 2007b), where poor social support has a negative effect on health, but too much support from managers or colleagues can be detrimental; this has been illustrated in studies by Frese (1999) and Karanika-Murray et al (2009).

A further complicating factor is the variation between different groups and possibly work cultures. For example, Doef and Maes (1999) found blue collar workers, and men rather than women benefitted from the effects of social support, and a large cross sectional study by North et al (1996) reported a similar pattern. Stansfield and Candy (2006) suggested that women may get more social support outside of the workplace, rendering it less important within. However the contrasting findings of Choi et al (2011) in Sweden identified low control and low social support to be a particularly high risk combination for women, yet found that men with high demands suffered an antagonistic effect from increased social support. On balance then, the literature demonstrates associations between low social support, satisfaction and happiness and some aspects of ill-health, but there is a lack of consistency concerning the details.

2.4.6 Training

Most of the models in Table 2-1 include training in some form although with variations in scope. Many focus on training to do the job or development opportunities: Warr's conceptualisation (2007b) includes not just whether individuals have the opportunity to acquire skills, but also whether they have the opportunity to use the ones they have. The WHO report in particular identifies training as a critical aspect of the pursuit of 'full and fair employment', ensuring that individuals are able to gain the skills and attributes to participate in good quality work (CSDH 2008). As an example it quotes the Danish model of flexicurity, where training is financed predominantly by the state rather than by the employer, and is amongst the best in Europe. Employees receive training which is often general in scope, enhancing flexibility and employability in the wider workplace. There is

evidence that training is less readily available elsewhere in Europe and Tangian has identified training as 'bad in all countries' using data from the EWCS (Tangian 2009). Inadequate levels of training have been reported in the UK for, amongst others, cleaners (Woods & Buckle 2006) and IT staff (Rose 2007).

Where training and development opportunities are provided the majority of evidence suggests that they are valued, being associated with improved job satisfaction (Tuomi et al 2004; Schmidt 2007; Schokkaert et al 2009). A contradiction to this comes from Tangian (2009) who reported that qualification and development possibilities were negatively associated with satisfaction throughout Europe, and concluded that employees demonstrated 'latent resistance to learning'. This could indicate that employees do not value training *per se*, or perhaps rather that they do not value the training which they get (which, it would appear, is scarce and inadequate).

There is relatively little published literature regarding the impact of training and development on employee health. An exception is a study by Loretto (2010) which found that increased development and promotion in NHS staff predicted improved mental health, possibly due to a perception of improved control. Overall, therefore, it would appear that training has a generally positive impact, but there is much less evidence to confirm this than for other aspects of job quality.

2.4.7 Physical demands

Physical demands are included only in the DGB-Index and in the three models in Table 2-1 which are based on data from the European Working Conditions Survey (EWCS). Assessments relate to factors such as manual handling of loads and poor postures, as well as to work intensity and tight deadlines which might also influence the impact of these ergonomics hazards. There is relatively little literature considering the extent to which individuals like or dislike physically demanding work, other than a study which found lower job satisfaction in those who did physically demanding work

(Schokkaert et al 2011). For example, Erdogan (2012) reviewed almost 200 studies which explored the work-related correlates of job satisfaction, and none of these overtly considered the impact of physical demands. In other studies, the impact of physical demands is also unclear, in part due to lack of clarity over definitions – for example Rose (2003) observed that 1% of employees changed jobs to get one which was 'less demanding' but the study did not distinguish between physical and psychosocial demands; similarly, when individuals are considering 'the work itself' (Rose 2003; Clark 2005), they may take into account whether the job is active or sedentary.

There is evidence that physical demands can be hazardous to employees with manual handling being the highest cause of reportable injury in the UK. There is similarly a high incidence of musculoskeletal disorders reported, around 140,000 new cases per year (HSE 2012). However, accurately matching cause and effect is difficult in longer term conditions, given the high occurrence of musculoskeletal disorders in the population, with a one week prevalence of up to 50% (Burton et al 2009). In addition, there is variation in the methods used to gather data. Some studies assess health by examination and physician assessment (Marcus et al 2002); others use self-report measures which IJmker (2007) has reported to be more accurate than physical examination. Similarly, work exposures can be assessed by observation (Kuijer et al 2004); although the sources in Table 2-1 all rely on self-report, with potential for subjectivity and variation.

The National Research Council Panel on Musculoskeletal disorders and the Workplace (NRCP, 2006), concluded that there was a definite relationship between back disorders and the physical demands of work. Bending and twisting, physically heavy work and whole body vibration showed the strongest links. A three to four times increase in musculoskeletal disorders (relative to the average) has been demonstrated in industries such as manufacturing, baggage handling, nursing and postal services (Punnett & Wegman 2004). NRCP (2006) also reported an increase in upper limb disorders associated with manual handling, although they considered the

evidence here to be less robust than that for back disorders as most studies were cross sectional. Factors which have been associated with upper limb disorders by large reviews include repetitive or constrained work (Nordander et al 2009) and prolonged mouse use (IJmker et al 2007). Force (Thomsen et al 2007) and intensive computer use (Greening et al 2003) have also been associated with arm and hand symptoms.

Despite this evidence, Waddell and Burton (2006) and Burton et al (2009), in wide ranging reviews of the literature, reported only modest associations between health and physical workloads with the exception of work involving 'intense' exposures: they concluded that the psychosocial impacts were much more significant. Similarly, Bongers et al (2006) discovered perceived work-related stress to predict musculoskeletal conditions more accurately than physical exposures and Eatough et al (2012) found job strain to predict higher levels of musculoskeletal symptoms.

Health can be adversely affected by a lack of physical activity as well as too much: it has been recommended that 30-90 minutes of moderate activity are required daily to maintain good health and normal BMI (Saris et al 2003; Commissaris et al 2006). Current guidance in the United Kingdom recommended 150 minutes activity per week as a minimum for adults (or 75 minutes of vigorous activity) in addition to strength building activities at least twice each week, and minimising prolonged sitting (Department of Health 2011). Longer daily sitting time has been associated with mortality increases of up to 98% (Patel et al 2010); meta-analyses have found similar results particularly in relation to diabetes, in studies of both general populations (Wilmot et al 2012) and employees (van Uffelen et al 2010). Associations with cancer (Lynch 2010) and obesity (Boyce et al 2008) have also been identified, although the results here are currently less conclusive.

Lack of activity can also have adverse effects on the musculoskeletal system. The low load on muscles and joints in sedentary work is often counterbalanced by high exposures (e.g. long unbroken working periods) so

that overall exposure remains significant (Winkel 1987); whereas medium exposure work is likely to include breaks, thus reducing health risks (Winkel & Westgaard 1992). Parkes et al (2005) gathered evidence which tentatively supports this theory, but individual variations make it difficult to draw firm conclusions. Their five year study of oil industry employees also reported increased musculoskeletal problems amongst those with mental health conditions, and Winkel and Westgaard (1992) have identified the importance of personal factors such as age, smoking and hobbies as well as the interaction between factors. Handling capability will also be influenced by age, gender, experience and personal strength and fitness (HSE 2004).

In conclusion, both too much and too little physical activity have been associated with health effects, although psychosocial factors may also influence outcomes. Winkel and Westgaard (1992) postulated a U-shaped curve, with the best health associated with moderate activity levels. Straker and Mathiassen (2009) have advocated that ergonomics as a discipline should change its paradigm from its traditional 'less is better' perspective, increasing workplace activity to offset the effect of modern sedentary lifestyles on health. Certainly exercise and activity have been associated with improved life satisfaction (Dolan et al 2008), reduced cardiovascular disease (Li et al 2013) and with improved mental health (Wipfli et al 2011; Lahti et al 2013). However recent studies have identified that occupational physical activity may not have the same positive impact as leisure time exercise (Holtermann et al 2012; Clays et al 2013), due to differences in the nature of the physical demands involved.

2.4.8 Safety

Not all of the models presented in Table 2-1 include health and safety. Coats and Lekhi (2008) have not listed it as a factor necessary for a good job, focussing more on the psychosocial and contract related factors, although they do mention its importance elsewhere in their report. The work by Warr (2007b) focuses on the impact of health and safety on psychological wellbeing and satisfaction rather than considering it as a specific component

of job quality in itself and observes that safety matters are often 'omitted from subjective measures of well-being' (p120). Three of the models are based on data from the EWCS and this enables them to consider a broad range of safety hazards including chemical, biological and environmental factors, physical and ergonomics hazards such as posture and manual handling, and the risk of violence.

Survey data (such as that gathered by the EWCS) are based on employee perceptions of exposure to specific hazards. Subjective measurement may also be used to assess safety climate which evaluates the differences between formal policies and procedures and the realities of working practices (Zohar 2008). Objective assessment of health and safety risk can be assessed using data such as accident and ill-health records (Jayatilleke et al 2009), or through structured safety audit (Brahmasrene & Smith 2009) but these methods have not generally been used in job quality research.

Good (i.e. safe) perceived working conditions have been associated with job satisfaction (Zaccaro & Stone 1988; Huang & Vliert 2004; Wilson et al 2004) and better mental health (Kirjonen & Hänninen 1986) and well-being (Ward et al 2008). A meta-analysis of over 200 independent samples by Nahrgang et al (2011) found that risks and hazards were associated with impaired employee health and burnout, but that a supportive safety climate and management support moderated the effect. The association between good safety management and employee health is self-explanatory, and can be illustrated by the one million work-related injuries which occur annually in the UK (HSE 2012).

2.4.9 Organisational culture

Those models of job quality in Table 2-1 which include organisational culture cover two broad themes. The first relates to management commitment, openness and opportunities for employees to influence organisational issues (Gallie 2013), which the HSE have identified as underpinning many other issues of job quality (MacKay et al 2004). The second aspect relates to the

presence of unions in the workplace. This is of particular interest when comparing job quality between different countries, as union membership varies widely. For example, 80% of Danish employees are union members, compared to around 30% in the United Kingdom (Tangian 2009). The report by the CSDH considers worker involvement and representation to be of key importance, identifying unions as 'powerful vehicles through which protection for workers…. can be collectively negotiated' (CSDH 2008).

Tangian (2009) has identified a correlation between union membership and job security in European countries (with the exception of the United Kingdom), and Mussman (2009a) reported job quality to be higher where there was worker representation. This was interpreted as evidence of the success of the unions in influencing job quality, although may also imply that the unions have less input in the worst workplaces. Interestingly, Lowe et al (2003) found that high union membership correlated with worse health amongst employees apparently undermining Tangian's views on the benefits of union involvement. However, it may also reflect that those with worse health are more motivated to join or have more to gain by joining a union. As with organisational culture more generally, the extent of union involvement is only important for job quality and health in so far as it is influences the other job features discussed above. This limits the benefit of assessing it as a distinct feature of job quality.

2.4.10 **Fairness**

Fairness is only included in two of the models listed, perhaps because the various authors have 'taken for granted the person undesirability of injustice' (Warr 2007b p137). Nevertheless, it is widely discussed in the literature in terms of how it is actually constructed and perceived, and its effects on health. Fairness has been identified as having several dimensions. Organisational justice comprises distributive justice, which is concerned with 'the fairness or otherwise of allocations to different members of a social system' (for example, whether wages structures are fair); and procedural justice, which relates to fair application of the decision making processes

(Warr 2007b). Relational justice reflects how individuals are treated at an individual level, and consists of interpersonal and informational aspects (Colquitt et al 2013). Warr (2007b) has also included the concept of organisational equity, which he equates with corporate social responsibility.

As mentioned above, fairness does not feature prominently in the job quality literature, but a meta-analysis by Colquitt et al (2001) of papers drawn from the organisational and management literature found high correlations between job satisfaction and various aspects of justice. Unfairness at work has also been shown to increase the incidence of ill health (Ferrie et al 2006). Cardiovascular risk has been shown to increase with organisational and relational unfairness (Kivimäki et al 2006); and with being treated 'unfairly' (De Vogli et al 2007). Unfairness is more likely to occur for those in low job grades, but this alone does not explain the findings. Prospective studies of procedural and relational justice have found an association with mental health, even after controlling for job strain and ERI (Kivimäki et al 2003; Ndjaboué et al 2012). However, the picture is complex, and it is difficult to separate out the mechanisms involved, especially given the extent to which injustice overlaps with Effort Reward Imbalance (Tsutsumi & Kawakami 2004), and social support (Ferrie et al 2007).

2.4.11 Hours of work

Working hours are mentioned in most of the models in Table 2-1, being excluded only by the two which have a predominantly psychosocial perspective. Warr's model (2007b) touches on the issue of work-home conflict, but otherwise addresses hours only very briefly. A number of different aspects are covered within the models reviewed and in the literature generally. This includes the total number of hours worked, the pattern of working (such as whether it includes night or shift working), and the organisation of the hours – whether individuals have flexibility or any input into work scheduling, and the impact of working hours in terms of work-life balance.

The relationship between the number of hours worked and satisfaction is not a straightforward one (Erdogan et al 2012), but becomes clearer once personal preference is taken into account. Both Rose (2003) and Wooden et al (2009) demonstrated that satisfaction and wellbeing were reduced for individuals working longer hours than they wished; while Kalleberg (2008) identified that the opposite situation, workers who are working less hours than they would like, is potentially associated with economic hardship. The combination of the two may explain the findings that in relation to actual hours, wellbeing rises with hours worked to a certain point then drops (Dolan et al 2008); although flexibility has been shown to increase satisfaction and mitigate the impact of long working hours (Sparks et al 2001; McNamara et al 2013).

Loughlin et al (2013) used the term 'job status congruence' to include both types of mismatch and found evidence that it was an important aspect of job quality. They identified that in addition to the impact on personal life of inadequate free time or insufficient finance, there were negative consequences relating to recognition of the employer's lack of consideration. An illustration of this comes from the rail industry where Ku and Smith (2010) observed that the demands of the service were recognised as being incompatible with a good private life, but that there was an expectation that individuals would make the necessary sacrifices. Overall, however it would appear that working hours are not as important to many employees as other aspects of their work. Both Clark (2011) and Muñoz de Bustillo et al (2009) (using different data sets) identified it as the least valued contributor to good quality work for British employees out of a list of eight factors.

There are conflicting views on the health risks of working long hours. Some studies have reported adverse effects such as an association with reduced cognitive function (Virtanen et al 2009b), heart disease (Kivimäki et al 2011b; Virtanen et al 2012b), depression (Virtanen et al 2012a) and premature death (Sokejima & Kagamimori 1998). However, a review of robust studies of the impact of long working hours by Fujino (2006) found an association in only

seven out of 17 studies and Tucker and Rutherford (2005) and Tomioka (2011) reported no association in studies of train drivers and doctors respectively. Harma (2006) published evidence from the Whitehall II studies showing that long hours by themselves did not predict increased sickness absence and health problems, but that long work in addition to long commuting or domestic duties did. Virtanen et al (2009a) and Nakashima (2011) both reported that increased working hours impacted on the length and quality of sleep, particularly if continued over a number of years and this could be one mechanism for any health effects. The influence on health risk behaviours such as reduced exercise and increased smoking may also be a factor (Sparks et al 2001; Brown & Roberts 2011). A possible reason for the inconsistent results may be the extent to which working longer hours increases exposure to other aspects of the job which are positive or negative, such as prolonged sitting, work stress, or good working relationships (Warr 2007b). The fact that many of the health conditions involved take many years to develop is another factor (Costa 2003).

The pattern of working hours may also influence health, although a limitation for the research here is that many studies do not clearly define 'shift work' or distinguish between different rotas (Costa 2003). However, in a meta-analysis by Pilcher et al (2000), slow rotating shifts had the least negative impact on sleep length compared to fast rotation, and fixed night shifts were associated with longer sleep than rotation onto night shifts. Early shift starts (e.g. before 6am) have also been shown to reduce sleep length and increase fatigue (Ingre et al 2004). Shift work and night work have been associated with an increase in some cancers (Swerdlow 2003; Kubo et al 2006; Parent et al 2012), as well as heart disease (Thomas & Power 2010), depression (Driesen et al 2010), diabetes (Kivimäki et al 2011a), weight gain (van Drongelen et al 2011) and premature births (Pompeii et al 2005). Both long hours and shift work have been associated with a substantial increase in risks to safety (Wagstaff & Sigstad Lie 2011) although McDonald (2008) recommended that the nature of work (especially the intensity of demands) should also be taken into account.

Finally, it is important to consider the impact of individual variation with regard to working hours. For example, long working hours may be perceived as a positive factor by those who value the opportunity to increase their income (Tucker & Rutherford 2005); and some demanding shift systems are appreciated by those who prefer the longer off-duty periods, despite their 'clear negative interference with circadian rhythms and sleep' (Costa 2003). Liu et al (2011) highlighted that working non-standard hours might have both positive and negative impacts on families depending on their particular situation, as it could lead to fatigue and low social interaction, or to improved financial circumstances and opportunities for shared parenting. It is not clear from the literature whether a preference for particular working patterns has any impact on the occurrence of health conditions. In the short term, according to the detailed review by Costa (2003), adjustment may be improved by good social support, high motivation, and good coping strategies. Whether this is related to resistance to adverse health effects in the longer term is less clear.

2.4.12 Emotional demands

The models in Table 2-1 which most clearly specify emotional demands are those of Warr (2007a; 2007b), Muñoz de Bustillo (Muñoz de Bustillo Llorente et al 2009) and the DGB-Index (Mussman 2009b). Warr's perspective includes the concept of emotional dissonance, when individuals are required to demonstrate emotions which are not consonant with how they really feel; the DGB-Index assesses this and also whether individuals report being disrespected by others; and Muñoz de Bustillo's model includes the psychosocial implications of bullying and violence. Emotional demands in the literature have been commonly assessed in terms of burnout. Maslach (2001) et al defined this initially in relation to those involved in 'people' jobs such as welfare workers (Lizano & Mor Barak 2012) and nurses (Lee et al 2003). They identified three aspects – exhaustion, related to overload; depersonalisation and cynicism, which individuals use to protect themselves from emotional stress; and personal inefficacy. The concept has

subsequently been extended to include those in a wider range of jobs. For example, Demerouti et al (2002) found a similar effect in industrial work, with depersonalisation redefined as disengagement (relating to monotony); it has also been suggested that personal inefficacy is less important than the other two aspects (Demerouti et al 2001).

A review by Zapf (2002) showed emotional dissonance to be negatively associated with job satisfaction, it has also been associated with lowered work motivation (Wegge et al 2010). Bullying relationships also have clear adverse effects, with around 40% of individuals reducing their work commitment and subsequently leaving an organisation (MacKay et al 2004). However, the evidence for other aspects of emotional demands is less clear as there can be both positive and negative associations (Zapf 2002). For example, Rakovski and Price-Glynn (2010) found that nursing assistants working in nursing homes valued the importance of their work; caring for others and the associated emotional requirements compensated for the negative aspects of their work such as low salary and benefits. Similarly, jobs such as nurses, nursing assistants and nursery nurses, which are associated with caring and high emotional demands and reward are close to the top of the list of jobs with high satisfaction (Rose 2003).

Burnout has been associated with health effects such as emotional exhaustion and fatigue (Zapf 2002; Lewig & Dollard 2003; Huang et al 2012). A review by Melamed et al (2006) also reported it to be associated with cardiovascular disease, as well as diabetes and reduced immunity. Other studies have shown associations with insomnia (Armon et al 2008) and poor mental health (Ahola & Hakanen 2007; Hakanen & Schaufeli 2012; Toker & Biron 2012) and also with poor safety compliance (Li et al 2013).

2.4.13 **Promotion**

Opportunities for career advancement or promotion are included in most of the models in Table 2-1. Data from the ISSP survey showed that 'opportunities for advancement' were very important for almost a quarter of

employees in Great Britain (Muñoz de Bustillo et al 2009), and Rose (2003) reported that 10% of those who changed jobs did so to improve their promotion prospects. However, when respondents of the BHPS were asked what aspect of work was the *most* important aspect, only 3% gave this answer (Clark 2005). This suggests that promotion, although important to some, is much less so than other factors.

Promotion as a job feature differs from other aspects of job quality in that it relates to what an individual seeks for the future rather than what they are experiencing currently. This complicates its association with job satisfaction and job quality. For example, McPhail and Fisher (2008) reported on an organisation which employed hotel cleaning staff, and showed that the perception that these jobs were of poor quality had been reduced by the use of effective internal promotion programmes. Conversely, those who find their current job good in other aspects such as pay, interest, etc., may be less likely to consider promotion important than those who see it as a way out of a poor quality job. There is relatively little published evidence regarding the association between promotion prospects and satisfaction, and even less regarding health. Warr (2007b) identified it as a key aspect of environmental happiness, but his literature review found very few references to illustrate its effects.

2.5   A preliminary model of job quality

Figure 2-1 illustrates the elements of job quality which have been discussed in this literature review. Although the evidence has been presented as if job quality were made up of a number of distinct features, in reality there is substantial overlap. Distinctions between them are made primarily to simplify and structure the discussion.

Figure 2-1 An overview of the features and outcomes of job quality as presented in the literature

For example, fairness and injustice are difficult to separate out from effort reward imbalance (Tsutsumi & Kawakami 2004), and social support (Fujishiro 2005; Ferrie et al 2007). The nature of the job itself influences physical and emotional demands and the importance of learning and skills use; workload also influences physical demands; and almost everything is influenced by organisational culture (MacKay et al 2004). The features themselves are often broken down further in the literature, for example, equity within an organisation has been considered as a combination of procedural, distributive and interactional justice (Cropanzano et al 2001); poor supervision has been broken down into six aspects including non-contingent punishment and discouraging initiative (Ashforth 1994); and autonomy is conceptualised differently by different authors or by the same authors at different times (Karasek 1979; Karasek et al 1998), and is considered to consist of several different aspects, some of which are contradictory in their effects (Joensuu et al 2012).

Hence, breaking job quality and its dimensions down into the constituent parts is necessary to explore the topic but is inevitably an oversimplification. Warr (2007b) acknowledges this in explaining why his framework of job characteristics contains twelve features. Adding more would improve precision, but when constructing such a model a compromise has to be reached between accuracy, generalisability and simplicity (Weick 1979). The

current review has taken as its 'headlines' the features most commonly included and described in models which focus on job quality as an overall entity.

The evidence presented in this review regarding the importance and impact of different job features varies greatly in its clarity and robustness. This relates in part to a greater volume of research done on some topics than on others. In other cases, the strength of association between work and its effects is less consistent. For example, in relation to job security there is substantial evidence and strong agreement regarding its importance for both health and job satisfaction; regarding 'the job itself' there is contradiction between evidence showing it to be important to individuals, alongside minimal evidence of an association with health; and there is very limited evidence in some areas, for example regarding the health or satisfaction effects of features such as promotion and opportunities for learning.

Further challenges arise in deciding the best way to measure job features. Subjective responses are commonly used as they relate to how individuals experience their work and have been more closely associated with outcome measures (Stansfeld et al 1995; Doef & Maes 1999). Unfortunately, the impact of expectation and the potential for individuals to adapt their aspirations to match their opportunities can result in jobs which have adverse characteristics being considered to be good by those doing them (Schokkaert et al 2011). However, as reported in the same paper, objective assessment takes a paternalistic 'Government knows best' approach and fails to consider individual preference. It is important, therefore, that a model of job quality reflects this difficulty, not just in terms of individual features but also in terms of job quality overall. The outcomes of job quality need to be assessed subjectively – how individuals perceive their jobs and whether their expectations are met is important. However, objective outcomes are also important; what impact do jobs really have on employees' health, and on their ability to live a satisfactory and fulfilled life?

2.6   Concluding remarks

Given the difficulties of defining and measuring the individual aspects of job quality, the measurement of the concept as a whole is even more complex. This is inevitable given that it is not a phenomenon found objectively in social reality but a construct based on an understanding between experts (Preinfalk & Michenthaler 2011), leaving great scope for differences in opinion. However, the benefits of reaching agreement are substantial given the continuing prevalence of poor quality work (Osterman 2010).

Market forces by themselves are unlikely to address the existing inadequacies in job quality, given the limitations of the 'compensating wage differentials' model, and the tendency for industry to make decisions on a financial basis rather than considering the human cost of policies (Wong 2011). In fact, organisational success in difficult economic times may be achieved at the expense of staff with a requirement for greater contingency, and higher flexibility amongst a labour force, leading to greater insecurity (Burgess & Connell 2008) which is often accompanied by lower pay, lower skill use and reduced training opportunities (Bamberry 2011). An illustration of this is the burgeoning use of zero hours contracts (Neville 2013), which can result in unreliable income and working hours for many.

The priority of an employer is the success of the organisation, achieved through, for example, high quality and productivity (Constable et al 2009). Therefore companies are unlikely to invest in improved job quality without clear evidence that there is a business benefit in doing so. At a national and international level, better evidence of the impact of job quality will encourage policies beyond the 'traditional fixation with the number of people working, [instead] considering the conditions under which such work takes place' (Muñoz de Bustillo et al 2011a). It will also help to counter the view that 'any job is better than no job' (Layard 2004). Defining clearly what a good job looks like is an important step towards gathering evidence to support this agenda.

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│     Chapter 7 – Second bus driver study  │
│ Is bus driving a good job when assessed qualitatively? What are the barriers to it being a good job? │
│ Interviews as in chapter 6, plus interviews with managers, informal interviews and observation │
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Chapter Three   Methodology and methods used in this research

3.1   Introduction

This research was undertaken from a realist perspective, gathering both qualitative and quantitative data. This chapter will explain the decision to design and conduct the research in this way. It will justify the choice of methods used and will explain how analysis was carried out. It will also demonstrate that the research was carried out within ethical constraints.

3.2   Research methodology and design

Karl Popper described three worlds which he considered to co-exist, and to have shaped man's development (Magee 1982). World one was the 'positivist' world which consisted of objective, material things. Positivism considers that facts are measurable, and that they do not change when observed (Healy & Perry 2000) (although the more contemporary view is post-positivism, which concedes that observation always has an impact (Robson 2011)). World two, associated in research with 'constructivism' was described by Popper as the subjective world based on ideologies and values, evaluated through interactions between interviewer and interviewee (Healy & Perry 2000). Popper's third world was 'manmade but autonomous', the world of 'ideas, art, science, language, ethics' (Magee 1982). This was a world which welcomed challenge, criticism and debate; it is the basis of research with a 'realist' perspective, which accepts that a reality exists independently of what is perceived or understood (Bhaskar 1975).

Neither positivism nor constructivism provide a satisfactory foundation for studying job quality. Constructivism requires that the individual's own perspective is emphasised over and above any objective knowledge. Clark and Cruickshank (2007) thus rejected it for use in health care research based on the fact that 'pathogens and injuries have a reality beyond an individual's beliefs, hopes and perceptions'; in the same way, the evidence base linking

aspects of job quality with health effects cannot be disregarded. Positivist approaches, on the other hand ignore the impact of individuals, their environments, the decisions they make and the behaviours they exhibit (Clark et al 2007). From a job quality perspective, this would discount the influence that an individual's expectations and experiences have on their perception of work and potentially on the way it affects their (particularly psychological) health.

The third option, realism, is well suited to the study of job quality and its effects. It recognises that outcomes arise from a combination of structures, the events they cause, and the ways they are experienced (e.g. House 1991). Thus it can take into account that there are measurable elements in job quality - the mass or shape of a manual handling load, the quantifiable salary, the number of working hours. However it can also accommodate the fact that the perceptions an individual has will influence the effects and impacts of these.

3.3   Research Programme

It was identified in the introduction to this thesis that an initial objective was set based on a review of the literature. Three additional objectives were added following the exploratory study which is described in chapter 4. The objectives are restated here:

- Objective one - to assess;
    a) how a range of individuals conceptualise a 'good' job and the features they consider important, and
    b) how the same individuals conceptualise a job which is good for health
- Objective two - to produce a theoretical model of job quality which reflects the features which make a job good and those which make it good for health, and which accounts for individual variation
- Objective three – to evaluate this model by applying it to different companies within an industry

- Objective four – to identify and evaluate a suitable tool to measure job quality

Objective two builds directly on the findings of objective one, intending that evidence from the literature and from individuals' beliefs and preferences regarding jobs be used to construct a theoretical model of job quality. Review of the literature had identified the need for such a model, to be used as a basis for assessing and comparing jobs and highlighting areas for improvement, but had been unable to identify one which was sufficiently comprehensive. The findings of the exploratory study highlighted that such a model should take into account the extent of variation between individuals in their conceptualisations of a 'good' job.

Objective three proposes evaluation of the constructed model by applying it to different companies within a single industry. It was anticipated that using the model in this way would provide further evidence regarding the features which differentiate between good and bad jobs. It would also highlight some of the barriers to job quality, enabling consideration of why poor quality jobs still exist despite the extensive evidence regarding their impact.

Objective four relates to the measurement of job quality. Such measurement is important to allow comparisons between jobs and industries and thus to drive improvement. It was also considered that an additional set of data from the same companies studied to meet objective three might provide further evidence regarding the key differences between good and bad jobs.

The research programme was designed to include a combination of qualitative and quantitative research methods. Historically a strong distinction has been drawn between quantitative and qualitative research, with text books (for example Bryman 2008) describing them separately and identifying the key features which distinguish between them. However, as Table 3-1 shows, they are not as distinct as traditionally considered. As a result, studies

Table 3-1 Commonly identified differences between qualitative and quantitative research, and the overlaps in reality

(summarised from Axinn & Pearce 2006; Bryman 2008; Robson 2011; Silverman 2011).

Qualitative research – assumed characteristics	Quantitative research - assumed characteristics	The reality
Generates hypotheses	Tests hypotheses	Many quantitative studies are exploratory; qualitative studies can be used to test hypotheses
Is based on words and meanings	Is based on measurement and statistical analysis	Qualitative studies often use quantitative methods e.g. counting the frequencies with which particular themes or topics arise Quantitative studies can use predefined scales to assess respondents' beliefs and attitudes, and quantitative content analysis can be used to reveal social constructs
Rejects positivism - considers social reality to be created by individuals	Tends towards positivism - considers social reality to be objective	The associations with particular paradigms are tendencies rather than definite connections. Both are interested in what people think and do
Requires evidence of trustworthiness	Requires evidence of validity, reliability and replicability	There are different models of trustworthiness in qualitative research, some of which mirror those used in quantitative research. In all cases, it is important to be able to demonstrate the quality of the work
Values receptivity and reflexivity in the researcher	Values objectivity and neutrality in the researcher	When analysing quantitative research, many subjective judgements are made e.g. in determining which variables to measure, how to word questions and which tests to use

may combine the two types of data - Bryman (2008) has identified 16 different rationales and benefits for carrying out research which does this, and four of these underpinned the current study design. The research described here was mixed-method (Johnson & Onwuegbuzie 2004), including several stages which were predominantly qualitative in nature and one which was quantitative. A key benefit of this research design was *triangulation* – the findings from the different studies could be compared to highlight similarities and differences and explore possible reasons for these. In addition, the mixed-methods approach used increased *utility* – not only did it provide a wide range of data with which to address the research aim, it was also particularly useful for providing feedback to participating organisations. It supported clear, graphically shown results to illustrate the current state of affairs: as well as recommendations on potential for change, supported by qualitative findings.

The research design was also mixed-model, as each qualitative study also included some elements of quantification. For example, the interviews which formed the basis of the studies described in chapters 5 and 6 included closed questions where response frequencies could be counted and populations compared, hence improving *completeness*. At the same time, the qualitative data have been used to provide *illustration*, giving colour to these quantitative results.

Figure 3-1 summarises the programme of research undertaken. This includes the specific methods used in each case - the following section describes how and why these were chosen. It will also describe how analysis was carried out. Details regarding the design and conduct of individual studies will be included within each individual study chapter.

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                    │   Literature review     │
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                    │   Exploratory study     │
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              │  Conceptualisations of job quality    │
              │ Semi structured interviews in 5 companies│
              │             Observation               │
              │ Formulation of a theoretical model of │
              │          job quality                  │
              │        (Chapters 5 and 6)             │
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Objective 1

Objective 2

Objective 3

Objective 4

| Application of the model of job quality | Evaluation of a job quality |
| Semi structured interviews in 3 bus companies (including further analysis of some data gathered during previous study) Manager interviews in 3 bus companies (Chapter 7) | questionnaire in (the same) 3 bus companies (Chapter 8) |

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              │     Discussion and conclusions        │
              │            (Chapter 9)                │
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Figure 3-1 Summary of research programme

3.4 Methods used

3.4.1 Interviews

Interviews were used in this research as they are a 'flexible and adaptable way of finding things out' (Robson 2011). They are particularly concerned with the interviewee's point of view, and questions can be reordered or reworded where necessary to follow up points of interest and to gather rich and detailed information (Bryman 2008).

Within job quality research interviews are most commonly used to gather data about single organisations or industries, using relatively small numbers

of interviewees (Wreder et al 2008; Baptiste 2009; Nilsson et al 2009). However, larger more generalisable studies have also been carried out including an exploration of employee perception regarding the impact of job features on positive and negative aspects of health (McDermid 2008) and an assessment of the features most commonly associated with good work by managers and other senior stakeholders (Constable et al 2009). Two types of interview were used in the current research, repertory grids and semi structured interviews.

Repertory grid interviews

Repertory grid interviewing is a way of identifying and documenting a 'mental map' held by the interviewee (Stewart et al 1981). Its underlying principles are based on Personal Construct Theory (PCT), developed by psychologist George Kelly (1955). This considers that 'man is a scientist' and that each individual develops rules and hypotheses to explain how the world works. Two people may be involved in the same event but will see it differently because their expectations of the event will relate to their own past experiences; this in turn will influence what each predicts will happen in the future and therefore how they behave. Thus they build up a network of constructs – ways of construing or seeing the world.

Although PCT was initially designed for clinical practice, it has been adopted for use in research by psychologists and market researchers (Easterby-Smith 1981; Marsden & Littler 2000; Rogers & Ryals 2007; Cassell et al 2000). It has also been used for research in health and safety (Abdul-Rahman et al 2011; Aranda & Finch 2003) and ergonomics (Stanton & Young 1999; Pickup et al 2010).

The study described in chapter 4 of this thesis was designed to explore the notions that interviewees held about work, and what they considered to be important differentiators between jobs. It was important to minimise interviewer influence, and repertory grids were chosen as this is a key feature of the approach (Stewart et al 1981). A repertory grid interview requires that

an initial structure is agreed between interviewer and interviewee (this is described in further detail in chapter 4). Beyond this, the identification of concepts and ideas for further discussion is led by the interviewee. This allows a topic such as job design or job quality to be explored without needing to prelist any specific areas for discussion. In this respect, the interview provides 'genuine access' to what the interviewee really believes, in a similar way to an unstructured interview (Bryman 2008). Repertory grid interviews have been found to be particularly effective at getting truthful answers from respondents (Brown 1992) which reflect their core beliefs (Stanton & Young 1999).

A further benefit of repertory grids is the ease with which they can be analysed (Brown 1992). Although recording and transcription of the interview is possible as with a more traditional interview, there are additional outputs from the process which include a set of notes summarising the key themes discussed, and a scoring grid which enumerates the opinions the interviewee holds about each. Thus the process of data reduction (Miles & Huberman 1994) has been completed as part of the discussion. The outputs from the process are then amenable to thematic analysis to identify common ideas across multiple interviewees. In addition, the outputs can be analysed numerically to explore the perceived relationships between certain ideas in each interview. In the study described in chapter 4, this allowed for comparisons between jobs, and between constructs such as 'a good job' and 'a job which is good for health'.

One of the key disadvantages of repertory grid interviews is the time they can take. Easterby Smith et al (1996) have reported that up to two hours is not unusual. However, unstructured interviews can take up to three hours (Walters 2005), and Jankowicz (2004) has suggested that with practice, six to twelve key constructs can be obtained within an hour, with greater precision than would be obtained in a structured interview of the same length.

Semi structured interviews

Interviews were used in studies described in chapters 5, 6 and 7 to follow on from the repertory grid study. They were chosen in preference to focus groups due to the desire to establish the views of specific individuals (Morgan 1998), including those who may be reticent to speak in a group or overwhelmed by the views of others (Krueger & Casey 2000). In addition there would have been practical difficulties gaining access to multiple employees at one time in a workplace. The benefits of individual interviews were thus felt to outweigh the advantages which might accrue from the opportunities for interaction between participants.

The interviews were semi structured, including a combination of open questions, to explore the topic from the individual's perspective; and closed questions, to get more structured answers which could be compared and quantified. The clearly defined focus of the research made this type of interview more appropriate than the use of unstructured interviews (Bryman 2008), which explore a topic or theme with few pre-set questions. Structured interviews, which have more in common with survey techniques than with qualitative interviews (Robson 2011), were also considered to be unsuitable. They have an advantage over semi structured techniques in that the same questions are asked of all. The interviewer follows a rigid script, thus there is comparability and consistency between the answers, improving reliability. However, there is no scope for digression or exploration. This would have reduced the opportunities to focus on issues which were of importance to individuals and thus limited the breadth and depth of the data gathered.

3.4.2 Observation

Observation can be used as a primary means of gathering data in order to assess how people behave in particular situations; or can be used as a secondary or supplementary method, perhaps to validate information gathered from interviews or questionnaires (Robson 2011). It can also be used in combination with other techniques, for example with verbal protocol

analysis or 'think aloud' techniques to facilitate understanding of decision making processes (Han et al 2007; Ryan & Haslegrave 2007).

The advantages and disadvantages of observation as a means of gathering data depend on the role the researcher takes. Gold (1958) placed this on a continuum where one end involved the researcher as a complete participant, whose identity was unknown to those he was observing; at the other end, complete observer, where the role of the researcher was known to all but there was no interaction (see Figure 3-2).

Complete observer	Observer-as-participant	Participant-as-observer	Complete participant

Detachment ⟵————————————————⟶ Involvement
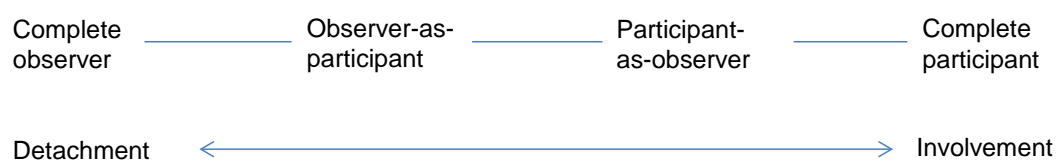
Figure 3-2 Gold's observation roles, as depicted by Bryman (2008)

For a researcher in a participant role, whether this is complete or participant-as-observer, there is the potential to gather high quality, longitudinal data by building relationships with those being observed (Waddington 2004). The risks include physical harm, ethical compromise and 'going native' (Gold 1958), the potential to over identify with those observed and thus lose one's neutrality.

For the observer as participant, or the complete observer, there is less scope for prolonged contact or relationship building and thus greater risk of misunderstanding or misinterpretation (Gold 1958). There is also a potential for the behaviour being witnessed to change as a result of observation (Landsberger 1958). However, this form of observation can be useful in job quality research to assess relationships between particular variables through the use of a pre-planned coding structure or measurement tool (Bryman 2008). For example, it has enabled assessment of the associations between working postures and neck pain (Massaccesi et al 2003), repetitive work and biological markers of stress (Hansen et al 2003) and between perceived and

objectively assessed job demands and control (Waldenström & Härenstam 2008).

Observation which involves some degree of participation is sometimes referred to as ethnography - literally writing (*graph)* about people or folk (*ethno)* (Silverman 2011)*.* Bryman (2008) emphasises that it necessitates a prolonged period of observation. However, less extensive observation (in an observer-as-participant role) was used in the current study as an adjunct to other methods of data collection and provided many of the same benefits more commonly attributed to true ethnographic research. For example, it provided some insight into the organisations studied and the way they operated and provided opportunities for gathering documents such as policies and schedules. In some of the study organisations, it enabled the recruitment of participants for other parts of the research such as interview and questionnaire completion. It also allowed for brief informal interviews or conversations with a number of employees in addition to those who were formally interviewed; this extended the data set and improved its validity. In addition, the researcher worked as a cleaner in a participant-as-observer role, which provided additional context regarding the demands of the cleaning role.

3.4.3 Survey tools

Self-completed surveys are a common way of gathering data for social or real world research. Robson (2011) has described them as involving a fixed design, a small amount of data from a large number of individuals, and the selection of representative samples of individuals from known populations. He suggests that they can be useful provided that the questionnaire involved is properly designed to provide a valid measure of the research question, and that respondents are cooperative: but that the outputs are often perceived in an over positive light as a result of their putative quantitative nature.

The particular advantages of surveys, as outlined by Robson (2011) and Bryman (2008) include the following:

- they are highly standardised – all respondents are asked the same question
- they can be administered to large numbers at relatively low cost
- they are anonymous, which encourages frankness when asking sensitive questions

However, there are also disadvantages identified by the same authors including:
- the need to be relatively short with a simple question structure; if questions are ambiguous or incomprehensible, the findings will not accurately reflect the true opinions or beliefs of respondents and hence will be invalid
- the lack of opportunity to probe if further information is required; or to check whether a respondent has really understood the questions
- their inaccessibility to those with language or literacy problems

Some of these problems can be overcome by using surveys which are completed by the researcher during a face to face or telephone interview. This resolves issues regarding literacy, and can improve response rates, but increases risks of variation relating to interviewer technique and their relationship with the respondent, the potential for social desirability bias, and the cost and time involved (Bryman 2008). Even at their best, surveys remain 'rather blunt instruments…powerful in producing statistical generalisations…weak in generating rich understanding of the intricate mechanisms that affect human thought and behaviour' (Groves et al 2008).

Surveys have been widely used in job quality research as outlined in the literature review; they are often administered face to face or by telephone. For example job related data are gathered as part of the British Household Panel Survey (BHPS), the European Working Conditions Survey (EWCS) and the International Social Survey Programme (ISSP) and highlight the strength of surveys in exploring the similarities and differences between comparable groups. They are of particular value in relation to job quality if

they contribute to its measurement, as this was identified in chapter 1 as an important part of the overall process of job quality improvement.

Many tools designed to assess job quality and its effect on health have focused predominantly or exclusively on psychosocial features, with limited consideration of factors such as working patterns, health and safety and physical demands. This includes the HSE management standards (HSE 2007), the Job Stress Survey (Spielberger & Reheiser 1994), the Job Demands-Control model (Karasek 1979) and the Work and Life Attitudes Survey (Warr 1979). Authors who wish to take a wider view of job quality in their research therefore have to use multiple measures (e.g. Stansfeld & Candy 2006; Smith et al 2011) but this is time consuming and the outputs are less useful for employer feedback. The Work-related Quality of Life scale (Van Laar et al 2007; Edwards et al 2009) was considered for the current study as it has a wider scope than many other tools. It has 23 items which combine to form six sub scales including stress at work, home-work interface and job and career satisfaction. This scale was developed and tested with healthcare workers and university employees and has good psychometric properties. However, it has not been compared with specific output data – there is no evidence that a high score is associated with better health. Also, there is no data available for comparator purposes outside of the two populations studied.

Survey tool chosen – the DGB-Index

The tool selected for use in this research was the DGB-Index, also known as Das Gute Arbeit, which measures job quality from an employees' perspective (Mussman 2009b). It was developed for the Deutscher Gewerkschaftsbund (DGB, the German Trade Union Confederation), by the refinement of a much larger questionnaire used in a study of what makes a job good (Initiative Neue Qualität der Arbeit (INQA), Fuchs 2006). The tool has the following strengths:

- good coverage of the subject area, including physical and psychosocial risk factors as well as extrinsic features such as pay and security

- conciseness - the core questionnaire has only 31 questions

- a large database of comparator data, as the tool has been used annually in Germany since 2007, assessing the job quality of around 6000 workers each time

- a recent review by Schütte (2011) which considered the data of 16,268 respondents gathered over a four year period and concluded that the tool reliably differentiates between jobs

- the specific design of the tool which takes into account individual preferences; it asks not just whether a particular job feature is present, but whether this is a concern for the individual

- a structured scoring system which identifies work as being Good, Medium or Poor in several dimensions and overall - this facilitates comparisons between organisations and is particularly useful for feedback to employers

It was recognised that the lack of previous use of the DGB-Index in the UK was a potential disadvantage, presenting linguistic and cultural challenges. However, it was considered that this disadvantage was outweighed by the identified benefits and in fact would create a useful opportunity to extend the scope of the tool.

3.4.4 Qualitative data analysis

Qualitative data were analysed using thematic analysis. Like most qualitative analysis, this is based on coding segments of data which have been identified as examples of an idea, feature or category (Lewins & Silver 2007; Silverman 2011). These coded data are then further organised and revised to identify overarching themes (Braun & Clarke 2006). It has been identified by Robson (2011) as an analysis technique which sits between grounded theory and content analysis. Grounded theory is based on inductive coding - themes are identified by the researcher from looking at the data rather than from pre-

existing ideas or expectations (Braun & Clarke 2006). This was not considered appropriate for the current research as the study of job design and health has a substantial literature base, and it was important that this guided both the design of the current research and its analysis. Content analysis, in contrast, uses deductive coding; themes are identified in advance based on the literature or on features the researcher is seeking (Lewins & Silver 2007), and the number of instances of each are counted (Silverman 2011). The analysis is systematic, objective and allows for quantitative analysis of data which are essentially qualitative in nature (Neuendorf 2002). In doing so opportunities are lost to explore some meanings from the data (Silverman 2011).

Thematic analysis for the current study involved the following steps:

a) All interview transcripts and observation notes were imported into NVivo 9 for coding. Transcription followed the guidance of Richards (2005) that the data record should be 'as large as it needs to be and as small as it can be'. Hence, discussions within interviews which were unrelated to the topic were not transcribed, but a note was made within the transcript to indicate where this had happened, and the original recordings were kept for future reference if required. In a few cases, interviews could not be recorded for practical reasons (such as interviews in public places). Notes were taken in these cases and were written up within 24 hours.

b) Coding proceeded using a combination of deductive codes, based on the key features of a good job identified in the literature, and the questions asked during interviews; and inductive codes, relating to themes identified by the researcher during analysis. The use of both types of coding concurrently is supported in the literature (King 2004; Lewins & Silver 2007).

c) Coding was iterative, with constant comparison between the data and the coding structure (Robson 2011). If a new code was identified, previously coded transcripts were reviewed to look for associated data.

d) Interpretive recoding (Miles & Huberman 1994) was then used to break codes down into further detail.

e) Finally, the data sets from the different interview cohorts were considered together to identify similarities and differences across them. An example of the final coding structure can be found in Appendix E.

f) Consideration was given to counting the number of entries assigned to each code. Miles and Huberman (1994) have suggested that such frequencies are useful as they verify the consistency of a reported phenomenon, and implicit quantification (some, many, a few etc.) may guard against charges of anecdotalism (Robson 2011). However more instances of a theme do not necessarily make it more important (Braun & Clarke 2006). A decision was made to use quantification where data were based on answers to closed questions: e.g. *'Why did you choose this job?' 'Would you recommend it to others?'* This would allow meaningful comparisons. However, where data arose from wider discussion it would be inappropriate to quantify responses, and the focus would be on the themes themselves and the meanings attributed to them.

g) Examples and quotes from data were selected to illustrate the points discussed, these can help to convince the reader that the claims made fit the whole data set and again that they are more than just anecdotal (Braun & Clarke 2006; Silverman 2011).

3.4.5 **Quantitative analysis**

Statistical analysis of quantitative data is performed to enable inferences to be drawn – when comparing two or more sets of data which appear to be different, we can assess the probability that there is a real difference between the two groups rather than just, for example, unrepresentative sampling (Brace et al 2009). Quantitative analysis was used in two main ways in this research.

Firstly, where quantitative data were generated from interview analysis as described above, analysis was carried out to assess whether differences

between groups or organisations were statistically significant. A chi-squared test of independence was the main tool used, as this permits testing of differences between two or more independent groups where the data are categorical in nature (Brace et al 2009). Using chi-squared tests when sample sizes are small (e.g. expected frequencies less than 5) can result in Type II errors – real differences are missed as the test does not have sufficient power to detect them (Howell 2013). To minimise this risk, data were collapsed down into fewer categories where necessary before testing. Where expected cell sizes were still less than 5 once data had been dichotomised, Fisher's' exact test was used on the resulting 2x2 table.

Secondly, a large quantitative data set was generated from the DGB-Index survey tool used in the study described in chapter 8; these data were retrieved by scanning completed questionnaires and imported into Excel for initial transformation according to a complex algorithm designed by the tools' authors (Fuchs 2007). This resulted in a set of final scores for each question, for each participant. A separate algorithm was constructed to identify and assess missing data and either resolve these by interpolation or remove grossly incomplete questionnaires. Further details regarding this are given in the relevant study chapter. Cleaned data were then exported into SPSS 19 to allow comparisons to be drawn between different groups of participants. Statistical testing was carried out where appropriate using parametric tests (independent t-test, ANOVA and logistic regression). These were deemed suitable as the data were interval in nature and were drawn from populations which were normally distributed (see appendix M) (Pallant 2010). For t tests and Anova calculations, homogeneity of variance was assessed using Levene's test, and the appropriate p value identified based on the outcome (Tabachnick & Fidell 2006; Pallant 2010).

3.5   Ethics

All parts of this research were carried out in accordance with the Loughborough University Ethical Framework and following the requirements of the University's Ethics Approvals (Human Participants) Sub-Committee.

The confidentiality of interviewees has been protected by reporting findings in an anonymised fashion. Where interview data were included in feedback reports to managers, these were included with other study findings such that individuals could not be identified. Comments which might be traced back to individuals were not included in reports. The identity of the organisations involved has been protected by the use of pseudonyms and through modification of company descriptors where necessary. All five organisations agreed to their data being used in this report; one requested a confidentiality agreement and to see the report before its publication.

3.6   Trustworthiness

Robson (2011) notes that the purpose of research is to seek the truth, and that to achieve this it should be carried out systematically, sceptically and ethically. The quality of quantitative research is typically assessed using measures of validity and reliability, and many authors use similar criteria when evaluating qualitative data (Reynolds et al 2011). Table 3-2 outlines the key threats to trustworthiness in qualitative data based on the literature (Lincoln & Guba 1985; Bryman 2008) and the measures in place in the current study to minimise these.

3.7   Summary

This chapter has explained that the research in this thesis is conducted from a standpoint of realism, and has identified this as the most appropriate approach for research into job quality from an ergonomics perspective. It has given justifications for using a mixed model and mixed methods design, and has outlined that this includes semi structured interviews, repertory grid interviews, observation and the use of a quantitative survey tool.

The research addresses both individual and organisational factors in job quality. The first study, therefore, uses repertory grids which are underpinned by Personal Construct Theory and focuses explicitly on the views and perspectives of individuals with regards to their work. The second study also

Table 3-2 Key threats to trustworthiness in qualitative research and the steps taken to minimise these in the current study

Aspect	Key threats in the current study	Control measures used
Credibility (internal validity) Are the results a credible explanation of reality?	Interviewees may not answer questions honestly People may behave differently because they are being observed	Building rapport with interviewees Reassurance of confidentiality Respondent validation – feedback of results to company managers Triangulation with quantitative data; inclusion of observational data Relatively large number of interviewees to ensure saturation
Transferability (external validity) Will the findings hold in some other context or some other time?	Poor sampling e.g. Language – low representation of non-English speakers e.g. potential skew to interviewees who were willing to be interviewed e.g. potential skew from managers selecting particular interviewees Companies studied may be dissimilar to other organisations	Inclusion of details 'thick description' to enable readers to draw their own conclusions; e.g. descriptions of company structure, ethos etc. Purposive sample – ensuring coverage in terms of age, gender, length of service Selection of five different companies
Dependability (reliability) Do the research conclusions match the data collected?	Risk of drawing unfounded or erroneous conclusions	Recording of interviews Writing up of notes within 24 hours whenever recording is not possible Structured analysis using NVivo as described above Maintenance of interview transcripts, analysis notes, coding data etc.
Confirmability (Objectivity) Have the personal values or theoretical inclinations of the researcher swayed the research or findings?	Impact of being a female in a male world, during interviews and observation in bus driving/manufacturing studies Researcher expectations regarding job quality (based on the literature and also on the personal job preferences of the researcher)	Reflexive approach on part of researcher Testing of conclusions through discussion with others and comparisons with the literature

gathers data from interviews with individuals. However, by drawing interviewees from two contrasting organisations it is able to explore the similarities and differences which arise, and to consider some of the factors (within companies and within society as a whole) which might influence these. The research for the remaining study chapters is located within three organisations in a single industry, bus and coach driving. This enables consideration of the factors which influence job quality at a company level and identification of some of the barriers to improving job quality. Hence it enables the discussion to move from how job quality is defined and how it affects individuals to a societal view of how jobs are designed, how job quality can be measured, how it might be improved and the implications of this.

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Chapter 1 – Introduction
What is a good job?

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Chapter 2 – Literature review
What is job quality?
What is the relationship between work and health?

↓

Chapter 3 – Methodology and methods
How is job quality assessed?
How will this thesis assess job quality?

↓

Chapter 4 – Repertory grid study
How do employees think about work, jobs and health?
Repertory grid interviews with 18 individuals from a wide range of backgrounds

↓

Chapter 5 – CleanCo and ManCo study
How do employees in low-skilled jobs describe a good job? What influences this?
Interviews with 30 individuals from cleaning and manufacturing
An initial theoretical model of job quality

↓

Chapter 6 – First bus driver study
How do bus drivers describe a good job? What influences this?
Interviews with 50 drivers from 3 bus and coach companies
A revised theoretical model of job quality

↓

Chapter 7 – Second bus driver study
Is bus driving a good job when assessed qualitatively? What are the barriers to it being a good job?
Interviews as in chapter 6, plus interviews with managers, informal interviews and observation
Application of the model of job quality

↓

Chapter 8 – Third bus driver study
Can job quality be measured? Is bus driving a good job when assessed quantitatively?
Use of the DGBI questionnaire in three bus and coach companies
Comparison with findings from chapter 7

↓

Chapter 9 – Discussion and Conclusions
What is a good job?
Review and critique of study design
Suggestions for further research

Chapter Four   A repertory grid study to explore perceptions of jobs and job features

4.1   Introduction

Many aspects of work have been identified in the literature as important in relation to health, wellbeing and satisfaction. As the review in chapter two and the summary in Table 2-1 illustrate, this includes extrinsic factors such as pay and security, and intrinsic factors such as the nature of the job. Although there is variation between studies, these are the features which researchers have commonly explored and found to be relevant to a greater or lesser extent.

Much of the research focuses on specific issues within job quality such as autonomy, demands or working hours, and sometimes on combinations of or interactions between these. In other cases, job quality is considered as a single collective entity and authors generally start by drawing up a short list of component factors to include in their model. For example, the International Social Survey Programme (ISSP) uses a list of eight factors asking individuals which are the most important to them personally in a job (Muñoz de Bustillo Llorente et al 2009). However, as Bustillo et al observe, the identification of which elements to include when assessing job quality can be difficult and potentially 'disastrous' if the wrong ones are selected. If relevant factors are excluded from a model, or some included which are not meaningfully related to outcomes, the conclusions reached will be invalid. Ideally then research into job quality would start without such a list, allowing the most important elements or factors to be identified by respondents without limiting or directing their choices.

A second limitation in the literature relates to the outcomes of job quality. Studies generally focus either on measurable health effects or on individual preference or satisfaction. There are differences between the features which are most influential in each case and therefore both sets need to be

considered. In practice, the two perspectives are rarely addressed within the same job quality study, limiting the scope of the conclusions which can be drawn.

A third limitation in the literature relates to the importance of individual variation. This is widely acknowledged as important and is often accounted for in research which evaluates individual aspects of work. However it is rarely included in overall models of job quality: these more commonly take a 'one size fits all' approach which again may limit the scope and validity of the conclusions.

The study presented in this chapter was designed to explore how individuals think about jobs and how they compare different jobs. It used a method which did not confine interviewees to a predefined list of factors, and thus could explore whether those which individuals identified spontaneously match those reported and measured in the literature. The study also addressed the limitations in the literature regarding the importance of individual variation; and the balance between what is important to individuals and what is, or is perceived to be, good for their health. It contributed to the following research objective:

- Objective one - to assess;
  a) how a range of individuals conceptualise a 'good' job and the features they consider important, and
  b) how the same individuals conceptualise a job which is good for health

4.1.1 Study questions
The questions addressed by this study were:
  o How do employees think about jobs, how do they distinguish and differentiate between jobs, and how does this compare with the literature?
  o How do employees vary in the ways they think about jobs and in their preferences?

o What is the relationship between the factors which employees consider important or desirable (i.e. those which make a job good) and those which they consider are good for their health?

The findings of this study were used to identify areas requiring further investigation in order to produce a theoretical model of a 'good' job.

4.2 Method

4.2.1 Procedure - Repertory grid interviewing

The reasons for selecting repertory grid interviewing have been outlined in the methods chapter of this thesis (chapter 3). It was identified that the technique is based on the capacity of individuals to progressively build a map of their world, influenced by experiences and expectations. Through this process, they build up a network of constructs - ways of construing or seeing the world: repertory grid interviewing is a way of identifying an individual's key constructs. There are variations in the format of repertory grid interviews, although all operate on the same basic principles established by Kelly (1955). The next section will outline these principles and explain how they were implemented in the current study.

Elements

These form the basis for discussion. They can be chosen by either the interviewer or the interviewee or be agreed through discussion or questioning (Stewart et al 1981). In the current study, the elements used were different jobs, which were chosen by asking the interviewee questions such as *'what job do you do?'; 'what job does your manager do?'; 'have you ever done a job which you did not like?'* This approach ensured that elements chosen were familiar enough to the interviewee for the discussions to be meaningful and had a wide enough range to cover the topic under discussion (Fransella et al 2004; Jankowicz 2004). A total of nine job elements were agreed with each interviewee.

Triads

The interviewee is presented with combinations of three elements at a time and is asked to identify ways in which two of the elements are similar and one is different. There are other ways of proceeding with a repertory grid interview without the use of triads: for example by comparing simple pairs of elements; by presenting a whole range of elements for discussion about similarities and differences; or by working with passages of text or pictures (Fransella et al 2004). The use of triads, however, was the model initially identified by Kelly (1955), and Stewart (2010) has suggested that triads are the most effective way of ensuring that constructs produced are bipolar. In the current study, combinations of elements were chosen to highlight differences, using groupings such as an **individual's job**, their **manager's job** and their **reportee's job**; or an **individual's current job**, a **previous job**, and **a job they did not like**. The number of triads presented in each case depended on the progress of the interview, and continued until no new ideas were emerging (typically after six to eight constructs); or the individual showed signs of fatigue.

Bipolar construct

This refers to the way an interviewee explains the differences he or she sees when looking at a triad. For example, an interviewee in the current study might see a difference in terms of how interesting the jobs are. He or she would be asked to explain how two of the elements were similar (the first or 'emergent' pole e.g. *they are boring)*; and then to describe the third element in the way in which it differed (the second or 'implicit' pole e.g. *it is creative*). According to Kelly's construct theory, it is essential to have 'both ends' of the idea being expressed, as he considered that we never confirm one thing without simultaneously denying another and that this enables us to understand more clearly what an individual is expressing.

These constructs were recorded on individual index cards during interviews. If the construct was not clear or was too vague, further questioning would be used to get clarification (Fransella et al 2004). For example a response such

as 'I liked those two jobs, I didn't like that one' would be explored to establish why the particular jobs were likeable or not, or what the pertinent characteristics of the jobs were.

Grid

Once an individual has identified a construct (e.g. *boring - creative*) from looking at three elements, this is used to create a scale. Each element from the complete set is then scored along this, assessing to what extent the element (job) is more like one or other end of the construct. The final outcome of this process will be a matrix where each element is scored across each construct (Figure 4-1). Scoring in this study was done by using each construct as a five point scale. Although Kelly initially used only a two point scale ('is this element like this, or like that'), it is common to use three, five or seven point rating scales to provide more comprehensive data (Fransella et al 2004).

				Elements				
				a.	b.	c.	----	j.
		Scale		your job	your manager's job	a reportee's job		
		1---------2---------3--------4--------5 A lot like this ↓	A lot like this ↓	learning manager	line manager	teaching Assistant	----	a good job
C o n s t r u c t s	9A	working with a team	working on your own	3	3	3	----	1
	9B	boring	creative	4	4	3	----	5
	9C	appreciated	not appreciated	1	1	3	----	1
	9D	responsibility for service/outcome	responsibility for task	1	2	4	----	2
	9E	specific training required	training given on the job	1	1	3	----	2
		----	----	----	----	----	----	----
	9H	good for health	not good for health	1	4	1		2

Figure 4-1 Extract from a grid completed during an interview with a learning manager This shows some of the elements used as a basis for discussion, the constructs identified by the interviewee as differentiating between elements, and the scores given to each element in terms of each construct.

The interview then proceeded as described above by the identification of the next construct, which in turn was also converted to a five point scale and used to score all elements. For each construct, interviewees were also asked to score an element **a Good Job**. Interviewees were finally asked to consider the supplied construct *good for health – not good for health* and to score all the elements (jobs) against this.

Some open questions were also asked at the beginning and end of the interview, concerning job history, current job and the features of jobs generally e.g. '*do you think your job is a good job?'; 'in what ways?'* Categorisation questions (age and gender) were also included. The full interview schedule is shown at Appendix A. Most interviews lasted around 60 to 90 minutes, the mean duration of the recorded interviews was 71 minutes.

4.2.2 **Pilot study**

A pilot study of three interviews was undertaken. Following this, small changes were made to the questions used to elicit elements, and to the triads used most commonly in construct elicitation. In addition, the supplied element 'a good job' and the supplied construct *good for health – not good for health* were added following the pilot study. Because the basic format of the interview did not change, the pilot data have been included in the analysis.

4.2.3 **Recruitment**

Interviewees (n=18) were selected using a purposive sampling model (Maxwell 1996) and found using personal and professional contacts. The aim was to cover a range of ages, a range of jobs as defined by the Standard Occupational Classification scheme (2000) and a range of jobs according to job satisfaction, as determined by Rose (2007).

4.2.4 **Analysis**

Firstly, the student version of RepGrid IV software (www.repgrid.com) was used for analysis of individual repertory grid data, generating a cluster

analysis grid for each interviewee. This enabled exploration of the data at an individual level: which constructs were most strongly linked to the jobs which an individual liked, which constructs were similar to each other or similarly valued, which elements (jobs) were seen as being alike? The use of cluster analysis helps patterns to be seen more clearly, the equivalent to spotting patterns such as 'the plough' when stargazing (Jankowicz 2004), although it is important to crosscheck findings with interview transcripts to ensure that an interpretation is correct.

Secondly, in order to pool repertory grid data, an analysis of all constructs was carried out using inductive thematic analysis as described in the methods chapter to allocate the constructs to discrete categories. There were 133 constructs in total from the 18 interviews. To validate the analysis, the process was repeated by a second researcher, and a final structure was agreed following discussion. Eight of the categories were redefined as part of this process. Eight constructs were moved into different categories; five further constructs were discussed but were not subsequently moved.

Finally, all interviews were recorded and transcribed (with the exception of the pilot interviews, where contemporaneous written notes were taken). The transcript data was used to expand on the findings with regard to individuals and themes, by providing further detail or illustrative quotes.

4.3   Results

4.3.1   **Participants**

Table 4-1 shows the characteristics of the individuals recruited for this study.

Table 4-1 Interviewee characteristics

Job title	Gender	Employment Status	Age	Occupation category*	Occupation satisfaction **
Sales director	Male	Full time	50	113	9
Chief Exec, healthcare	Male	Full time	49	118	3
Shop owner	Male	Self employed	41	123	7
IT team manager	Male	Full time	40	213	66
Lecturer	Female	Self employed	55	231	11
Special needs teacher	Male	Part time	60	231	11
Teacher/lecturer	Female	Part time, short contract	58	231	11
Head teacher	Male	Full time	51	231	11
Health coordinator	Female	Full time	43	323	25
Safety professional	Female	Part time	64	356	30
Occupational hygiene consultant	Male	Self employed	63	356	30
Library assistant	Male	Full time, one year contract	20	413	60
Administrator	Female	Full time	37	415	54
Grill chef	Male	Full time	26	543	26
Hairdresser	Female	Full time	21	622	2
Caretaker supervisor	Male	Full time	46	623	22
Warehouse supervisor	Male	Full time	41	914	70
Cleaner/team leader	Female	Part time	57	923	19

*categorised according to SOC 2000
** satisfaction ranking for that occupational category in the UK according to (Rose 2007), a total of 81 job categories are available

4.3.2 How do people think about jobs? The job features identified as important

Table 4-2 shows the ways in which interviewees talked about jobs, and distinguished between jobs. It combines data from the repertory grid constructs and the responses to open questions. The features discussed overall in interviews were broadly similar to those found in the literature, including autonomy, pay, relationships and physical demands; but there were differences in priority and preference amongst interviewees, and not all features were identified by all interviewees.

Table 4-2 Summary of interview findings (n=18), using categories produced by thematic analysis of repertory grid constructs

(numbers in brackets show the number of interviewees discussing that theme)

Theme		Category	Sample Constructs
Job foundation **What underpins job choice?**		**<u>Job requirements</u>** (6) Training, qualifications, experience *"[my preference would be] a bit of training. I'd rather have a job where I knew I could do it and you couldn't get someone off the street to do it; but not in a high flying kind of way, like a brain surgeon"* *(Hairdresser, female, 21 years)*	*training required - anyone could do it without training* *high level of education required - normal level of education needed* *requires experience - requires enthusiasm*
		<u>Job choice reasons</u> (4) career, necessity, interests, commitments *"In all fairness the only reason you would choose to do a cleaning job is the reason I took it on in the first place; because it fits in with the other life of being a housewife and a mother. So it was that reason and that reason alone...... it would be nice to have a job that you are really interested in doing"* *(Cleaner/team leader, female, 57 years)*	*job chosen to suit interests - job chosen to suit commitments*
<u>The Job</u>	**<u>What you do</u>**	**<u>'The job itself'</u>** (12) Repetition, boring tasks, variety and challenge, creating opportunities for learning, creativity vs imposed tasks *" picking up pieces of pastry and putting them in stacks of 6...the whole thing doesn't stop;...that is all they are doing for an hour and then they swap with the girl on the other side of the conveyor belt..."* *(Occupational hygiene consultant, male, 63 years)*	*varied, interesting – boring* *freedom, scope for creativity - rigidity, fixed role* *strategic - problem solving*
		<u>Responsibility</u> (12) Responsibility for tasks or overall planning, narrow focus or broad overview *"If I have too much responsibility, it gets stressful but if there is not enough it's boring, not challenging enough"* (Health coordinator, female, 43 years)	*responsibility for service/outcome - responsibility for task* *serious consequences of error - nobody damaged by mistakes*
		<u>Physical demands</u> (10) Physical vs mental demands, sitting, manual work *"I could probably do with getting out more. Too long sitting at my desk eating chocolate."* IT team manager, male, 40 years	*physically active – sedentary* *physically demanding - mentally demanding*
	<u>Influencing factors</u>	**<u>Autonomy</u>** (9) Control over when breaks are taken, working to deadlines, how work is planned *"Standard official methods – that's what you do and that's how you do it and we don't want to hear that there is a better way"* (Occupational hygiene consultant, male, 63 years)	*high discretion - no control, regimented* *making decisions - acting on someone else's decisions*

Table 4-2 continued

Theme	Category	Sample Constructs
	Physical factors (10) Indoors-outdoors, dirty environments, health and safety risks *"you used to get really dirty and black and heavy, everything was really hot because the furnace was 1000 degrees, and I was stood next to molten metal all the time" (Shop owner, male, 41 years)*	*clean - dirty* *indoors - outdoors* *safe - dangerous*
	Interactions with others (18) Working alone, working with the public, working with a team *"if you are working with a group of people who you get on with and you can have a laugh it is going to be more fun. The people I work with are absolutely barmy. It's brilliant, I fit right in!" (Library assistant, male, 20 years)*	*team work - working in isolation* *dealing with the public - working only with colleagues* *manager with respect for people - manager disrespectful towards people*
Job outcomes **What someone gets from doing the job**	**Working hours** (9) Control and flexibility over hours worked or breaks taken *"I could get phone calls anytime. Someone rang me when I was in Cyprus at my brother's wedding about a problem. I used to get called at night, and when I was away with family. It wasn't tenable in the end" (IT team manager, male, 40 years)*	*job fits around lifestyle - life fits around job* *low time input - high time input*
	Emotional outcomes (10) Satisfaction; Burnout, stress *"If you have students who are keen, that makes the rewards so much more because you feel that you have done something to keep them interested. I had a group like that last year, ... and it was amazingly rewarding" (Teacher/lecturer, female, 58 years)*	*influencing people - no influence on people* *job makes you feel positive - job makes you feel sad* *chilled -stressful*
	Recognition (9) Being valued, appreciated *"I suppose that is like the classic relationship between senior academics and the cleaning staff. They are only noticed when they are not there. Someone's been in at 6 o'clock sweeping the floor." (IT team manager, male, 40 years)*	*Appreciated - undervalued* *high status - low status*
	Outcomes and targets (7) Measures of success, clear outcomes, relationship between effort and outcome *"I don't know how you measure how well that job [playschool supervisor] has gone. If you asked me to write a job description or do a performance review and write down the specific tasks you could measure, I am not sure how you would find anything that wasn't a bit wishy washy, that was measurable" (Sales director, male, 50 years)*	*achievement is proportional to effort - may not succeed, regardless of effort* *clear feedback criteria - lack of clarity in feedback*

Table 4-2 continued

Theme	Category	Sample Constructs
	Pay and security (15) Pay level, pay relative to demands, security *"I was contracted for 40 hours a week, I was on about £18,000 but because I was head chef and had all the responsibility I wouldn't get away with doing 40 hours a week, I was there about 70 hours a week so the hourly rate was pennies" (Grill chef, male, 26 years)*	*well paid for what you do - hard work for low salary* *well paid - not well paid* *job secure – job insecure*

A comparison was made between these findings and the key work factors identified in the literature review. Although the ways in which interviewees considered and compared jobs were broadly in line with the literature, there were some differences; this is summarised in Figure 4-2. Firstly, there were some job features which are found in the literature which were not raised by interviewees; for example promotion, organisational culture and fairness were not discussed. This may indicate that these features are less important than commonly believed. However, it may also reflect the difficulty of classifying and categorising the factors which influence people's experiences of work, because there is so much overlap between them. Review of the constructs and comments made during interviews shows that some which have been categorised under pay or recognition, also reflect issues of fairness. Likewise statements relating to autonomy such as '*I can be myself'* and *'there is freedom'* also relate to organisational culture. These overlaps are shown as dotted arrows on Figure 4-2.

Similarly, some features identified in the interviews including levels of responsibility, whether a job involved working with the public and whether a job was predominantly indoors or outdoors, clean or dirty, could actually be categorised as relating to the specific requirements of 'the job itself' or job content. Outcomes and targets could be mapped to job demands. Recognition or appreciation could be considered a manager's responsibility and hence could be categorised or assessed within this area.

Secondly, there were topics which were mentioned during interviews which do not generally form part of the literature on job quality, in particular those

relating to the reasons for job choice. The following sub-sections will focus on three main areas of difference between the current findings and the literature.

Key themes from interviews			Key factors from the job quality literature	
Job foundation				
What underpins job choice?	Job requirements			
	job choice reasons			
	'The job itself'		Job content and demands	
	What you do		Training	
	Responsibility			
The Job	Physical demands		Physical demands	
	Autonomy		Autonomy	
	Physical factors	Influencing factors	Safety	
	Interactions with others		Manager	
			Colleagues	
Job outcomes	Working hours		Hours of work	
	Emotional outcomes		Emotional demands	
What someone gets from doing the job	Outcomes and targets			
	Recognition			
	Pay, Security		Pay, Security	
			Organisational culture	
			Fairness	
			Promotion	

Figure 4-2 Key themes and categories from interviews mapped against key themes in job quality from the literature

Choice and compromise

A topic which arose in the interviews which is rarely discussed explicitly when assessing job quality is what influences people's choice of job. Although this is not a job feature in itself, it influences the features which individuals subsequently experience and hence merits further exploration. Some interviewees differentiated between jobs in terms of whether they were open to anyone or required a certain level of skill or education. Others identified that some jobs were ones which would be explicitly chosen, compared to those which would be done through necessity.

Many interviewees gave examples of jobs they would have preferred to do than the route they had taken, or jobs they had given up even though they enjoyed them. The reasons given demonstrated that job content often took second place to extrinsic factors and responsibilities. The key factor was generally money, but there were also those who had chosen jobs to fit in with family commitments,

> *"when I was a technician there was work where I was really involved and got a lot of satisfaction from it but that wore off …. because there are obviously elements in terms of payment….. I quite miss working in a lab"* (Occupational hygiene consultant, male, 63 years);

> *"I feel that places like Asda or Tesco, I would be good at communicating with punters, with the customers, but I always felt the money isn't there in those sort of jobs"* (Warehouse supervisor, male, 41 years);

> *"It's not the job I would have chosen because it is not creative"* (Special needs teacher, male, 60 years);

> *"I applied [for his current job], primarily because it was here, close to home… we took a pragmatic view that the job was not exactly what I wanted to do…..but from a family a point of view, …. It is fairly well paid. Being close to home is great because I come to work on my bike. I drop my son off on the way"* (IT team manager, male, 40 years).

Finally, there were a number of employees who did not clearly identify why they had chosen or taken certain jobs. There was evidence of opportunism and pragmatism, such that people took jobs that were available and then adjusted to them. For example the hairdresser in the current study took the job when she left school because the salon owner (who was a family friend) decided that she should and booked her a college interview. Other interviewees similarly took what was offered,

> *"I just turned up and people rang me and said we want someone to teach some chemistry"* (Teacher/lecturer, female, 58 years);

> *"So I left there and went on holiday, then went to the job centre on the first day back and they said there is a vacancy here for a van driver"* (Warehouse supervisor, male, 41 years).

Job choice therefore did not occur in a vacuum, but involved individuals balancing out different advantages and disadvantages; some of these were explicit, some were not. This may have led them to take on roles which did not particularly suit them in some ways, and job content was the feature which was typically identified as the area of compromise.

Boredom

A related issue which arose frequently in the interviews was that of boredom. Firstly, all participants who gave constructs relating to job content such as *creativity vs rigidity* or *creativity vs routine* indicated a preference for a role which they considered to be more interesting, although they may also acknowledge that others would be happy in a dull role,

> *"repetitive, boring, soul destroying - but I have met people who are quite happy to do jobs like that, there are other factors that influence whether they are happy doing that. They don't like having to think outside the box"* (Sales director, male, 50 years);

> *"I think there is more freedom and more scope for creativity in some jobs than in others. [I] definitely prefer the freedom and flexibility"* (Health coordinator, female, 43 years).

Secondly, as part of the process of choosing elements, interviewees were asked to identify a job they would not like, or a job they had done which they had not enjoyed. The most common reason for identifying such a job was that it had been or would be 'boring',

> *"M___ plastics which is a very good employer in a way…but obviously there are a lot of very repetitive tasks. Handling little plastic bottles… and they've got to be printed on one side so all you are doing is looking at these bottles… Those are the jobs I would find very hard to do….If people had a choice of jobs I can't think of many people who*

would choose that, they do it because of necessity" (Occupational hygiene consultant, male, 63 years);

"When I was 15 I had to load a spud peeling machine in a chip factory and that was the worst job ever, it was night and you were on your own and I lasted one night….. you are a machine, feeding a machine" (Special needs teacher, male, 60 years);

"One year at Sainsbury, filling shelves, I loathed it" (Safety professional, female, 64 years).

Hence there was evidence that many interviewees valued jobs which were intrinsically interesting, an acknowledgement of the importance of job content. Having a job which was uninteresting was an aspect of work which was considered to be unpleasant. Taken in conjunction with the previous section, this would imply that interesting job content is very important but not always attainable, a point which will be considered in the discussion section.

Pay and security

The issue of pay was raised by the majority of interviewees at some point. However, it was only rarely used to distinguish between jobs, and there was wide variation in its perceived importance. Some gave it as a reason why they had changed jobs, whilst others mentioned it when discussing what they considered made a job good. Several mentioned particularly that it was unimportant compared to issues of job content, either for themselves or for others,

"Salary influences your paying your bills, but it is not a huge influence on what people choose to do for a living, it's a means to an end" (Health coordinator, female, 43 years);

"I always avoided doing lecturing because it is so badly paid. Especially for me because I spend so long doing the prep…..I would probably get a better hourly rate if I was filling shelves; but I actually do like what I am doing" (Lecturer, female, 55 years);

> *"I might have said financial reward at one point but that is not the case now particularly"* (Chief Executive, healthcare, male, aged 49 years).

When the issue of job security arose, many interviewees gave examples of jobs where they had had poor security, an unreliable contract, or had been made redundant,

> *"Then that shut down. Every job I've been to has shut down!"*
> *(Warehouse supervisor, male, 41 years).*

However, even more than for pay, it appeared to be of relatively low importance comparatively. Only one interviewee used it in a construct which differentiated between jobs, and none identified it as a key feature of a good job. It is possible that it was genuinely considered unimportant by interviewees. However, it is also possible that the structure of the interviews led participants to focus more on the intrinsic nature of their jobs, particular if they were comparing jobs which were all equally secure.

Summary regarding overall job features

Overall, interviewees described jobs using similar features to those identified in the literature as important for job quality. Where there were differences these may relate in part to the nature of the interview or to the difficulties of categorising elements of job quality. In particular, pay and security were ascribed relatively low importance by those interviewed and factors relating to the actual job were seen as important, with expressed preferences for interesting work. However, there was also evidence that individuals made decisions about jobs which reversed these priorities for practical and financial reasons.

4.3.3 How widely do individuals vary?

It has already been observed that there were differences between individuals, and that not all the features discussed had the same importance to all interviewees. This section will illustrate this further by highlighting the key points from three of the interviews conducted. The individuals have been chosen to demonstrate the range of views found: the summaries outline the

features identified as important to make a job good, those which made a job good for health, and how each individual saw their own job compared to others. The case studies draw on both the interview transcripts and the Repertory Grid constructs which were analysed using cluster analysis to highlight the perceived relationships between particular jobs and their features. The completed cluster analysis dendograms can be found in Appendix B.

Case study A, John

John was a 50 year old sales director. He trained as an engineer and worked for a number of years in engineering jobs before deciding to switch to a sales role. Several constructs used by John illustrated his preference for a job which was intrinsically interesting, autonomous, and part of a career plan:

variety of tasks	-	*monotony*
freedom to plan and prioritise	-	*job closely controlled and monitored*
appreciated	-	*undervalued*
clear career path	-	*non-specific career path*
pay, enough to maintain expected lifestyle	-	*pay, subsistence level*

John believed that in addition to the factors outlined above, a good job would be one which fitted around an individual's lifestyle. However, his current job scored poorly on this. The interview transcript identifies that his job was one with high demands and required high flexibility from him, resulting in long hours and the need to frequently change personal arrangements to fit in with work demands. Hence he did not consider his current job to be good for health and he tried to minimise the risk by undertaking frequent exercise to combat work stress. Other jobs discussed during the interview included roles such as customer services representative and playschool supervisor. John considered these roles to be in principle better for health, but otherwise they scored poorly on the features he had identified which make a job a good one.

John's education, skills and experience gave him a high degree of control and enabled him to choose jobs which suited his personal preferences and to progress to a high salary: most job changes had been made with the purpose of increasing his income. However he had also experienced the downside of a job which had high demands and pressures, and the potential health effects associated with this. He accepted that high stress and associated health risk were the price of having a job which suited him in other ways.

Case study B, Paul

Paul was a 26 year old grill chef. He had worked in kitchens for several years, developing his skills and working his way up the hierarchy. He had previously studied as a mechanic and as a carpenter. He enjoyed his job and aspired to be promoted - he considered that a more senior job (e.g. head chef) would be better than his current role in terms of the following constructs, which he saw as linked and desirable:

higher responsibility	-	*low responsibility*
top of the pile	-	*bottom of the pile*
suit and tie, in an office	-	*physically dirty*
mental work	-	*manual work*
more money to be made	-	*lower paid*

An important aspect of work for Paul was that of creativity, illustrated by a construct *creative, passion – routine, same every day.* From the interview transcript it is apparent that this underpinned his love of cooking and he mentioned that conference food and high class dining events excited him particularly, in comparison with the grill chef aspect of his role which was much more routine. Other jobs he had done previously and enjoyed, and a theoretical 'good job' had creativity as a strong feature: whereas the jobs which were furthest away from his ideal were those seen as more routine.

The biggest predictor of a 'job good for health' for Paul was good work-home balance. This reflected personal experience. The interview transcript shows

that in a previous job as a pub chef he was working 70-80 hours per week and noticed a marked effect on his health - whenever he took holiday, he became unwell. He believed, based on that experience, that the level of pressure he was under was not sustainable in the long term.

Case study C, Tom

Tom was a 46 year old male who worked as a caretaking supervisor in a university. His role involved elements of manual caretaking activities (which he has done as his main role in the past) in addition to a supervisory role for a team of staff. He loved his job and planned to continue in it until he retired. Two main aspects of Tom's work were especially important to him. One concerned people and interactions. He enjoyed being part of a team and also interacting with people outside his department. He particularly valued opportunities he had for day to day conversation with senior members of the organisation. He also had an excellent relationship with his manager and held her in high regard, such that if she left he might consider leaving the job.

The second key issue for Tom related to responsibility, he scored his job highly on a number of associated constructs:

responsibility across campus	-	*responsibility only for what you do*
risks to health and safety	-	*few health and safety risks*
high consequences if things go wrong	-	*low consequences if you do it wrong*
making decisions about what needs doing	-	*doing things*

By comparison, two jobs which he said he would particularly dislike were those of shelf stacker and professor. He associated these roles with low health and safety risk and low consequences of error.

The variability of the job – the fact that unexpected things happened and that no two days were the same were identified as being a key contributor to the job being good for health.

The role of caretaking supervisor involved daily split shifts (7.30 – 12.15 and 17.00 – 20.15 daily) with overtime during some afternoons and weekends. Although these hours might be considered inconvenient or difficult by some, the issue of working hours was not raised by Tom during the interview. Likewise he did not mention pay, even though there was a potential trigger for him to do so when looking at triads which compared his own job to that of his manager and of a professor. This suggests that such factors were less significant for him than other aspects of his job.

Variation between individuals - summary

Table 4-3 summarises the preferences of the three interviewees described above in terms of four aspects of work. This illustrates that there was marked variation between the individuals in terms of what they considered important and how they balanced priorities. However, although their actual jobs were very different, there was agreement in that all considered variety to be important.

Table 4-3 Themes and features which show variation between the three case studies presented

	Working hours	Working relationships	Pay	Job content
John Sales Director	Poor work-home balance in current job, this is considered a barrier to the job being good for health but is accepted as unavoidable	This was not discussed	This has been a key reason for job change	Values variety
Paul Grill chef	This is very important to him, he ensures this is good because he has had bad experience in the past	He prefers a balance between working alone and as part of a team. He did not mention the impact of a good or bad manager	This was seen as a benefit of promotion	Values creativity and variety
Tom Caretaking supervisor	These was not mentioned, even though his hours would be considered poor by some	The opportunity for team work, good relationships and his good manager were the most important aspects of his job	This was not mentioned	Values variety

Similarity and variation within features

This section will consider features which were discussed by several interviewees, and the extent to which their preferences differed. For some features, all interviewees who discussed it had similar preferences. For example, those who discussed recognition had a preference to be recognised rather than underappreciated, and those who talked about relationships not unsurprisingly wanted to be respected. Similarly, the majority of those who discussed responsibility valued it, and only one of those who mentioned autonomy had a preference for less rather than more,

> *"In all honesty, most of the time I would just prefer to be told what to do" (Hairdresser, female, 21 years).*

However for other features there was more variation, and less agreement about which might be the 'good' end of a construct. This can be illustrated by considering the features emotional and physical demands.

When discussing emotional demands, there were two different perspectives. Some individuals focussed on the positive aspects of doing potentially challenging work, and the opportunities for job satisfaction,

> *"helping people to find solutions to things rather than assisting someone else with this, being their 'monkey'….making decisions – it is more likely that you feel like you count" (Administrator, female, 37 years);*

> *"you get the adrenaline rush of watching 5000 people bouncing up and down to your band… You don't get that kind of buzz in these [IT jobs]" (IT team manager, male, 40 years);*

> *"I think it is feeling appreciated, dealing with responsibility and making an impact and that is the motivation" (Head teacher, male, 51 years).*

Others focussed on the impact of a job which put an employee at risk of distress or the consequences of error, often based on either personal experience or that of others,

"It grinds you down…..especially my dad, he's a grumpy old man….the fact that he sometimes has to take children out of their homes and move them away from their mum or their dad, even if it is for a good reason, it's got to do something to you hasn't it?" (Library assistant, male, 20 years);

"from a longevity point of view I prefer these two [jobs], they would be easier jobs to do. Working in homelessness you burn out with it and staff turnover is high" (Health coordinator, female, 43 years).

Physical demands was another feature which highlighted individual difference. There were those who preferred jobs which were physically active,

"I am not great with numbers or writing so I probably wouldn't be a great accountant or anything like that but any physical job I would be more than happy to do" (Grill chef, male, 26 years);

"Even though I work in retail which isn't massively [physical] and I do enjoy doing it, I do like getting stuck in" (Shop owner, male, 41 years);

"I don't mind dirt, I don't mind noise, I am not a suit person, I am more hands on" (Warehouse supervisor, male, 41 years).

Others, however, had chosen to work in more sedentary roles,

"Well at the moment a clean office based job is great" (IT team manager, male, 40 years);

"I've never done manual work even at home. It is the man's job!" (Administrator, female, 37 years).

Summary regarding variation between individuals

In conclusion, although there were similarities between interviewees there were also differences in their preferences, priorities and how they saw their jobs, and in the features which they considered important to make a job a good one. In terms of job content, there was strong agreement that an interesting job was better than a boring one. There was also agreement that

recognition, autonomy and responsibility were generally better than an absence of these things. However, there was a wider level of variation regarding the importance of pay, working hours, relationships and whether individuals valued jobs with high physical or emotional demands.

4.3.4 What makes jobs good for health?

All interviewees were asked what they thought made a job good and also what made a job good for health. Most were also asked to consider the element 'a good job' and the construct *a healthy job – an unhealthy job* (these aspects were not included in the pilot interviews). These data were combined to identify the features most commonly associated with or seen as influencing a good job and a job which is good for health. Further details of the process used is shown in Appendix C.

A good job and a job which is good for health were seen differently, influenced by different features; this is summarised in Figure 4-3. Generally the features associated with a good job had greater influence on decision making. For example, no interviewee said that they had chosen an active job or a low stress job because it was good for their health (although some had chosen one because it suited them in job content terms). Working hours influenced job choice for some, but this was for family reasons rather than being related to a perceived impact on health. However some interviewees did give job choice reasons from the 'good job' end of the figure, such as factors associated with what the job actually involved or aimed at improving pay.
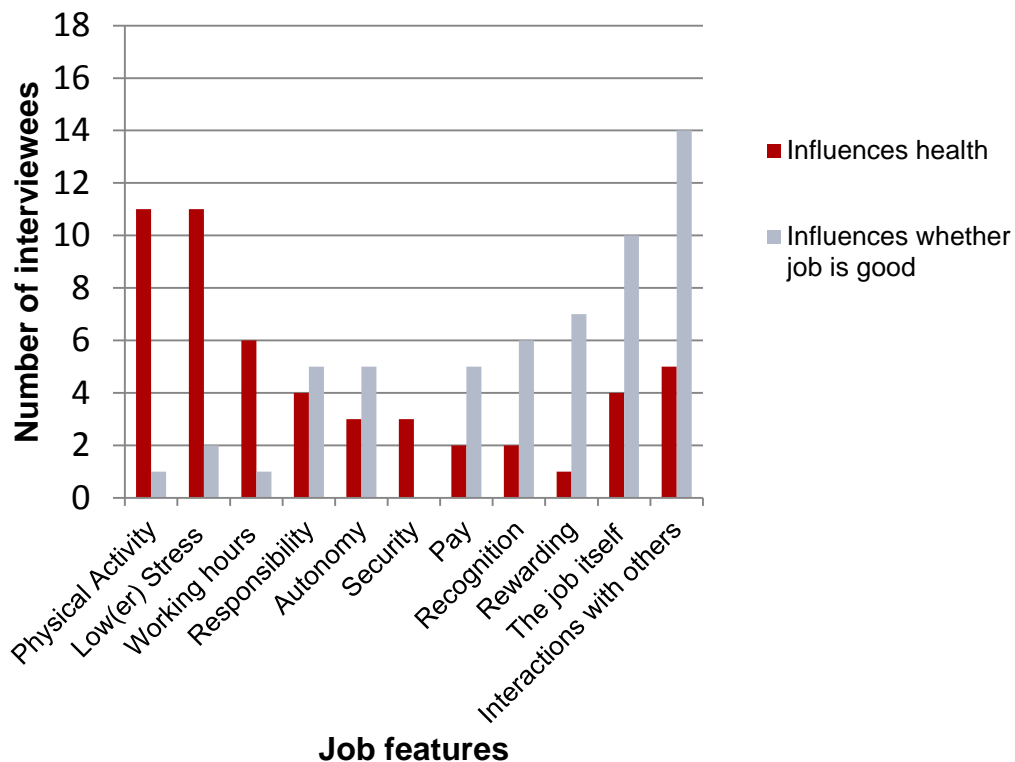
Figure 4-3 Features most commonly identified by interviewees as influencing whether a job is good and whether it is good for health

Health factors may influence job choice more than Figure 4-3 suggests. For example, two interviewees had left previous jobs because of health problems, although they did not give health related reasons for choosing their current job,

> "I packed up the printing and the foundry because I am asthmatic, It was not good for my asthma, as soon as I packed up and did the taxi driving and did this, I didn't get the asthma any more" (Shop owner, male, 41 years).

Also, it is possible that where interviewees recognised health risks in work this influenced the decisions they made even if they did not state this, for example in terms of selecting jobs with the level of challenge or stress that suited them personally,

> "I don't want there to be serious consequences of error but I do want something to keep me on my toes" (Head teacher, male, 51 years);

> *"The MD, it is his business…..over the last 4 years I've sat and watched him, and I think sometimes 'that bloke's going to have a heart attack' " (Warehouse supervisor, male, 41 years).*

However, this was not stated explicitly; it was not apparent that individuals chose or valued jobs specifically because they were seen as being good for their health. At the same time, there was some evidence that interviewees chose and often valued jobs which they recognised to be bad for their health, provided they were satisfactory in other ways,

> *"I picked up a job for 9 months delivering junk mail and leaflets. I was walking about 45 km a week and I lost 23 kilos, and at the end of that I ran 5 half marathons and a marathon...... ;[after that] about 6 months into the ambulance job [desk based] I had already put on 12 kilos" (Chief Executive, healthcare, male, aged 49 years).*

Overall the results suggest that a job did not always need to be considered to be good for health for it to be seen as being a good job. In some cases the two factors were seen as mutually exclusive – individuals intentionally chose jobs which were interesting or highly paid, recognising as they did so that the job was potentially disadvantageous to their health. Additional evidence to support this comes from the responses of the fifteen interviewees who were asked to score the element '**a good job**' on the construct *good for health – not good for health*. All recognised that an association between the two would be desirable even if not always achievable in practice,

> *"Good job – have to be one [on a scale 1-5]. Because your health is more important than anything. When you are in pain you would pay a million pounds to get it to go away." (Warehouse supervisor, male, 41 years);*

> *"A good job should be at this end. Unless you are an aerobics instructor, it is probably not." (Sales director, male, 50 years).*

However, seven out of the fifteen only scored the element at two on the scale - so that a hypothetical 'good job' by definition was one that was only moderately good for health.

4.4 Discussion

This series of repertory grid interviews identified a range of features associated with work and jobs; these were broadly similar to those commonly used in research into job quality. This gives confidence that the features summarised in Table 2-1 in the literature review are considered relevant by employees. However, the interviews also highlighted the extent of differences between individuals, that individuals often compromise in their choice of job, and that the features associated with a good job are different from those which are seen to make a job good for health.

4.4.1 Individual variation

Variation was found between individuals in the jobs that they preferred and in the features they considered important. This was not unexpected as the importance of variation is well documented in the job quality literature (Edwards & Cooper 1990; Burgess & Connell 2008). Furthermore, the current study used a method which is based on the principle that each individual has a different 'mental map' of the world (Stewart et al 1981). According to Personal Construct Theory (Kelly 1955) this map is based on their personal experiences, values (Shaw 1981) and the theories they have created to explain these (Fransella et al 2004); and it influences the actions that they subsequently take (Easterby-Smith et al 1996). In view of this, it would have been more surprising had the study found that interviewees all had very similar views of jobs and work.

However, focussing exclusively on the variation between individuals is not particularly helpful in terms of improving job quality, as it leads to the conclusion reached by Cooke (2013) that a universal measure of job quality is not definable. More useful is to differentiate between those factors which show wide variation, and those which show greater similarity. For example, the fact that no interviewees favoured being unappreciated or disrespected by their manager suggests that appreciation or respect are aspects which are important to some extent for any job to be a 'good' one. Similarly, all interviewees who discussed variety considered it to be a good thing.

However, for other factors such as the amount of physical activity involved, or a preference for working with the public, there was variation between individuals. Hence these seem to relate not to whether a job is universally a 'good' one, but whether it is the *right* job for the individual involved. The current study suggests a need for further investigation to distinguish between those factors which are universally important, or at least important to most people; and those which are important to a smaller number.

Also, it is important to note that 'our constructs are not all equal' (Fransella et al 2004). Some features which were important to only a very small number of people may nonetheless have been extremely important to those individuals, highlighting the importance of matching jobs to individuals and ensuring that any framework of job quality takes this into account.

4.4.2 **Important job features - the impact of choice and compromise**

The balance between intrinsic and extrinsic work factors was highlighted in the current study, with some interviewees emphasising the importance of job content and others giving precedence to pay, albeit reluctantly in some situations. This correlates with the findings of Clark (2005) who identified that employees (especially women) considered the nature of their work to be extremely important; and that 'the job itself' influenced job satisfaction: but decisions actually made regarding job change are reportedly more likely to be influenced by pay and security (Rose 2003). The level of anxiety in this cohort about jobs being boring is of particular note. Lack of mental challenge in work, it would seem, was far more to be feared than a job which was dangerous or did not pay enough to feed the family. Yet around a quarter of the British workforce are employed in jobs involving sales, factory work or elementary roles (e.g. cleaning, labouring) (Office for National Statistics 2012) which are likely to tend towards such work characteristics.

It is important to remember that the interview cohort were chosen to provide a spread but were not statistically representative of employees as a whole. Younger employees were underrepresented, and over half of the cohort were

educated to degree level or above. This is likely to have an impact on the findings: many of the comments about jobs which had been/might be distressingly boring were made by individuals who were well educated and from higher socioeconomic backgrounds. This would make them less likely to be employed in repetitive jobs and likely to have higher expectations regarding job content (Schokkaert et al 2009). By comparison, job content is likely to be of less concern to those who are struggling to earn enough to get by, who are focused predominantly on the physiological and safety needs at the bottom of Maslow's hierarchy (Wallace et al 2007). However, it is unclear whether those in such roles are merely tolerant of them, in the absence of any alternative scenario and accepting that they do not have the luxury of a job which they enjoy; or are genuinely content, not just because their expectations are lower but because they actually conceptualise 'varied' or 'boring' in a different way to those who have chosen more mentally demanding work.

Smith et al (2011) has stated that 'most people choose their jobs' but the current study suggests that some do not, or that at best they choose within a limited range. In the current study, some individuals had made a choice to satisfy the extrinsic factors such as pay and security, but in doing so they consciously sacrificed job content. The concept of the 'right' job has been raised above; by definition, it would also mean that there is a potential for those with limited choice being more likely to feel forced into choosing the 'wrong' job. Unfortunately, individuals who are in low status jobs and dissatisfied are frequently trapped by the lack of options elsewhere (Siegrist 1996); whilst others may take jobs which are inconsistent with their educational background due to difficult economic times and tolerate the loss of occupational status but at a cost to their health, in accord with the theory of Effort Reward Imbalance (Siegrist et al 2004). The potential impact on an individual of being in the wrong job is illustrated by the case of *Lancaster vs Birmingham City council* (99(6) QR4). Here, the plaintiff successfully won compensation for work-related stress based on a job move from a quiet

planning office to the front desk in a housing benefit office, with substantial involvement with (potentially angry) members of the public.

4.4.3 'Good' jobs and 'good for health' jobs

The factors interviewees associated most strongly with a job which was good for health were (high) physical activity and (low) stress. The potential consequence of low activity is widely recognised - it was identified as one of the key emerging health risks in the workplace by the European Agency for Safety and Health at Work (2005), based on a survey of experts in the field. There is a substantial research base (Saris et al 2003; Boyce et al 2008; Straker & Mathiassen 2009; Patel et al 2010) highlighting risks of heart disease, diabetes, and obesity associated with inactivity at work, with indications that exercise outside of work is rarely enough to compensate. The association between stress and health is less straightforward than that for physical activity. 'Stress, depression or anxiety' is the work-related condition most frequently self-reported in the United Kingdom (HSE 2012). There is evidence (Daniels et al 2004) that such problems arise from a combination of adverse working conditions (jobs which are not good) and variation in individual differences (individuals who are not in the right jobs).

As Figure 4-3 shows, the features 'physical activity' and 'low stress' were not the same as the ones which interviewees associated with a 'good' job, nor were they ones which appeared to influence their choice of job. In fact, the current study found some evidence that individuals could consider a job to be good even if they recognised it was not good for their health. Traditionally, the literature finds an association between bad jobs and poor health. For example, the Whitehall II studies (Stansfeld et al 2000) have generally found that lower grade jobs which are lower in pay and autonomy are associated with worse health. Poor job security (Sverke et al 2002) and poor working relationships (Johnson & Hall 1988) have also been associated with adverse health effects. The corollary of this might be an association between good jobs and good health, as suggested by Waddell and Burton (2006).

The perception in the current study that good jobs and good for health jobs involve different features, and that this did not apparently concern interviewees, may indicate something about conceptions of work - that it is seen as a necessary evil and is not expected to contribute to good health. This is at odds with the influential literature review by Waddell and Burton (2006), which found that 'work is generally good for health', and is potentially problematic for two reasons. Firstly, the increasing retirement age in the UK and other countries expects employees to work for longer than previously; this requires that they remain in good enough health to permit this. An underlying belief on the part of employees, rightly or wrongly, that work and health are mutually exclusive would contribute to distress regarding the implementation of such policies.

Secondly, the jobs which many individuals aspire to, whilst not bad for health based on the traditional work-health literature such as Whitehall II studies (Stansfeld et al 2000), are bad in terms of their inactivity (Wilmot et al 2012). Interviewees recognised this but it did not appear to influence their job choices. This highlights the difficulty of addressing this issue. Although the risks from sedentary behaviour are widely recognised, the literature which is concerned specifically with the definition and measurement of overall job quality rarely discusses the impact this might have on employees. Given the importance in reality of work contributing to good health, or at least not contributing to bad health, it is difficult to justify a definition or conceptualisation of a 'good job' which does not take this into account.

4.5   Strengths and Limitations of this study

Any interview study carries a risk of interviewer influence and bias as a result of the interactions involved and the way questions are formulated. The repertory grid process minimises this – by asking the individual to identify elements and constructs, rather than providing these, the interviewee is in effect allowed to ask their own questions as well as giving their answers. A further advantage of repertory grid interviewing is that it approaches a topic from a more oblique angle than most interview or questionnaire techniques

giving interviewees an opportunity to think about their drivers and preferences in a different way and 'go beyond the obvious and banal' (Jankowicz 2004). Although the technique may appear complex, all interviewees in this study engaged successfully with the process and several commented on the interview being an interesting and worthwhile experience.

The main challenge of the repertory grid method is the time taken to complete an interview as many of the interviews in this study lasted up to 90 minutes. This is a long period of time for both parties to maintain concentration and a degree of fatigue was apparent in the later stages of the longer interviews within the current study. As a result, constructs which arose late in some interviews may not have been explored as fully as would be ideal, and the number of constructs elicited may have been limited by timing and fatigue issues rather than reflecting the total number of constructs individuals had. The impact of this would be that an interview would generate an incomplete map of the individual's world. This has been acknowledged by Fransella et al (2004), who observed that a completed repertory grid produces a map of an individual's construct system which is 'about as accurate and informative as the maps of the American coastline which Columbus provided'. Nonetheless, they concluded that it was still considerably more sensitive than other methods of data collection.

A further limitation of the way repertory grids were used in the current study is that both elements and constructs were elicited from interviewees rather than being supplied. This was done intentionally to minimise interviewer influence, and also to ensure that the jobs discussed were familiar to interviewees and of interest to them. However, it reduced the extent to which grids could be pooled, and therefore the generalisability of the outcomes. Also, the choice of elements by individuals was in some cases quite narrow. For example, some had no physically demanding or dangerous jobs listed amongst their elements, so that no constructs could then be generated regarding such job features. Using a preselected range of job elements would have allowed comparisons across a greater spread of roles and may

have resulted in different constructs being raised as well as increasing the scope for comparability of grids. However, the disadvantage of such an approach would have been that the elements may have had less personal meaning for interviewees, potentially reducing the quality of the data.

The final limitation of the current study was the size and scope of the sample. Efforts were made to ensure that this covered a range across the working population as a whole; however, as mentioned above, there was a slight skew towards older and more educated individuals. In addition interviewees were all white, spoke English as a first language and none were in a job they particularly disliked. This limits the generalisability of the findings.

In conclusion - the findings of this study are likely to represent accurately but not necessarily completely the views of those interviewed. The generalisability of the findings is no more than can reasonably be expected of a small sample, but the study is certainly robust enough to identify areas for further study.

4.6   Conclusions and next steps

This study considered the following questions:

- o   How do employees think about jobs, how do they distinguish and differentiate between jobs, and how does this compare with the literature?
- o   How do employees vary in the ways they think about jobs and in their preferences?
- o   What is the relationship between the factors which employees consider important or desirable (i.e. those which make a job good) and those which they consider are good for their health?

A method was chosen to address these which would identify what interviewees personally thought about work without limiting interview scope by prior identification of topics for discussion. In fact, the features identified by interviewees were similar to those commonly used in the measurement of

job quality. Where there was variation between these and the literature (for example with regard to the importance of job security), this could be partly attributed to the nature of the interview which elicited the intrinsic characteristics of jobs more strongly than the extrinsic factors. The results also highlighted the difficulties of accurately delineating some of the features of job quality such as fairness and organisational culture. However, other interview findings were less consistent with the literature in this area and would benefit from further exploration.

Firstly, it appeared that the issues which interviewees associated with work which was good, desirable or of high quality were not the same as those which they associated with work which was good for health. Given the association in the literature between good work and good health, this is an important area to explore further. In fact, there was a relatively low expectation amongst interviewees that work should be good for health: this challenges the UK Government's drive for work to be recognised as a positive contributor to health. The aim of this strategy is to encourage employment amongst those who have health issues, particularly as employees need to work longer than previously to qualify for their pensions. However, low expectations on the part of employees may lead them to choose jobs which are not good for their health. An alternative interpretation would be that the expectation that work is or should be good for health is misguided or overstated. This will be addressed in the main discussion in chapter 9.

Secondly, although the features discussed in the interviews were broadly similar to those presented in the literature, there was variation around their perceived importance. For some features there was general agreement between interviewees regarding their benefit, whilst for others there were differences as to what was seen to contribute to a job being good. This was of course a study based on a small number of very varied employees: further investigation is necessary to confirm whether this pattern persists in a larger sample. It is possible that the variation seen in this study was influenced by

broad differences associated with education or socioeconomic status, and is therefore of limited value in defining job quality comprehensively. However, if further study finds consistency regarding the features which are universally valued and those which are more varied this will help in the conceptualisation of a good job. In fact if few features are universally valued, it may be that the important measure of job quality is not whether a job is a 'good' one but whether it is the right one for an individual. In this case, improving job quality would be as much about improving employee job fit as about redesigning or improving jobs themselves. This is important because although such variation is acknowledged in the literature it is rarely accounted for in models of overall job quality.

A frequently raised concern in this study was that work should not be 'boring', and there was a high level of value attached to the notion of 'the job itself'. This influenced job choice for some more than factors such as pay. However, there was also acknowledgement that in some circumstances the financial or practical features took precedence over job content. The extent and impact of such compromises merits further study to consider what influences these choices, what the effect of them might be, and whether some groups or sectors of society are affected more than others.

The conclusions drawn from this study are necessarily tentative as a consequence of the small, varied sample. In addition, the study intentionally focussed on individuals as it is in this capacity that people are employed. However, they make decisions in a wider context and employers and policy makers do so also. It is therefore important to consider the concept of job quality within a wider arena to ensure that the conclusions drawn balance the needs of the individual with the realities of the wider society. The two studies which are described next explored job quality in this wider context.

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Chapter Five   What makes a job good? Subjective perceptions of employees at two contrasting companies

5.1   Introduction

The previous study confirmed that individuals vary in what they seek in their work, and in the features they consider important to make a job good. However, it also found that they may compromise on these when choosing jobs: for example, some interviewees compromised on the content of jobs to ensure that they had work which met their financial obligations. There are significant consequences for individuals and society as a whole if jobs and individuals are not well matched, including dissatisfaction, stress and reduced productivity (Kalleberg 2008). Further challenges relate to the relationship between health and work which was also considered in the previous study. As discussed in chapter 1, many current employees will need to work to the age of 67 or older before they can claim their pension, so it is important that they remain in good health, and that work is designed to support and enable this.

The current study investigated these themes further, and began to draw them together into a theoretical model. Therefore, it contributed to the following research objectives:

- Objective one - to assess;
  a) how a range of individuals conceptualise a 'good' job and the features they consider important, and
  b) how the same individuals conceptualise a job which is good for health

- Objective two - to produce a theoretical model of job quality which reflects the features which make a job good and those which make it good for health, and which accounts for individual variation

The interviews conducted in chapter 4 used a repertory grid design. The data gathered demonstrated the impact which work has on individuals and the

factors which influence their decisions, illustrating the benefits of talking directly to employees about their work. However, the scope for combining the results of multiple interviews is limited with this technique. Therefore, the current study used a more traditional interview procedure, with questions which built on the findings of the study described in chapter 4 as well as on the literature.

The previous study intentionally selected diverse interviewees in order to explore a range of views on work and job features. The study described in this chapter used a narrower cohort to reduce the extent of variation and hence improve the focus on the key issues. It focused on those with lower skills or relatively little formal education, as such individuals are recognised in the literature as being at greater risk of low quality employment, and greater risk of poor health (Siegrist 1996; Marmot 2004). Interviewees for the current study were drawn from two contrasting organisations – one with mostly female staff in part time roles, the other with a full time, all male workforce. This extended the investigation beyond that of individuals, as in the previous study, to consider the impact of particular jobs, and the characteristics and priorities of those doing them.

5.1.1 Study questions

The questions addressed by this study were:
- o What features do those in low-skilled jobs associate with good jobs and with work which is good for health?
- o What influences the decisions they make when choosing jobs?
- o What influences the variation between individuals with regard to their preferences for jobs and job features?

5.2 Method

The study design was based on semi-structured interviews in two companies chosen to contrast with each other: it was anticipated that the similarities and differences between the experiences of employees would help to highlight

the factors which influence expectations and preferences. Both companies will be referred to by pseudonyms as some of the data presented are commercially sensitive; this will also protect the confidentiality of the participants.

5.2.1 Participating companies

CleanCo

CleanCo is a hospitality department which provides services internally to an educational establishment. The staff work from about 9am daily Monday to Friday, cleaning student accommodation. There is also some weekend working required during vacation periods, when accommodation is used for conferences. The organisation employs around 140 staff on a permanent basis; as shown in Table 5-1 the workforce is part time and mostly female.

Table 5-1 Characteristics of the CleanCo workforce

Age	Average 46.2 years (sd=10.50, range 20-65)
Gender	93% female, 7% male
Ethnicity	71.4% white British, 3.6 % white other, 10.0% Asian Indian, 6.4% Asian other, 1.4% other, 7.1% unknown
Length of service	Average 8.0 years (sd=8.13, range 1 month-42 years)
Contract details	99.3% part time. Average hours worked per week 21.2 (sd 4.49, range 11.5 to 37.0 hours. 77.9% of staff work between 16 and 25 hours per week)
	55% of staff work 52 weeks per year, 25.7% work 39 weeks per year, 19.3% work 32 weeks per year. Additional hours are often offered in vacation time for those on 39 or 32 week contracts.

ManCo

ManCo is a manufacturing company which is part of a large multinational organisation. They place a strong emphasis on the quality of their products and also on the safety of their workforce. Two of the company's five UK sites were visited as part of the study. They produce comparable products and operate similar processes. The sites both operate 24 hours a day, six days a

week. Production has fallen in line with demand since the economic slowdown in the wider community, with the number of staff employed being reduced several years ago. There were some redundancies, although relatively few at the sites involved in the current study. The organisation employs around 275 manufacturing staff across the two sites. As shown in Table 5-2 they are all male and work full time.

Table 5-2 Characteristics of the ManCo workforce

Age	Average 45.9 years
Gender	100% male
Ethnicity	Data not available, but predominantly white British
Length of service	Average 17.7 years
Contract details	100% full time (1776 hours per annum. Shifts are either 12 hours days/nights or 8 hours earlies/lates)

5.2.2 Interview schedule

The interview schedule was designed to build on that of the previous study, and used similar open questions regarding the features associated with a good job and those associated with a job which was good for health. In addition, to allow comparison between companies, a series of closed questions was used where interviewees were asked to rate the importance of twelve features. For each, they were asked how important it was to make a job a 'good' job for them (very important, quite important, not important). In each case, they placed a small picture which related to the topic on a line showing the three response options, so that they could see the responses they had already given and revise these during the interview if they wished. They were then asked to review the factors they had identified as 'very important' and decide which were **most** critical to make a job good, these (two to four items) were reclassified as 'most important'. The complete interview schedule can be found at Appendix D.

The twelve features covered in the closed questions were drawn from the literature, as summarised in Table 2-1. Three features from this summary were not included in the interviews, namely emotional demands, physical demands and fairness. This was primarily due to the difficulty in framing a

clear or useful question around them. For the same reason, the interview schedule asked about the job features 'interesting' and 'useful' rather than using a wider question about the importance of job content or 'the job itself'. Organisational culture was initially included in the list of features assessed but was removed from analysis as it proved difficult to discuss or explain consistently, and a question about the importance of a good working environment was removed for the same reason.

5.2.3 Data collection

Semi structured interviews as described above were carried out with employees from both organisations (n=20 at CleanCo; n=10 at ManCo). Interviewees were selected by line managers, based on who was available on the days scheduled for interviews. Managers were asked to provide employees who were spread in terms of age, experience in the company; and ethnicity (at CleanCo). They were also asked <u>not</u> to select interviewees according to any other criteria (e.g. an expectation that someone would be a good or willing interviewee or have particularly positive or negative things to say).

Interviews were conducted during paid work time, in private. All were digitally recorded and subsequently transcribed. Typical interview duration was around 25 minutes. In addition, to gather background information about how the companies operated, interviews were carried out with three operational managers, and occupational health and human resource managers at ManCo: and with two operational managers and the human resource manager at CleanCo.

Data at ManCo were gathered over two full days and two shorter visits. These visits were also used as opportunities to gather additional data by observation as described in the methods chapter (chapter 3). This included collating background reference documents such as published company literature and the outcomes of a previous stress survey undertaken within the company.

At CleanCo, eleven visits were made to complete interviews. In parallel with this, 20 hours of participant observation were carried out, with the researcher working alongside five different members of staff and carrying out the normal duties of a cleaner. An offer was made to all interviewees to assist them in their work to make up the time lost through being interviewed; six took advantage of this, providing additional opportunities for observation. Hand written observation notes were made as soon as possible and were written up within 24 hours.

5.2.4 Analysis

Interview transcripts and observation notes were analysed using thematic analysis as described in the methods chapter (chapter 3), using a combination of deductive and inductive coding. Deductive coding related to specific questions (Lewins, 2007) such as 'why did you choose this job', or to key themes addressed in structured questions such as safety or colleagues. These codes were then broken down inductively (for example what sort of opinions do individuals have regarding safety? How do they talk about it?) Other inductive themes related to ideas and elements which were not specified in the interview schedule, including some which had been identified in chapter 4 such as the issue of compromise. Examples of coding for this study and the one described in chapter 6 are shown in Appendix E.

5.3   Results

This section will firstly present findings relating to what interviewees considered important to make a job good; this will help to identify the features which should be included in a model of job quality. It will then report how these views have influenced job choice in practice. Thirdly, it will assess job quality within the two study companies based on employee interviews and also manager interviews and observation, and consider this in the context of the features which are identified as being important. Finally, data will be presented regarding the perceived relationship between work and health.

5.3.1 Interviewees

The characteristics of interviewees are shown in Table 5-3. Interviewees were asked about age and length of service. Assumptions were made about ethnicity based on language skills and interview content, for example discussions about where interviewees had previously lived and worked. At CleanCo there was good coverage across age, gender and length of service; Asian Indians were slightly over-represented compared to the characteristics of the whole workforce (Table 5-1). At ManCo the sample covered all age groups; there was a skew in terms of male, long served employees but this reflected the workforce in the company (Table 5-2).

Table 5-3 Interviewee characteristics

		CleanCo (n=20)	ManCo (n=10)
Age	16-24	1	0
	25-34	2	2
	35-44	2	2
	45-54	6	3
	55-64	9	3
	65+		
Gender	male	3	10
	female	17	
Length of service	<1 year	2	1
	1-2 years	3	0
	2-5 years	4	0
	5-10 years	3	3
	10-20 years	5	0
	>20 years	3	6
Ethnicity (presumed)	White British	12	10
	White other	1	
	Asian Indian	7	

5.3.2 What is good about this job?

Interviewees were asked an open question about what was good in their current job and the results are summarised in Table 5-4 and are discussed further below.

Table 5-4 Responses to 'What is good about this job/working here?'

(This table shows the number who gave each response as a percentage of the number of interviewees in that company. Some gave more than one answer)

Job feature	CleanCo (n=20)	ManCo (n=10)
Contact with students	50%	
Relationships with colleagues	40%	20%
Working hours	40%	50%
Job content – what they do	40%	20%
Satisfaction from work	25%	
Good managers	20%	20%
Learning opportunities	15%	
Freedom, control	10%	10%
Nothing (it is not a good job)	10%	
Pay	10%	50%
Job security	10%	40%
Work location	5%	
Safety is well managed		40%
Easy work		10%

They were then presented with a series of twelve specific job features, and asked to identify how important each was to make a job good for them; responses are shown in Figures 5-1 and 5-2. Review of the results for the two companies shows that the job features fall into three broad clusters – those which were universally important to most employees in both companies (security, colleagues and safety); those which were of relatively low importance to employees in both companies (autonomy, promotion and whether a job was interesting or useful); and those where there was more variation between the two sets of employees. These clusters will be discussed below, with references to the responses in Table 5-4 where these are relevant. In addition, the degree of importance attributed to each feature was compared between the two sets of interviewees. As described in chapter 3, chi-squared tests were used for this initially. Where sample sizes were too small to allow this to be used reliably, results were dichotomised and Fisher's exact test was then used.

Figure 5-1 Responses to 'How important is……to make a job a good job for you?' for CleanCo interviewees
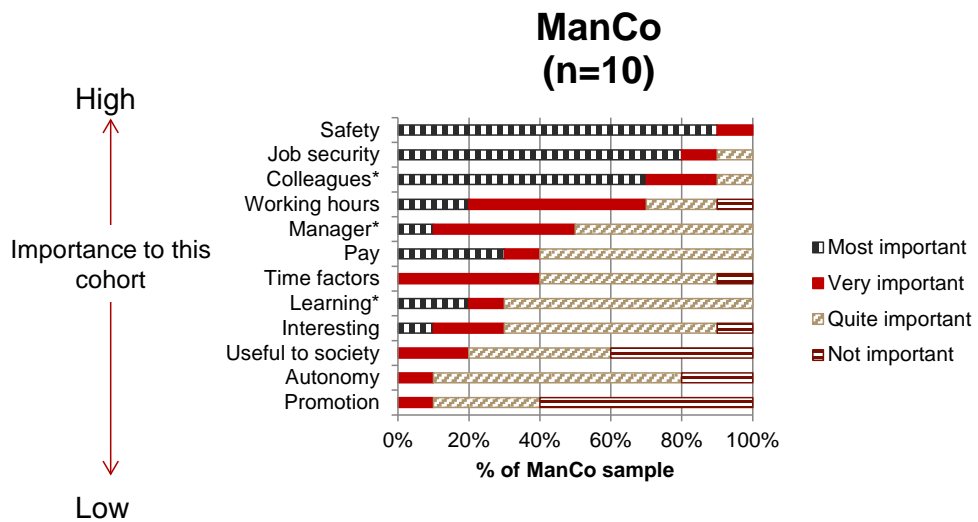
Figure 5-2 Responses to 'How important is……to make a job a good job for you?' for ManCo interviewees

Features which were commonly important

As can be seen from Figures 5-1 and 5-2, the features safety, job security, and colleagues were generally considered very important by both sets of interviewees to make a job a good one.

Safety

Interviewees at ManCo considered safety to be highly important; many gave it spontaneously as a reason why their job was good (Table 5-4) and highlighted how much it had improved in recent years,

> *"they've come on in leaps and bounds with that. I wish I'd have taken pictures then, you sometimes think wow, look how that looks now, and how it used to look, you wouldn't believe it" (ManCo employee, 44 years);*

> *"you sort of [get] integrated to it and now it's very important, it even takes over you when you are at home" (ManCo employee, 53 years).*

By comparison, interviewees at CleanCo agreed that safety was important when they were asked about it, but generally said little more. The perceived high importance at ManCo may relate to the fact that the industry is relatively high risk, or may reflect the personal impact of a well-embedded safety culture. Onsite policies illustrative of this culture included requiring employees and visitors to hold hand rails when on stairs, to stand still when using mobile phones, and to reverse park to ensure they could drive forward out of parking spaces. Walkways were clearly marked, and frequently barriered off to separate pedestrian traffic from vehicles. These rules were visibly enforced – the researcher was reminded to hold handrails, and other visitors were also challenged. Safety was identified as a 'core value' of the organisation, and they reported zero lost time incidents over a three year period and across five sites despite being a high risk industry.

Job security

Job security was also of high importance to both sets of interviewees. Again, the ManCo employees were more unequivocal about this, giving job security spontaneously as a reason why their job was good and identifying the

benefits of knowing that there was a regular wage coming in, and feeling settled rather than having to look for other jobs,

> *"it is a steady job, you know you come to work, you know what you are doing, you set your stall out, you leave the job at the gates, which is what I like, and you know you've got a regular wage coming in so you've got peace of mind in that way" (ManCo employee, 46 years);*

> *"very important, no good having a really good job if it is going to finish any day, you'd just spend all your time looking round for something else wouldn't you" (ManCo employee, 45 years).*

There was an implication that security was important not just because it guaranteed that a job would continue, but that a good job would continue: security was important because other jobs may not be as good as this one.

Colleagues

Interviewees at both workplaces highlighted the benefits of having good colleagues, of working well as part of a team, and even of being like a family,

> *"the guys I work with are great, you can really have a laugh, you bond, and you share, you do share things that you think you wouldn't, a bond after so many years, like a family, it's good, for years, you really get to know them" (ManCo employee, 44 years);*

> *"The girls are friendly, everyone gets on. That's the biggest thing. If they didn't, a lot of people would be unhappy; I know I would" (CleanCo employee, female, 60 years).*

Interviewees also identified the adverse impact of poor relationships. Colleagues were significantly more likely to be identified as a *most* important feature for those at ManCo than for those at CleanCo ($p<0.05$, Fisher's exact test). This may relate to the fact that the staff at ManCo worked closely together in work teams, whereas the CleanCo interviewees worked more independently of each other, meeting up only at the beginning and end of their shifts. Nevertheless, the relationships were still very important for those

at CleanCo and were identified as a key feature which made the job good for many (Table 5-4).

Features which were generally less important

Within both cohorts, the features autonomy, promotion, whether a job was interesting and whether a job was useful were considered of relatively low importance – a small number of interviewees identified them as important, but for most they were either quite or not important.

Autonomy

Control and autonomy were assigned a relatively low priority by both sets of interviewees. Several individuals within CleanCo expressly commented on their willingness to follow instructions from managers,

> "I think to myself if you are not the manager you've got to take a bit of, you know 'you've got to do it this way' " (CleanCo employee, female, 24 years).

However, despite the professed unimportance of the feature, there were many examples in both organisations to suggest that individuals did have a degree of independence,

> "They do give you a rota, but you twiddle about with it, you know, do like what suits you" (CleanCo employee, female, 47 years);

> "you've got certain criteria how to do it, you've got specific things, you do it this way, but within that it's your control how you do it, what order you want to do it, that sort of control and that's important to me, because I don't want to feel like I'm just a robot" (ManCo employee, 40 years).

Employees in both companies also valued having a degree of control over their working hours, being able to modify working patterns on occasions to fit in with personal demands,

> "if you need a day off then you can pretty much guarantee you can do a swap with someone so you always know you can have a day off if you need to" (ManCo employee, 45 years).

In summary, although most interviewees did not expect or value high autonomy, they appreciated the control they had. In addition, a sizeable minority of individuals in CleanCo identified control as very important, suggesting that this is an area where there is wide individual variation.

Interesting

Interviewees were asked whether it was important for a job to be interesting or varied; overall this was considered to be a factor of relatively low importance at both companies. However, the responses to the question highlight the extent of variation in what is considered to be interesting and what is not and where the boundary lies with regard to work which is unpleasantly boring,

> *"Yeah, every day is different, definitely, well you don't know whether you are going to be covering, you don't know what the rooms are going to be like" (CleanCo employee, female, 41 years);*

> *"The rooms… it drives me insane some days. Just how everything is the same. They look the same, they look the same, they look the same. It can get very tedious" (CleanCo employee, female, 24 years);*

> *"It's not too bad, every day is different really, even though you wouldn't think it really but it is because there is so many different things happen on our plant, you never really know what you are coming into" (ManCo employee, age 45);*

> *"it's incredibly boring, we have help, all the lads on the machines and things like that but it's not what you'd call a challenging job" (ManCo employee, 55 years).*

In addition, although many individuals did not expressly consider 'interesting' to be an important work feature, they nevertheless considered the content of their job to be important. For CleanCo interviewees in particular, two of the factors which made their job good were 'students' and 'job content' (Table 5-4),

> *"I think when you go into a kitchen and it looks a real mess, and when you've cleaned it all up, I think it's job satisfaction. I like meeting students"* (CleanCo employee, female, 42 years);

> *"Me personally, I get pleasure out of cleaning…..because I like the satisfaction and going into a tip and then walking out and seeing it looking lovely for 5 minutes, and then the next day you go back and it's the same, but for 5 minutes you get the pleasure of looking and thinking 'yeah' "* (CleanCo employee, female, 62 years).

However, these were also factors which were perceived negatively by some interviewees, and thus made the job a poor one. This will be discussed further in section 5.3.4. Overall, although variety and interest was not identified as a very high priority for most, having a job with the right level of interest and desirable job content did influence individuals' perception of how good their job was. There was also variation between interviewees regarding what they considered to be interesting, so that even if two individuals said it was important that a job was interesting, they might have very different views about what would satisfy this requirement.

Useful

Within both companies, there was a range of views on the importance of having a job which was useful for society. Some considered it an irrelevance. Others identified it as something they would like but could not have,

> *"well mine isn't is it? We did go to a special needs school a few months ago we had fantastic fun: if I could afford to work somewhere like that I would because it was fantastic"* (ManCo employee, 55 years).

And some considered it important,

> *"it is nice to know in the manufacturing industry, it is nice to know you are producing something that is of value to somebody"* (ManCo employee, 46 years);

> *"these poor students, I don't know where they'd be without me!"* (CleanCo employee, female, 32 years).

Even for these individuals, the usefulness was generally something incidental rather than a reason for choosing the job. Overall, therefore, it was of relatively low importance to most.

Promotion

Promotion was the least important job factor amongst interviewees in both companies, being unimportant to 85% of those at CleanCo and 60% of those at ManCo; and a very important factor for only two out of the thirty interviewees. In fact, for those who did not want it, it was identified as a negative feature: several had been offered advancement but had declined,

> *"it'll say on my tombstone 'Dan, production worker', and I am quite happy with that" (ManCo employee, 57 years);*

> *"I sometimes think if you stick your head up it just might get chopped off and I've got no desire for that" (CleanCo employee, female, 60 years).*

There were also individuals in both companies who considered it to be something that they might want in the future or who would have preferred greater opportunities,

> *"not at the minute, no, I am quite happy doing what I am doing. Maybe in the future" (CleanCo employee, female, 41 years);*

> *"I would like to progress but I have not been here that long so I am still at that learning stage, that is something for the future" (ManCo employee, 32 years);*

> *"if you told me I was going to be here in the same job in ten years that's quite a sad thought" (ManCo employee, 45 years).*

Therefore promotion was a feature which was of extremely low importance (or even positively undesirable) for many, and of high importance to a small number.

Features which varied more widely

These were features where there was a spread of views regarding their importance, and their perceived contribution to job quality. This variation was not solely about individuals; there was also a difference between the two cohorts. This may indicate that the features which are perceived as important vary with job demands and characteristics; but it may also reflect differences in the personal characteristics of the two cohorts which varied in several ways (such as male/female and part time/full time employment). There was a statistical difference in the perceived importance of good managers and learning between the two cohorts ($p<0.05$, Fisher's exact test). In addition there were qualitative differences in the perception of pay, time factors and working hours.

Manager

Managers at CleanCo were seen by interviewees as having a major impact on the day to day experience of working, being responsible for work allocation, quality control and absence management (including being flexible to allow staff to balance work and home commitments). They also influenced the atmosphere in the workplace as all staff gathered in one place at the start and end of their shift,

> "And I've got appointments, like yesterday I had an appointment to do with it and she was very understanding, she'll be like 'I understand' and let me go if I'm willing to make the time up" (CleanCo employee, female, 24 years);

> "we are treated well, A_ is lovely, it's not as though you dread coming in in the morning because the hall manager is going to go straight for you and have a go at you" (CleanCo employee, female, 60 years).

The high impact of managers on the day to day experience of working is likely to explain the fact that this was identified as a very important feature for 90% of CleanCo interviewees. At ManCo by comparison, they appeared to be much less influential, as shift patterns were set centrally and operatives had responsibility for running their own work areas to meet production demands,

> *"as long as we know what we are making we don't need anyone to tell us, we just come in, you go on the computer, it tells you exactly what you are going to make, it tells you exactly when you need to make it, and then we just sort it out between ourselves" (ManCo employee, 55 years);*

> *"as I say they tend to leave you alone as long as you do the job" (ManCo employee, 55 years).*

However, the impact of bad managers was mentioned by those in both companies, particularly in relation to experiences in previous employment.

> *"when I worked at B_, I used to go home crying sometimes, they were just so cruel there" (CleanCo employee, female, 24 years);*

> *"he used to try, bully me, he was really temperamental, one minute he could be really happy, and he was jolly and all that and then the next thing… he would be in a right bad mood, just be completely silent all day….and it come to the point where I handed my notice in, because I…. just couldn't take it" (ManCo employee, 32 years).*

Therefore, there was a perception from both cohorts that a bad manager could make a job bad; however, the potential for a good manager to make a job good was seen to vary more, apparently influenced by their specific responsibilities within an organisation.

Learning

Learning was of relatively low importance to interviewees from both companies, but especially so at CleanCo where over 40% of interviewees considered it to be unimportant. Reasons for this included a perspective that training was not necessary for the job being done, or that the training which was available was boring or irrelevant; as well as the view from some that they were too old to want to carry on learning,

> *"I think they send you on courses which are just so unnecessary; I mean they told me about the sports here. And I thought what the hell are you doing, I am a cleaner" (CleanCo employee, female, 24 years);*

> *"Oh, not at my age, I'm past that" (CleanCo employee, female, 62 years).*

Learning which was valued related particularly to health and safety or first aid, and several also appreciated opportunities they had been given to learn English. At ManCo training was similarly considered important in relation to health and safety but also in relation to the current job and to being able to progress,

> *"you need to know what's what, you need to be on top of everything….so you do need the training, the training is very important, on quite a bit of the job, stuff like when we have to do manual handling" (ManCo employee, 32 years);*

> *"Yes it is, I don't like to sit back and do a job the same way as my grandad would have done it, I have always been in a job where I have learnt new tricks and new trades, always moving forwards" (ManCo employee, 57 years).*

Both companies carried out regular personal review for all staff and were committed to providing training, although some at ManCo said there was less training than had been available previously, or less than they would like. Overall, training was of relatively low importance, especially to those at CleanCo, but there were some individuals who valued it. Possible reasons for the differences between the two cohorts includes the different job demands (the ManCo job was more complex than that at CleanCo) and the associated benefit of acquiring extra skills. It may also reflect personality or gender differences between the two groups.

Time factors

Having enough time to do the job was generally not perceived as a problem at ManCo. Although there were occasions when work demands became high, for example if there was a production line failure, these were few as uncompleted work could generally be handed on to the next shift. In fact,

there were some who identified it as a positive aspect if they were especially busy as the demands of the job were sometimes considered too low.

At CleanCo by comparison, the issue of not having enough time or of having to work extremely fast was raised by many. Over a third identified it as the single factor which would improve the quality of their job. The workload was variable and unpredictable as students made differing amounts of mess: but a certain number of minutes were allocated to clean each room regardless of how dirty it was. Staff compensated for this by skimping in other places to make up time, and relied on some areas being unusually tidy to compensate. However there was a concern amongst staff that it could be difficult to achieve the necessary standards in such situations,

> *"Some kitchens you spend so much time to clean, normally they give us one hour in the kitchen; we can sometimes [take] more than 1 ½ hours, still we are not happy with that" (CleanCo employee, male, 59 years).*

In addition, the workload might be increased if staff were off sick, as colleagues then had to cover additional areas. They also had to make up for time they were unavailable themselves, for example through sickness or training. Finally, there were particular demands at certain times of the year when the rooms switched from student use to conference use, this could require a rapid turnaround with fixed deadlines,

> *"sometimes the students will go at 10 o'clock that morning, conference is coming in that evening. …… so it's just rush. You just don't get a chance to get 5 minutes and you have to remember to like, have a drink or whatever" (CleanCo employee, female, 33 years).*

Although there was not a statistical difference between the two groups in the importance of time factors, there was a difference in the impact it had on interviewees' experience of doing the work. This difference appears to arise from the nature of the jobs and how work was organised, rather than from any obvious personal differences between interviewees.

Pay

There was a degree of polarisation in both cohorts with regard to pay - for almost all those who considered money to be important it was the *most* important feature. No interviewees considered pay to be unimportant, and there were those in both cohorts who confirmed it as being the only reason they came to work,

> *"Because it is actually the only reason I am working, for the money, I am not here for pleasure" (CleanCo employee, female, 32 years);*

> *"I don't care what anybody says, money is what makes the world go round and it gives you your way of life" (ManCo employee, 57 years).*

However, there were also those in both groups who expressed the view that there were more important things than money,

> *"it is an important factor on taking any job, but…on the flip side of that as long as I enjoy coming to work….. and go home happy and safely, like I say I was happy at A_, on the [lower] wage that I was on" (ManCo employee, 32 years).*

The relatively low attributed importance of pay at ManCo is slightly anomalous given that most interviewees specifically mentioned pay as being good in the organisation, and half gave it spontaneously as a reason why the job was good (Table 5-4),

> *"The money, definitely the money, because if you think about it this way, I was making 18, 19 grand [in previous job]; as an operator here I was making 28, just over a third more" (ManCo employee, 40 years);*

> *"me as a person, my education….I'd never dream of earning the money I am earning now, it's the best job in the world no matter what I am doing" (ManCo employee, 32 years).*

Therefore, pay made the current job good even though it was not identified as particularly important in job quality generally. This appears somewhat contradictory: it may reflect the fact that the pay at ManCo was so high as to stand out and be worthy of mention, even if it had not been a pre-requisite for interviewees.

Some at ManCo suggested that pay needs changed through the life course and were less important to them than they had been previously. This was not mentioned by any at CleanCo where some regretted that they were having to continue work for financial reasons when they would like to retire. This may suggest a difference in expectations in relation to work and role, or societal differences for particular groups but there is insufficient data to confirm whether these relate to a male/female difference, or a part time/full time disparity.

Working hours

As Figures 5-1 and 5-2 show, working hours were reasonably important to both cohorts to make a job good. However, there were differences in how this affected the two groups in their current roles. At CleanCo, the working hours were a key reason for job choice for almost three quarters of those interviewed. The need to find employment which fitted in with the demands of child care meant that the working hours were a prerequisite, contributing not so much to the job being good as to it being feasible.

At ManCo by comparison, the working hours were considered by half to be a factor which made the job particularly good (Table 5-4). The predominant working patterns were twelve hour shifts, alternating between days and nights. Some employees worked twelve shifts per month and some worked nine shifts in a three week period, depending on the department they were based in. Seven out of the eight who did these shifts spoke positively about their working patterns, expressing a clear preference for the twelve hour working over more traditional eight hour patterns which they had previously worked. The advantage related to the number of days off which were accrued, and the impact this had on life outside of work in terms of time for family and other activities,

> *"Ironically we've only been on 12 hours maybe 2 years come August time …[I] didn't want to go on 12 hours, and I wouldn't go back now, I*

> *think everyone would probably tell you the same thing, I love it, it's great" (ManCo employee, 45 years);*

> *"I spend a lot of the time at home, we work 6 shifts you get 5 off. We only do 12 shifts a month, so you get plenty of time at home and at the moment my grandson is living with us, he is only 8, so it's given me a lot of time with him" (ManCo employee, 53 years).*

This more than compensated for the downsides of the shifts themselves being tiring, and the need to readjust sleeping patterns between nights and days,

> *"Like you've done 4 night shifts, you need at least 2 days to get your body back to normal, it swings your body, your emotions completely out of the window, your eating habits, whatever" (ManCo employee, 53 years);*

> *"you get a bit tired on nights, but no, you get by, its ok" (ManCo employee, 45 years).*

By contrast, two interviewees did not like working nights and had specifically chosen jobs that were day time only,

> *"and then I said …. I have had enough of these nights, I am not sleeping, I am coming in at 9, 10 o'clock at night absolutely shattered, come 12 o'clock I am wanting to go to sleep, I am a hazard to myself, as well as to others" (ManCo employee, 32 years).*

Therefore, the relationship between working hours and whether a job was considered to be a good one related to personal circumstances but also to an individual's capabilities in terms of tolerating shift variation. In conclusion, the working hours at ManCo were considered favourably and contributed to this job being seen as a good one; working hours were seen as a key attribute of a good job by many, including those who had specifically chosen not to work nights. For those working at CleanCo, time off to be with their children was a necessity; at ManCo, time off with family was seen as an unexpected bonus. This could relate to male/female differences in the roles and responsibilities

taken at home, but could also reflect a difference between part time and full time employees.

5.3.3 Why had interviewees chosen this job?

Interviewees were asked about their reasons for choosing their current role and their current employer. This question was intended to highlight the features which were priorities, being so important for individuals that they influenced their decision making. It had been found in chapter 4 that although job content was identified as important in principle, other more practical factors sometimes influenced job choice more strongly. The results are summarised in Table 5-5 and highlight that neither the job of cleaner nor that of working in manufacturing was one generally chosen for its content, as few interviewees expressed a specific desire to work in those roles.

Table 5-5 Responses to 'Why did you choose this job or role?'

(This table shows the number who gave each response as a percentage of the number of interviewees in that company. Some gave more than one answer)

Job feature	CleanCo (n=20)	ManCo (n=10)
Working hours	70%	10%
Limited job choice	55%	
Location	20%	20%
Family or friend connection	10%	40%
Job content	10%	20%
Temporary	10%	30%
Redundant, unemployed or previous job bad	5%	40%
'It was there'	5%	10%
Security	5%	30%
Big or good company		30%
Career prospects		20%
Good pay		20%

For the cleaners, the key reason for choosing the role was that it fitted in with family commitments. The majority of employees were female and took the job when they had children of school age, as the job was not only within school hours but included long holiday periods as well,

> *"So I used to start at quarter past 9, till quarter past 12, it was 3 hours, because with this sort of job it is good with your children, and then I was working only term times, so when kids are off, I am off"* (CleanCo employee, female, 58 years).

Location was also identified as important either for convenience or because of difficulties with commuting,

> *"I had to walk here… because I don't know how to drive a bike, or car"* (CleanCo employee, female, 58 years).

Other interviewees indicated that they had not really 'chosen' the job, but had accepted it because they could find nothing else. They found that their options were limited by their age, lack of qualifications, poor English or by the shortage of jobs available generally. Several had previously worked in textiles manufacture, and had moved to cleaning as the factories had closed down,

> *"Textiles closed so that is why we are coming here, we can't find any other job that we wanted. This is not it, I don't like the job, I just do it, it's ok, but….. still I prefer textiles"* (CleanCo employee, female, 57 years).

For those working at ManCo there was more variation in the reasons given for taking the job. In many cases, the job was chosen because it was recommended by a colleague or family member, or simply because there were vacancies at the time an individual needed a job. This makes it difficult to know exactly which features made the job attractive. Some interviewees identified that the company had a reputation for job security and good pay; these factors may explain why the job was recommended by others, or why individuals applied, even if they did not give these as explicit reasons when interviewed.

How did interviewees balance competing factors?

Interviewees often gave examples of competing factors in job choice, and of having to make compromises. In every case for the CleanCo interviewees,

the decision made was in favour of factors other than job content – the work they actually did was ultimately less important than location, money, security and especially working hours,

> *"I was sorry to leave but at the end of the day it was money and hours. They offered me more hours but in weekend time but I don't want to work weekends" (CleanCo employee, female, 32 years);*

> *"I don't like this job but we haven't any choice because my family live around here. The hours are suitable for me because I drop my wife to work and collect as well, that's why I get this job, because I sometimes drop my daughter as well" (CleanCo employee, male, 59 years).*

At ManCo the factors which took precedence again included pay, job security, and working hours (such as intolerance of shifts) and job content was the feature likely to be discounted,

> *"I would have worked on a farm all of my life if they paid a decent wage because farm work is the most fantastic job in the world but they pay absolutely appalling wages and I got married, I had children so you have to go and work and earn money" (ManCo employee, 55 years);*

> *I was desperate to get out of T_ but there was no way I was going to leave into just any job because it was good pay, I was secure there, so I thought I am not going to just leave for anything, it had to be the right job" (ManCo employee, 45 years).*

This reinforces the findings of Table 5-5 regarding job choice – individuals may value the intrinsic aspects of jobs, but it is the practical elements which are the limiting factors and which commonly take precedence in job choice decisions.

5.3.4 Job quality at CleanCo

The majority of those interviewed considered their job to be a good one; 17 would recommend it unequivocally to friends and family (many already had), and the remaining three would recommend it under certain circumstances.

The job was good in terms of most of the factors identified as important by interviewees. Managers were reported as being supportive and helpful; and positive interactions were observed. For example, a member of staff needed to take her dog to the vet and the manager gave her the choice of taking a day's leave or working extra hours on other days to make up her time. Positive inter-colleague relationships were also seen and described. The same female employee who was distressed about her dog was supported by colleagues. Another one of the cleaners, who was behind with her work due to having attended a training course and dealt with a first aid incident the previous day, was helped to catch up with her workload by a colleague. One interviewee commented that,

> *"I am going to India in July, and I take …… a photo of all staff and boss, I take it to India, [to] see my family 'this is my other family. They… look after me" (CleanCo employee, female, 53 years).*

Health and safety was taken seriously, and job security was good,

> *"Because the university, the job was reliable and you'd got to do something really disastrous to even get sacked from there, so you knew your job was safe" (CleanCo employee, female, 62 years).*

As already mentioned, interviewees had working hours that suited them well, had flexibility to make changes to these when required, and had a degree of autonomy over how they did their work. For example one cleaner was observed cleaning the bathroom floor with a cloth, as she found it quicker and easier than the mop she had been told to use. Two interviewees reported that they mopped the kitchen floors more often than their schedule required as they found the job easier if they 'kept on top' of the dirt. Others said that they adjusted how long they spent on particular activities depending on need,

> *"Like if a kitchen's really messy, you can perhaps do your wet work a bit quicker so you've got a bit longer to do your kitchens" (CleanCo employee, female, 42 years).*

Pay rates were good for the sector, with the organisation committed to paying the 'living wage' (£7.45 per hour) (Davis et al 2012) at a time when many in comparable jobs were being paid the minimum wage (£6.19 per hour). When CleanCo interviewees were asked what they considered made the job good, many mentioned the students and other aspects of job content, as well as colleagues. It would appear that the extrinsic factors – safety, security, pay, were sufficient to make the job good enough but on top of that it was the job content, colleagues and managers which actually made the job 'good'.

Barriers to good job quality at CleanCo

The main aspect which limited job quality in CleanCo related to time factors, this was raised as a concern by most interviewees and also by all staff spoken with during observation. It was the response given most commonly when interviewees were asked what change would make the job better. The workload led staff to compromise on quality at times, or to work at high speed. Participant - observation confirmed that staff worked at a consistently fast pace which the researcher sometimes found hard to sustain and many staff worked for four hours without taking even a short break for a drink. This increased the physical demands of the job which were recognised as being intrinsically high,

> *"I think cleaning, especially the accommodation areas, it is so physical – a lot of the cases I am dealing with through ill-health are purely because people's bodies are breaking down" (Human Resource manager, CleanCo);*

> *"any cleaning job is hard work, it doesn't matter where you do it" (cleaner during observation).*

Particular challenges also arose due to the layout of buildings or the design of equipment. For example, one building had multiple short flights of stairs and equipment had to be carried up and down these as the lifts did not stop at every level. In addition cleaning materials (including mop buckets containing water) had to be carried through heavy fire doors (Figure 5-3) Some showers had curtains which were difficult to change as they were very

high, and some shower cubicles were very small (Figure 5-4) resulting in a twisted posture for staff who had to go inside to clean them.

Figure 5-3 Carrying cleaning equipment through a heavy self-closing door

Figure 5-4 Shower cubicle, which cleaners had to climb inside to clean weekly

The physical demands of the work were a concern for some, even without the high intensity sometimes required, as a result of health problems which they found to be aggravated by their work,

"I had in the past carpal tunnel surgery…… all I can say is this job doesn't help me, ……sometimes it is really bad and I can't even move my hand" (CleanCo employee, female, 32 years);

"It's not done me any good, any favours. Just last year I had the operation for tennis elbow, [the job] its damaged my wrist, I'm under the specialist" (CleanCo employee, female, 50 years).

Getting older was also identified as making the job harder. One female employee who was observed said she did not believe that people would be able to do the job at the age of 67 (the planned retirement age for those currently aged 50 or below). Another (in her forties) who was observed commented that,

"I really respect the women who carry on doing this all their lives".

She said she would not be able to that, she already found it difficult to do her own housework when she went home after a morning at work.

A second limiting factor for some at CleanCo was job content. There were some who were reasonably happy in the job but would have preferred to have one which required greater skill. Three interviewees expressly disliked their job and did not consider it to be good: one had already handed in his notice, the other two considered that they were trapped there as they were not able to get more suitable jobs due to lack of qualifications or availability. In all three cases, the problem was the actual job content,

"horrible this job but we haven't any choice" (CleanCo employee, male, 59 years);

"It is hard work, it is all that I can say, it is really hard work….you will do some job, sometimes 10 minutes after you've got exactly the same [mess] or even worse and it's just you know sometimes, you just feel hopeless, and your job doesn't make sense" (CleanCo employee, female, 32 years);

"there's nothing good about it I don't think…it's just boring….I come in the same time every day and I do the same thing every day, and

> *sometimes it is a drag getting myself round," (CleanCo employee, male, 64 years).*

Overall then, there were two key factors identified which limited job quality at CleanCo. One was the issue of not having enough time to do the job and the associated physical demands of the work. This was a problem for most staff sometimes and for a small number it caused difficulties almost all of the time. The second issue was job content, the nature of the work itself. This made the job positively good for some; for others, it was a feature which prevented the job being good at all, even in the presence of positive factors such as good colleagues, good managers and reasonable pay.

5.3.5 Job quality at ManCo

Based on interviews with employees and managers and also on observation, the jobs at ManCo appeared to be good ones; all interviewees said they would recommend them to others,

> *"The company treats you right, all ways…. if you get a chance to work here, come here" (ManCo employee, 53 years).*

The company offered a high level of job security, safety and very good levels of pay. Pay rates were reported by the company as being between £24,000 and £32,000 per annum; even at the lower end this exceeds the median for Plant and Machine operatives in the UK and is 20% above the median salary for the UK overall (ASHE, 2012). Working patterns were valued by staff. Interviewees also seemed happy with the relationships they had with colleagues and with managers, although there were some suggestions that other parts of the factory may be less satisfactory in this respect,

> *"On a couple of the other shifts they do have a lot of conflict, I am lucky on my shift everyone gets on very well" (ManCo employee, 55 years).*

In addition, the time pressure and work intensity which limited job quality for some in CleanCo was not an issue at ManCo, as workloads were well

managed and the physical requirements of the job had been substantially reduced in recent years by the installation of new equipment,

> *"If you'd done a 12 hour shift on the old machine, you were virtually throwing boards off all day, just trying to make your machine work…. broke a few good men that did. This is nine years old this new machine, and it's all automated so it is absolutely fantastic" (ManCo employee, 44 years).*

Job quality at a ManCo therefore was good in terms of the features which were generally valued by interviewees. Additional evidence to support this comes from the low turnover, illustrated by the high length of service of employees (Table 5-2). No interviewee considered their job to be bad, was considering leaving or wished that they were able to leave,

> *"the only way you actually leave is if you retire, you die or you get sacked and you've got to do something really bad to get sacked…… I've not had any guys in the five years I have been here say 'I am handing my notice in,' never, ever" (Operational manager, ManCo).*

Barriers to good job quality at ManCo

No major issues were identified which limited job quality at ManCo. When interviewees were asked what might make the job better, their answers were widely varied and identified things which would be 'nice to have' rather than being critical factors,

> *"there is sometimes a lack of communication…it is just minor things really, it is nothing major…..I don't think any job is 10 out of 10" (ManCo employee, 32 years).*

Other topics raised included a desire for more training opportunities and promotion. These were factors which were of relatively low importance to interviewees as a group, but were nonetheless very important to some individuals, and could limit job quality in the longer term,

> *"I think at the moment now to be more opportunities to go up, 6 years I've been doing the same job and it doesn't look like there is any way*

up at the moment, unless someone drops out or goes" (ManCo
employee, 40 years).

The company had identified low control as a potential issue as it had been
given a very low score in a stress survey done several years earlier. However,
this was not raised as a particular problem by the interviewees, and a
comment by the organisation's occupational health manager suggests that it
was not a major area of concern amongst employees,

> *"some of the things always came up in the red [i.e. below the 20th*
> *percentile], and that was things like 'do you have control over the*
> *speed of your work?' and for people that are in production, they say*
> *'no, but we are happy with the speed, and we are ok with it' "*
> *(Occupational health manager, ManCo).*

Finally, the issue of job content was an issue for some at ManCo with
comments that it was boring on occasions,

> *"Down there it is hard really because all we are doing is loading lorries,*
> *it's not interesting, I have done it all my life, loading, and it is boring,*
> *but we've got a job to do, got to make sure it is done right, I take pride*
> *in my work, take pride in my loading"* (ManCo employee, 32 years).

However, unlike for some at CleanCo, this did not seem to undermine the
overall view that the job was a good one,

> *"like I say, a lot of the job here can be the same, but I do enjoy it"*
> *(ManCo employee, 32 years).*

Overall, jobs at ManCo were considered good because of the extrinsic
factors. Not only were safety and security important when discussed in
relative terms, they were also spontaneously given as reasons why the job
was good; pay and hours were also important. Job content, by comparison
seemed to be quite incidental; interviewees were not overtly unhappy with it,
and there was little evidence that it influenced whether or not the job was
considered to be good.

5.3.6 What influenced whether jobs were good for health?

Whether work is good for health is an important outcome of job quality, and one way of assessing its impact. All interviewees were asked what made their current job or previous jobs particularly good or bad for health. Similar issues were raised by both cohorts. In addition to the identification of specific features, there was a recognition by some that work *per se* was good for health. This was especially mentioned by individuals who had been off work with health problems in the past and found it a difficult experience,

> *"I get very depressed if I can't go to work, so yes I am better at work, I can't sit at home it would drive me nuts" (ManCo employee, 55 years);*

> *"I like to come and work, and then go, otherwise I am just sitting in the house just getting bigger and bigger!" (CleanCo employee, female, 58 years).*

Physical activity

Some interviewees identified that physical activity in particular was an element of work which made it good for their health,

> *"I think I am a lot fitter now than I was, doing this block, having to do running up and down the stairs, I am a lot fitter" (CleanCo employee, female, 47 years);*

> *"Being good for your health, the job I am in now keeps you fit because there is a lot of walking about and stairs, it is a 6 storey building, up and down stairs, running about, well walking about, walking safely!!!!! I am not sat behind a desk or something for 12 hours so I think this place does keep you fit" (ManCo employee, 45 years).*

However, there was also recognition, particularly from some at CleanCo, that there were adverse effects if physical demands were too high; thus this aspect could also contribute to work being bad for health. One of the perceived consequences was fatigue, several cleaners reported that they had to take a rest when they got home from work, or that they were limited in the activities they would undertake after being at work. The second issue

raised was musculoskeletal problems, with several reporting symptoms and health conditions which were considered to be either caused or aggravated by work,

> *"Work sometimes is going upstairs and down, like it is knees hurting, so sometimes feet hurting, or something like that, and go home and little bit lie down or sit down" (CleanCo employee, female, 55 years);*

> *"I think it's not bad but I think still you are bending a lot, your back ….. it does hurt when I go home sometimes" (CleanCo employee, female, 47 years).*

The extent to which the physical demands of the work caused problems was influenced by several issues, these included:

a) the intensity and speed of work, this has been discussed above;

b) the nature of the work – again, it has already been identified that the work at CleanCo was physically quite demanding;

c) the extent of individual variation – although the majority of the cleaners interviewed found the job to be physically demanding, some did not,

> *"I find it easy to be honest, a lot of the women complain how hard it is physically, I find it physically easy, it's not hard enough for me" (CleanCo employee, male, 64 years);*

d) employee size – staff who were particularly short found that the job of cleaner was more difficult to do, making them more uncomfortable as well as making them less effective in their work. Being big could also be difficult, for example it was reported that the larger cleaners had particular difficulties cleaning the showers as they had to crouch down in a confined space (see Figure 5-4);

e) employee age – as already mentioned, the job was considered to become more difficult to do as staff got older. This was a particular concern for the organisation as they had many older workers;

f) the pre-existence of health problems; examples have been given above of CleanCo interviewees who found the job to be more difficult

because of existing health problems and this was also an issue for some at ManCo;

"two operations on my arm, then one on my shoulder….. when it's very cold like it is now, my fingers feel like they are going to drop off all the time" (ManCo employee, 53 years).

Particular hazards

Interviewees identified aspects of work in either their current or previous employment which they considered to have an adverse impact on health. This included recognised hazards such as chemicals, heat, noise and dust,

"It would be helpful if sometimes we knew what was in the sprays that we use, you are not sure if it is doing you harm or what" (CleanCo employee, female, 60 years);

"The downside of this place is the dust and obviously for someone who is an asthmatic, my asthma nurse tells me I shouldn't work here" (ManCo employee, 55 years);

"The welding wasn't very good for health obviously because of the gases and stuff like that and the conditions I was working in wasn't the best of conditions, it was like a little nitty gritty factory, the health and safety there wasn't all the best" (ManCo employee, 32 years).

Working hours

Working hours were mentioned as having possible adverse health by interviewees at ManCo who either currently did shift work or had done so previously,

"It was quite hard to sleep in the day, so it was nights, afters, days, and that was very difficult, the job was fine, days and afternoons was fine but the nights creased me" (ManCo employee, 55 years).

Conclusions regarding jobs and health

A range of factors were identified as influencing whether a job was good for health or not. Whether or not safety risks were well controlled was seen as important for health, and this was also identified as a feature which was important for a job to be good. Similarly, the presence of high physical demands and high work intensity were seen as contributing to both outcomes. Therefore, for these interviewees, some factors which could make work damaging for health also prevented it from being a good job. Beyond this, there was little overlap: the features which were most commonly associated with a job being good such as job security or relationships with managers or colleagues were rarely identified in discussions about the impact of work on health.

5.4 Discussion

5.4.1 Key findings

Many interviewees from both companies in the current study considered that safety, security and colleagues were important to make a job good. For other features there was wider variation – promotion, autonomy, the importance of learning, and a preference for a job which was interesting or one which was useful for society were very important to some, but of lower importance to the majority. Finally, there were some features where perceived importance differed between those at CleanCo and those at ManCo; this was the case for pay, time factors, working hours and the manager. The next section of this discussion will focus on the factors influencing these variations. Following that the relationship between job quality and health will be considered. Finally, a preliminary theoretical model of job quality will be proposed based on the findings of this study and the one described in chapter 4.

5.4.2 Factors which influence perceptions and priorities regarding job quality

This section will explore the possible reasons for variation between individuals regarding their preferred job features. It will consider those which relate to the job and also those which relate to the individual.

Nature of current job

For the structured questions which are reported in Figures 5-1 and 5-2 interviewees were asked what made a job good in general terms. Although they sometimes drew on examples from previous jobs which had been particularly bad or good, it was apparent that their responses predominantly reflected their experience in their current job. For example, the perceived importance of having enough time to do the job was much stronger at CleanCo than it was at ManCo, corresponding to the fact that not having enough time to do the job was often a problem at CleanCo. This highlights that decisions which employees make about the importance of particular features are made within a context. To assume, based on findings at ManCo, that managers and time factors are less important for job quality generally would be erroneous; the data merely indicate that these factors were considered relatively unimportant for those individuals in that job at that time. A parallel can be drawn with comments made by Tangian (2009) regarding job security, which he found to be reported as less important in those countries where it was good than in countries where it was lower. It seemed, he concluded, as if those in countries where it was good had forgotten its importance.

The fact that the context does make such a difference may suggest that the features necessary to make a job good vary between jobs. For interviewees at ManCo the manager, provided he or she wasn't actually bad, had relatively little impact on their experience of work. This contrasts with the experiences of interviewees from CleanCo and with the findings of Buckingham and Coffman (2005), who considered the skill of the manager to be critical in making individuals feel valued and creating successful organisations. This

difference may reflect the higher autonomy of the teams at ManCo, with an associated reduction in the role of the manager (Williams 2011).

With regard to features other than the manager role, the fact that they are less visible makes them no less important although it may be easier for an employer to provide them for some types of work than others. For example, providing working hours which do not adversely impact on health and safety is difficult in an organisation which operates shifts such as ManCo; or one which provides customer service at extreme ends of the day, for example in bus or train driving. Providing such hours in an organisation such as CleanCo which operates only during a standard working day is considerably easier. This does not make it less important, although it will make employees less likely to see it as a concern. Similarly, time factors were considered unimportant by those at ManCo who had sufficient capacity to complete their work. This does not alter the responsibility on the employer to continue to ensure that there is enough time to do the work. For safety issues, the consequences of error will be much greater in some jobs than others, and this will influence the real and perceived impact on job quality. It does not reduce the importance of ensuring a suitable level of risk control regardless of the degree of risk or the nature of the hazards.

The nature of the current job therefore has an impact on the perceived importance of some features of job quality. This is important when interpreting the responses to questions around what makes a job good which are reported in the literature (Clark 2005; Muñoz de Bustillo Llorente et al 2009) as they are likely to reflect respondents' current situation.

Personal values and preferences
Although perspectives of work may be influenced by current job roles, there are many other causes of variation which reflect individual factors - their personality, preferences and choices. For the majority of those who did not wish for promotion, training or a high level of control, this would have been no different if they were working in an alternative role. They may even have

chosen the current role specifically because it placed low requirements on them in these terms, as comments made often demonstrated quite strong feelings and personal choice relating to such features. This highlights the importance of matching job and individual – so that a job which provides minimal opportunity for autonomy is best filled by an individual who is happy with this.

There is recognition of this in the literature, relating to job design and 'Growth Need strength' (Hackman & Oldham 1976), person and environment fit (French et al 1982) and job satisfaction (Rice et al 1991). However, it is less commonly considered when assessing job quality overall: Warr (2007b) has reflected at some length on the importance of personal salience, and also concluded that the topic warrants much greater attention in the research.

Gender/family role factors

Differences between the two interview cohorts, particularly in terms of preferred job content and working hours, may be evidence of gender differences or the impact of differing home/work commitments. For example, for many at CleanCo, the working hours were a pre-requisite: they <u>had</u> to fit in with family commitments, whereas for the male employees at ManCo it was a bonus that they did so.

The male-full time and female-part time association in the current cohorts is not unusual; 43% of the female workforce in the UK are in part time roles, compared with only 13% of males (Office for National Statistics 2012). Walters (2005) has noted that the UK's 'strong male-breadwinner state' limits job choices for women who cannot afford to pay for childcare, and this would explain the importance of working hours for many interviewees at CleanCo. Hakim (1991) found that many women working in such constrained situations were happy with this, and were satisfied with their jobs even though the job content and prospects might be poor. In fact many of the women at CleanCo enjoyed aspects of their job content, and valued it more highly than did the male employees at ManCo. This may reflect the findings of Clark (2005) that

'the work itself' is generally accorded a higher priority by women than it is for men. It may also demonstrate the impact of the 'male breadwinner' expectations on some men in the study, such that they disassociated themselves from an expectation of enjoying their job and focussed on their role as earners. Finally, it is possible that the interviewees from CleanCo were more personally suited to their jobs in content terms than those at ManCo.

Personal circumstances

Some variation between individuals in the job features which they prioritised arose from their current situation or circumstances. For example, in terms of pay, there were those for whom it was less important because of reduced financial needs or because they found it relatively easy to earn enough to satisfy their financial needs and could focus instead on job content. For others, the priorities of pay, security, or certain working hours resulted in individuals tempering the value they attached to features such as job content. In some cases this related to the gender/role factors discussed above, but socioeconomic factors were important also. These situational factors were important as they did not just influence what individuals considered to be important, they also strongly influenced job choice, often acting as a limiting factor. For example, for those at CleanCo, job choice was constrained by lack of qualifications, poor English language skills or by family factors such as location or the need for school friendly working hours.

Some interviewees were unhappy with the position they found themselves in as a result of their limited job choices. Others were quite content – this may reflect an element of 'satisficing'; individuals have altered their expectations to match the reality of a situation and make it more tolerable and congruent (Hakim 1991; Walters 2005). This adaptation may be positive - individuals who have realistic expectations of what they can achieve may be less distressed by any limitations of their situation. However, this does not affect all equally; for example Clark and Oswald (1996) identified that higher education and expectation of high quality jobs were linked. Those with low

expectations were more likely to accept poor quality work to '[make] the most of a disadvantaged socio-economic position' (Brown et al 2007). This is an issue which is of wider significance and will be addressed in the main discussion of this thesis.

Personal health factors

One further element which influenced whether a job was seen as good in the current study related to personal health factors – whether the individual in their current state of health and fitness was a good match for the job. Interviewees at both organisations gave health reasons for their current job or previous roles being less than ideal. There is, of course, a requirement on an employer to make reasonable adjustments under the Equality Act (2010) to accommodate an individual's limitations in some situations, but where a job is physically demanding there is likely to be a limit to the adjustments which can realistically be made. Individuals may make job choices to take account of this; but if their options are already restricted as discussed above, they may have little scope to accommodate this additional limiting factor.

Summary

There are a number of reasons outlined above which may explain why preferred jobs and job features vary between individuals. These influencing factors have been grouped together to facilitate discussion, but in practice there will be overlaps between them. For example, an individual who decides that promotion is not important may do so because he or she has health issues which would make the increased demands undesirable. The decision may also be influenced by family role, if there would be a consequence for the balance they need to maintain between work and home commitments; or by personality or experiential factors, such that they find the prospect of a more senior job to be undesirable or unachievable. There may also be job related reasons for example that the job above them in their particular organisation is unattractive, that they greatly enjoy the role they currently have, or that there is no promotion available and they wish to remain within their current organisation.

The impact of variation in preference is that in many cases, individuals will self-select themselves into jobs or roles which suit them. However, others may have less opportunity to choose jobs according to their preferences; or their preferred features may reflect a lowering of expectations or adaptations to restricted options. In these situations the outcome may be a poor match between job and individual.

5.4.3 Health as an outcome of job quality

The negative effects of work on health were discussed by interviewees in relation to traditional hazards such as noise, dust, and chemicals as well as factors relating to shift work and stress; all are recognised in the literature as having the potential to cause health problems (Cox et al 2000; Costa 2003; Luxon & Prasher 2007; HSE 2012). The impact of physical activity on health was also raised by interviewees: there was a recognition that a certain level of activity was good for health. However, there were also concerns raised about the adverse impact of demands which were too high. This corresponds with the U shaped curve described by Winkel and Westgaard (1992) and supported in research by Parkes et al (2005). It also reflects the recognition that sedentary lifestyles are bad for health (Commissaris et al 2006; Wilmot et al 2012), and that there are benefits from work being physically demanding (Straker & Mathiassen 2009).

Some interviewees also took the view that work was good for their health overall, compared with not being at work. They were similar to the 'Intrinsic reward seekers' and 'social butterflies' described by Cooke et al (2013) who found positive benefit in being productively employed for the benefit of their community or through opportunities for social engagement. This also accords with the literature which has found that work is generally good for health (Waddell & Burton 2006; Sahlgren 2013). However, this was not a universal perspective. Some interviewees had made changes to their work to reflect health issues, but others tolerated jobs even though they had a negative impact. The main features associated with a good job, such as security and

relationships, were not equated by interviewees with whether work was considered to be good for health. Therefore, the health outcome of work was acknowledged to be important for some and in some work areas, but overall did not appear to be a key priority or a driver in job choice. It is possible that the issue of work being good for health is similar to that of work being interesting or enjoyable – it is 'nice to have' but takes second place to extrinsic factors such as pay and security

5.4.4 **A theoretical model of job quality**

Whether a job is considered to be good relates to whether it fulfils the requirements of an individual: whether it provides what they want, need or expect from their work. It has been illustrated above that there is variation in what is seen as good in this context. The findings from this study suggest that the features which affect job quality fall into two categories – those which are important for most people, and others where there is a greater level of variability. Figure 5-5 proposes a preliminary theoretical model to summarise this. The first set of features are shown as being core – they should be provided to a good standard for all employees in all jobs. The effort required by an employer to achieve this will vary as discussed above, so that providing a good level of safety will require greater input in a factory setting for example than in an office environment. The second set of features are those which relate to job fit. They are more important to some than to others, and for a job to be good for a particular individual these features should be provided at the right level.

There are some features which do not fit comfortably into the model. For example, pay and working hours have been located in the 'job fit' area of the model to reflect the wide variation in the perceived importance of these for interviewees. However, in view of the literature which shows the adverse effects on health of these in some situations, there may be a justification for considering them as core features. Similarly, physical demands have been included as a job fit feature as both this study and the one in chapter 4 found variation in individuals' preferences for active or sedentary jobs and there are

also variations in tolerance relating to health or stature. However, the impact of prolonged inactivity on health raises the possibility that this should also be a core feature. Finally, with regard to the outcomes of job quality, the ideal is that a good job is one which meets the needs of individuals and also has a positive impact on their health. The findings of the study described in chapter 4 found that these two factors were largely unrelated. There was some overlap between the two outcomes in the current study, but there was still limited expectation on the part of interviewees that work should contribute positively to health: and limited experience that it did. This model therefore is a preliminary one, which requires further development to reconcile these conflicts.
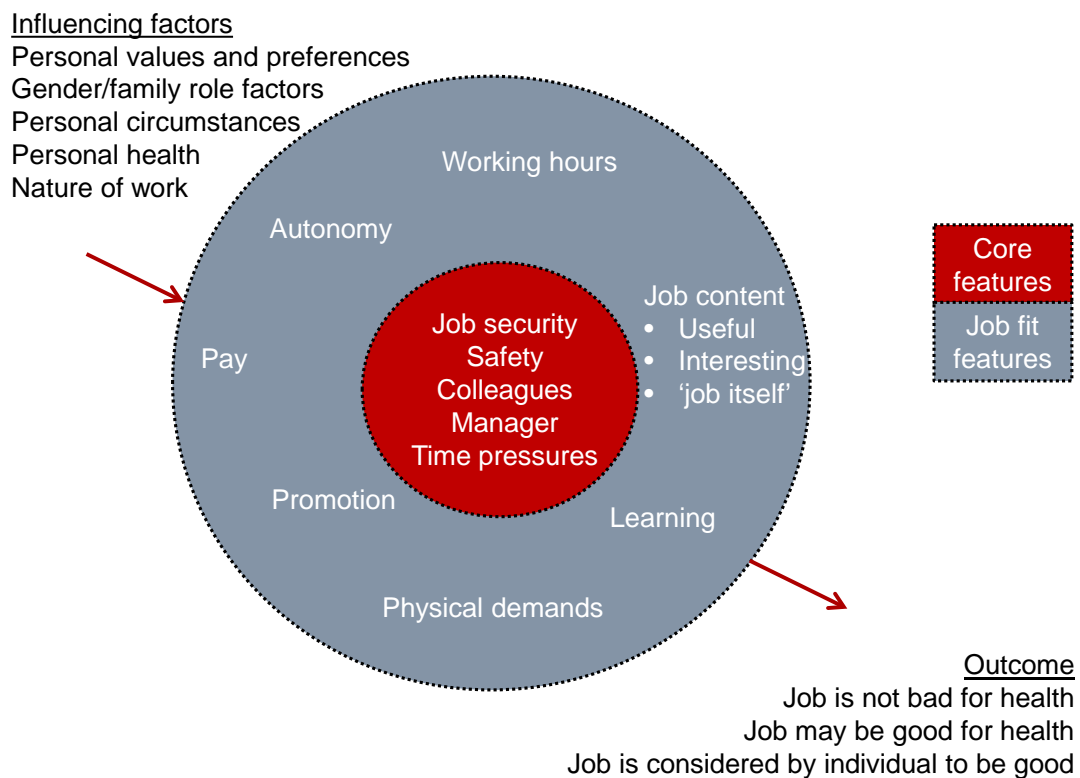
Figure 5-5 A preliminary theoretical model of job quality

5.5   Strengths and limitations of study

A limitation of this study was the relatively small sample size, particularly for those at ManCo, where attempts to obtain access to additional interviewees

were unsuccessful. In addition, the interviewees were nominated by managers who may have selected individuals with particular viewpoints or who were particularly amenable to being interviewed, although they were briefed not to. Although the samples at both organisations were broadly similar to their overall employee populations there was a slight over-representation of Asian employees in the CleanCo sample and of long served employees (>20 years) at ManCo. However, additional data gathered such as the observational data for CleanCo and the manager interviews at both organisations generally support the findings from the interview data and hence lend confidence that these selection factors have not substantially distorted the results.

A further limitation was that both companies were ones considered to provide good jobs within their respective sectors. This may have influenced the findings, as it would make them an employer of choice and may result in a workforce who were not typical of others with similar educational and skill backgrounds. Additionally, both sets of employees had roles which were relatively active.

A particular challenge with interviews arose from the fact that eight of the CleanCo interviewees spoke English as a second language. This made some of the interviews difficult, particularly when asking the complex question 'how important is …… to you to make a job a good job?' In some cases, interviewees misunderstood the question and initially gave an answer relating to whether that factor was present in their current job. Topic areas which created the most confusion were around whether a good job needed to be useful for society, whether it needed to be safe and whether it was improved by being varied or creative. However, this also illustrates the strength of using interviews for investigating this topic, as it enabled questions to be reworded and unclear responses to be clarified which would not have been possible with a questionnaire or structured interview design. When analysing data particular attention was paid to transcriptions where comprehension was an issue, and a small number of responses which were unclear or

incongruous were removed from the quantitative analysis which is shown in Figures 5-1 and 5-2.

Overall, the focus on subjective data in both this study and that described in chapter 4 enabled a good understanding of what the interviewees thought about their work, the impacts of work and why they made the decisions and choices they did. This highlighted the influence of job quality at an individual level which is important to consider alongside the organisational factors and the societal context.

5.6   Conclusions

The questions which this study aimed to address were:
- o   What features do those in low-skilled jobs associate with good jobs and with work which is good for health?
- o   What influences the decisions they make when choosing jobs?
- o   What influences the variation between individuals with regard to their preferences for jobs and job features?

A theoretical model of job quality has been proposed which incorporates the answers to these questions. This model differentiates job features into two groups – the first is made up of those which were found to be important to most employees and therefore core to job quality, and includes whether a job is safe, secure and provides good relationships with colleagues and managers. The second group of factors are those which showed more variation, such that a good job is one where there is close fit between job and individual. For example features such as promotion and autonomy were very important to a small number of individuals but of low importance to most others.

This principle of job-individual fit confirms the findings of the repertory grid study described in chapter 4 that a 'good' job needs to be defined in a way which takes account of the match between individual and job. This is an important addition to the literature; although the importance of individual

variation is frequently accounted for when modelling single aspects of job quality such as job content or stress factors, models of overall job quality rarely factor it in explicitly. As identified in chapter 1, an accurate picture of what constitutes a good job is important as a standard to measure jobs against, and to drive activities to improve job quality.

There are limitations in the theoretical model presented, including uncertainty as to whether features such as pay and working hours should be categorised as core or job fit features. A further limitation of the model is that it is based predominantly on the views of interviewees working in relatively good jobs. Further study is therefore required to address these uncertainties and to extend the data set.

The relationship between good jobs and jobs which are good for health also requires further consideration. This study found some overlap between the two concepts, particularly in relation to work safety and also the impact of physical demands on health. This differs from the findings of the study described in chapter 4 (which found that good jobs and jobs which were good for health were associated with different features). This perhaps illustrates that those working in lower grade jobs, as the current interviewees were, are more at risk of adverse health effects from their work and thus more aware of them. However, it was still apparent that other factors associated with work took priority over health effects in some cases. It remains unclear what individuals expect from their work in terms of health; this will be addressed in the next study which will consider a work sector commonly associated with poor health.

The extent of variation between interviewees in terms of their preferred job features was wide in this study as it was in the previous one, despite the narrower interview sample. This indicates that economic and educational backgrounds are not the only cause of variation. Differences were found which related to personality/personal preference and also to the nature of work that individuals did, so that some features were either less important

(such as the role of the manager) or less visible (such as the impact of time pressure) in some jobs than others. However, it was apparent that socioeconomic factors also influenced variation, not just in what interviewees considered to be important but in the decisions they made regarding jobs. A limiting factor in job choice for some was the need to have working hours which fitted in with school times so that interviewees could work without needing paid childcare; others were restrained by lack of education or qualifications which reduced their opportunities and their expectations.

The importance of the job quality model presented arises from the steps which employers might take to improve job quality. Based on the model, improving safety or security for example would improve job quality for all employees. Improving autonomy or promotion prospects on the other hand would only improve it for some, and could make it worse for others. To improve job quality in these areas it is more important to improve the match between job and individual, either by recruiting individuals who best match the jobs on offer, or through improvement in skills to either improve job fit or prepare individuals for jobs which suit them better. In the current study, for example, both employers carried out regular reviews for all staff to ensure that personal development was planned to meet individual needs as far as possible. However this will not be the case in many jobs, and as indicated above job choices may be limited for some, increasing the likelihood of a poor match between job and individual.

In conclusion, this study explored the features which interviewees considered important in their work and used these to construct a theoretical model of job quality. Further investigation is required to validate the overall structure of the model and particularly to confirm whether features such as pay and working hours have been correctly located. This will also allow further exploration of the relationship between perceived job quality and expectations regarding health. Once the model has been further refined, greater consideration can then be given to its implications for employers and employees.

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│         Review and critique of study design             │
│          Suggestions for further research               │
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Chapter Six   What makes a job good? Subjective perceptions of bus and coach drivers in three companies

6.1   Introduction

Interviews in chapter 5 with individuals who worked in manufacturing and cleaning found wide agreement regarding the high importance of job security, safety and colleagues. There was more variation around other features such as autonomy, learning opportunities and promotion with these being important only to a small number. An initial theoretical model was presented at the end of chapter 5 which summarised these findings.

This chapter describes a study which built on this by using the same methods in a different work environment, addressing the same research objectives:

- Objective one - to assess;
  a) how a range of individuals conceptualise a 'good' job and the features they consider important, and
  b) how the same individuals conceptualise a job which is good for health

- Objective two - to produce a theoretical model of job quality which reflects the features which make a job good and those which make it good for health, and which accounts for individual variation

Broadening the interviewee base provided an opportunity to test the conclusions reached so far and to resolve the uncertainties regarding the importance of working hours and pay and whether these should be considered as core or as job-fit aspects of job quality. It thus provides greater confidence regarding the validity and scope of the job quality model. When selecting participant companies to achieve this, the following criteria were established:

a) to maintain the focus on those in jobs requiring low skill or education;

b) to consider jobs which were potentially bad, to contrast with the companies in chapter 5 which provided good jobs. In addition, considering an apparently 'bad' job offered opportunities to explore the barriers to improving job quality. As identified in chapter 1, a key reason for measuring job quality is to drive improvement. This requires not just a clear view of what a good job looks like, but also an understanding of why some jobs are bad, what would be required to improve them, and how this might be achieved or facilitated;

c) to consider jobs which were associated with poor health, in order to further explore the relationship between features seen as contributing to job quality and those seen as influencing health;

d) to consider several employers within a single industry, in order to explore the variation in priorities and preferences between interviewees who had chosen essentially the same role, but may have different experiences. In addition, comparing companies within an industry might provide additional information regarding the barriers to job improvement.

6.1.1 Bus drivers

The bus industry was identified as one which would satisfy the criteria outlined above. Bus drivers are a population who are commonly reported to have poor health, and poor working conditions, and could thus benefit from improved job quality. The European Working Conditions Survey (EWCS) has identified land transport as one of the worst employment sectors in Europe with long, non-standard working hours, low job control and low skill use (Jettinghoff & Houtman 2009). The high incidence of health issues was first raised by Morris et al (1953) who found bus drivers to have a risk of heart disease which was twice that of their conductor colleagues. Since then it has been shown that the morbidity extends beyond heart disease to include gastrointestinal disorders, musculoskeletal problems and poor mental health (Tse et al 2006). Bus drivers have reported stress and fatigue which they associate with the demands of passengers, traffic, and timetables (Tse et al 2007; Biggs et al 2009) and they suffer from a high incidence of obesity

(French et al 2010; Chung & Wong 2011). Within the UK, bus drivers can be found at the bottom of tables on job satisfaction (Rose 2003) and similarly poor working conditions and health issues have been identified in many other countries including America (French et al 2010), Norway (Glasø et al 2011), Sri Lanka (Jayatilleke et al 2009) and Taiwan (Chung & Wong 2011).

6.1.2 **Study questions**

The key questions to be addressed by this study were as follows:

- o What features do bus drivers from three companies consider are important for a job to be a 'good' job and to be good for health?
- o What is the extent of variation between individuals?
- o Does this influence job choice?
- o How does this compare with the findings described in chapter 5?

The answers to these have been used to review and revise the proposed model of job quality. The subsequent chapter applies the model to the same three bus companies to assess the quality of bus driving jobs and identify how they might be improved, and the potential barriers to this. Chapter 8 builds further on this, describing a study to test a quantitative measure of job quality in the same organisations and comparing the findings to those presented in chapter 7.

6.2   Method

The overall design for this study was the same as that used in chapter 5, based on semi structured interviews with employees. Three bus and coach companies took part, which were chosen to provide a spread across the industry. The companies are described below using pseudonyms as some of the information presented is commercially sensitive.

6.2.1 Participating companies

BigBus

BigBus is a large organisation which is owned predominantly by the local council. It operates timetabled service buses, with a workforce of around 800 drivers employed across three depots. Recruitment is highly structured, including personality and aptitude testing on all applicants, and is followed by in-house training to enable drivers to qualify for their PCV (Passenger Carrying Vehicle) license.

LittleBus

LittleBus was established as a family business in 2002 with two vehicles, running day trips to Europe and private hire holidays. It expanded rapidly and by 2008 it had 40 vehicles and 70 drivers; at the time of study in 2011/2012 it had around 70 vehicles and 110 drivers and was continuing to expand. Unfortunately it subsequently suffered financial difficulties and went into administration one year after data collection.

The nature of the work done by the company at the time of study was as follows:

- service routes, involving around 60 buses each day
- contract work such as school buses and private hire
- holidays and short trips within the UK and Europe
- national coach services, as a contractor to a larger provider

LittleCoach

LittleCoach is a family run company which was established 30 years ago. It has 40 vehicles and 60-70 drivers. It runs coach trips and holidays, many of them overseas, as well as contract work such as school buses and private hire, and also national coach services as a contractor to a larger provider.

6.2.2 **Interview Procedure**

A combination of convenience and purposive sampling was used to select 50 drivers who were interviewed using the same schedule used in chapter 5. At BigBus drivers were selected by the depot managers, based on availability at the time the researcher was scheduled to attend. At LittleBus and LittleCoach, the researcher recruited interviewees directly by approaching drivers in the depot and asking if they would participate either then or at a mutually convenient time. For all depots, attempts were made to select interviewees who covered a spread of ages and length of service; male and female; and at LittleBus and LittleCoach to cover a spread of driving roles.

Most interviews were conducted at the bus depots and were digitally recorded and subsequently transcribed. Some of the LittleBus interviews were carried out in a coffee shop which many drivers used for their breaks, which meant recording was not possible in four cases. For these, extensive notes were taken which were written up within 24 hours. Typical interview duration was around 25 minutes, with a range between 10 and 45 minutes. Interviews at LittleCoach were slightly shorter (around 21 minutes each) as some drivers were interviewed between driving trips and free only for short periods, hence interviews were conducted more briskly but covered the same content.

6.2.3 **Analysis**

Analysis was carried out in NVivo 9 using the same method and initial template as described in chapter 5.

6.3   **Results**

6.3.1 **Interview sample**

Table 6-1 shows the characteristics of those who completed interviews at the three companies. One scheduled interviewee at BigBus and one invited interviewee at LittleBus declined to participate. One interviewee at

LittleCoach spoke English as a second language and was removed from the data set as he was unable to comprehend the questions reliably.

Table 6-1 Characteristics of bus driver interviewees

		BigBus	LittleBus	LittleCoach
		(n=29)	(n=11)	(n=10)
Age	**16-24**	1	0	0
	25-34	7	2	1
	35-44	7	6	2
	45-54	6	1	4
	55-64	8	2	3
	65+	0	0	0
Gender	**male**	25	9	9
	female	4	2	1
Length of service	**<1 year**	2	7	1
	1-2 years	3	1	3
	2-5 years	9	2	3
	5-10 years	5	1	3
	10-20 years	9	n/a	0
	>20 years	1	n/a	0

6.3.2 **What is good about this job?**

As in the previous chapter, the responses to the open question 'what is good about this job/working here?' will be presented first (Table 6-2). This will be followed by a summary of the responses to the structured questions regarding the most important features which influence job quality (Figure 6-1). The two sets of results will then be further explored feature by feature, drawing on the wider interview records in each case. Comparisons will be made with the findings of the previous study (chapter 5) where appropriate, including statistical comparisons of the findings shown in Figure 6-1 (using chi-squared and Fisher's exact test as in chapter 5). Differences between the three bus companies will also be identified. These data sets are too small to show statistical differences, but there is qualitative variation which contributes to an understanding of how differences between individuals might arise.

Table 6-2 Responses to 'What is good about this job/working here?'

(This table shows the number who gave each response as a percentage of the number of interviewees in that company and overall. Some gave more than one answer)

Responses	BigBus (n=29)	LittleBus (n=11)	LittleCoach (n=10)	Total
Working with passengers	55%	64%	60%	58%
Freedom	17%	64%	50%	34%
Good colleagues	34%	18%	40%	32%
Good managers	10%	45%	40%	24%
Good Pay	34%	0%	0%	20%
Location	28%	9%	10%	20%
Nothing (it is not a good job)	10%	27%	30%	18%
Variety	7%	18%	30%	14%
Easy work	21%	0%	0%	12%
Shift pattern	17%	0%	0%	10%
Driving	10%	0%	10%	8%
Visiting interesting places	0%	0%	30%	6%
Being treated fairly	10%	0%	0%	6%
Job security	3%	9%	0%	4%
Big company	7%	0%	0%	4%
Good vehicles	0%	0%	20%	4%
Useful to society	3%	0%	0%	2%
Training	3%	0%	0%	2%
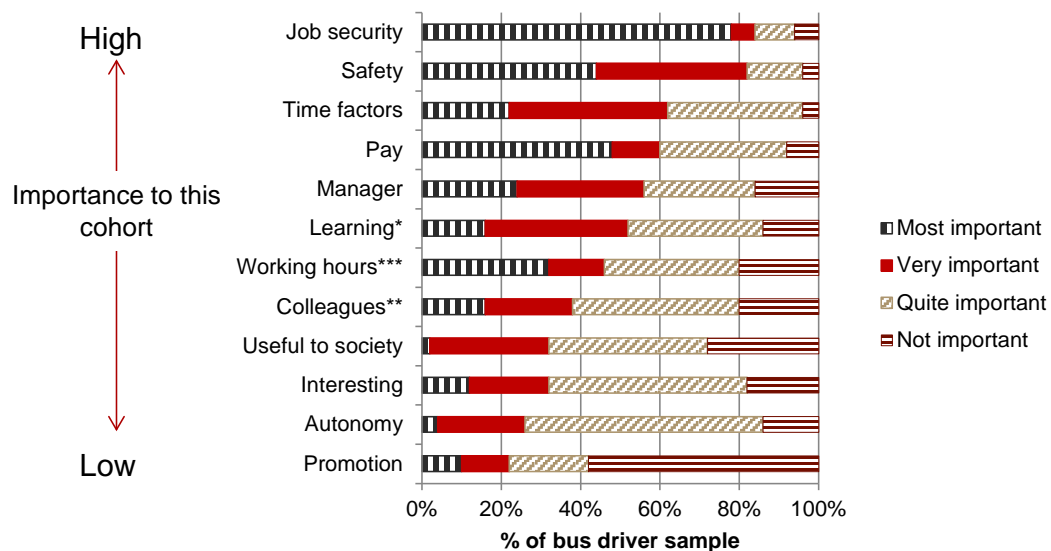
Differences between bus drivers and chapter 5 interviewees are significant
(most, very important vs quite, not important)
*Learning *p<0.05* (Chi squared test)
**Colleagues *p<0.05* (Chi squared test)
***Working hours *p<0.001* (Chi squared test)

Figure 6-1 Responses to 'How important is……to make a job a good job for you?' for bus drivers

6.3.3 Individual job features

Summaries below are presented in the same order as in Figure 6-1, which is determined by how many interviewees considered a feature to be at least very important.

Job security

As with participants in the previous chapter, job security was very important to interviewees at all three companies. However, security was perceived in two different ways. For some, especially those at BigBus, it was about being in a secure job,

> *"And I think out of all the bus companies it is about the most secure" (BigBus driver, female, 44 years).*

For others, particularly those at LittleBus and LittleCoach it was about being in a secure industry, where they would always be employable,

> *"If you have a PCV license, you can always get a job regardless of what happened at your previous employer" (LittleBus driver, female, 43 years).*

This different perspective may be explained by the fact that all drivers at LittleBus and LittleCoach had worked for two to four bus or coach companies previously. By comparison only one interviewee at BigBus had worked as a bus driver elsewhere. BigBus drivers also had more to lose if they changed jobs as their pay and conditions were better than those at the smaller companies.

There were also a range of views regarding the potential threats to job security. These included decisions which could be made within the organisation (such as disciplinary action or restructuring); the behaviours of the driver,

> *"I think probably it's pretty secure unless anything silly happens….if I go and crash the bus or knock somebody over" (BigBus driver, male, 61 years);*

or wider influences such as economic recession,

> *"There's always rumours flying about and with the particular situation in the country as it is now you've got to expect anything" (LittleCoach driver, male, 64 years).*

Therefore security was seen as very important across the cohort, although there were different ways in which it was conceptualised.

Safety

Safety was also considered to be of relatively high importance. It was largely considered the responsibility of the organisation to ensure that safety was well managed, although there were also views expressed that some jobs were inevitably more dangerous than others; and that some risks (in bus driving and in other industries) were unavoidable, for example risks from other road users and passengers,

> *"just because of the road users.......some of the areas you can work in you only have to say something or look at them wrong and that's it, you are placed into a threatening position where you have no control" (BigBus driver, male, 25 years).*

However, there were also a few interviewees within BigBus who felt that health and safety provision was sometimes over the top,

> *"feels over safe actually, cotton wool. I'm 44 years old, I can get across the road without being knocked over, I don't think I need to wear a high vis vest to do that. I can cross the road, look!" (BigBus driver, male, 44 years).*

Safety was not spontaneously identified as a key feature of a good job (Table 6-2) as it had been by interviewees at ManCo in the chapter 5. Nevertheless it was identified as important by bus drivers when they were asked about it. They recognised that their job involved risks but generally accepted these as part of the job.

Time factors

Many interviewees considered it important to have enough time to do their job, as poorly scheduled bus routes put them at risk of running late, and

brought them into conflict with passengers who blamed them for this. Having enough time to take short breaks between journeys was also mentioned by some as being desirable,

> *"I don't want [only] a minute in a terminus, I don't think it's even close to fair" (BigBus driver, male, 44 years).*

The main impact of not having enough time was feeling under pressure. However, there were also a number of drivers in BigBus and LittleBus who said that they were not concerned about running late, as it was beyond their control and there was no benefit in being distressed about it,

> *"If I'm late I get paid anyway. I don't let it bother me …… If I get sat in traffic I get paid for it, so I'm not bothered" (BigBus driver, male, 23 years).*

Therefore, although time factors were widely confirmed as being important (Figure 6-1), there was variation in their perceived impact, reflecting differences in personality and coping strategies between individuals.

Pay

When the bus drivers in the study talked about pay, it was mostly in relative terms, with an implied or explicit comparison to drivers in other bus companies, or to other jobs they themselves had done or could do,

> *"I'd rather work for BigBus, they've got a better package than anybody else has" (BigBus driver, male, 50 years).*

A few interviewees mentioned the negative practical consequences of low pay such as having no money left after paying the bills, or having to work longer hours to compensate for a low hourly rate. However, most did not discuss the impact of pay on their standard of living or whether they had enough money to satisfy their needs. Similarly, when talking about not getting pay rises or pay not being as good as it had been previously, the context was whether or not it was fair to get no rise, rather than the effect of earnings falling relative to demands,

> *"We haven't had a pay rise for three years; they are hiding behind the recession, saying they've got no money which is a load of rubbish" (BigBus driver, female, 44 years).*

This issue of fairness also arose in terms of pay relative to the responsibility drivers had. Drivers at LittleBus and LittleCoach talked about the fact that their pay was low, given that,

> *"you've got 49 people's lives at the back of you, so if you don't act responsibly driving that's it, one bad mistake and that is it, so I reckon bus driving should be paid more because of the responsibility" (LittleBus driver, male, 47 years).*

Drivers at BigBus were better paid than at the smaller companies and generally recognised this. None talked about feeling underpaid relative to responsibility. The most prominent aspect of pay to the bus drivers overall therefore, was whether it was seen as being fair and sufficient reward compared to others in similar jobs or to what they themselves could earn elsewhere.

There were interviewees in all three companies who gave 'higher pay' as being the key factor which would make the job better,

> *"I know I said the money is ok, but you can always get more money" (BigBus driver, male, 35 years);*

> *"The first thing [to make the job better] would be the obvious one which would be an increase in pay" (LittleBus driver, male, 26 years).*

In addition, a third of drivers at BigBus identified pay levels as one of the factors which made their job good (Table 6-2). Overall therefore, higher pay was considered by some to make a job better; but this was a variable factor, as many others expressly stated that pay was not a highly important factor for them. The importance of fair pay was a more universal theme.

Manager

Much of the discussion around the importance of a manager to making a job good focused on the impact of poor management. This was associated with

either poor decision making or failing to treat individuals fairly and reasonably,

> *"I do believe that having a good manager is important because if you've got a horrible one it makes you miserable, it can make your life unbearable" (LittleBus driver, male, 26 years);*

> *"all they did was totally demoralise that driver by giving him a written warning and he didn't deserve it, they didn't look at the human side" (BigBus driver, male, 53 years).*

Where interviewees talked about the attributes of a good manger – being understanding, approachable or flexible, the focus was on the manager's role as a problem solver, who responded to practical issues that individuals faced,

> *"but if they have a suggestion go to Chris, or some kind of problem and talk with Chris or Steve they listen, in my experience they will help you" (BigBus driver, male, 32 years);*

> *"(if) the boss is good - one who knows what is going on at the bottom, not just on paper but the boss actually out there, not just figures and basically listen to problems and solve it" (BigBus driver, male, 29 years).*

Thus, having a good manager was important to many – it was given as a specific contributor to the current job being good by 20% of interviewees (Table 6-2) as well as being identified as the 5th most important job feature. However there was also a view expressed by some that management was generally an irrelevance in the bus industry, as the only role of managers was in dealing with problems and taking disciplinary action where necessary,

> *"I don't have owt to do with managers, I just come in, sign on, take my bus, come in for my break, back out do my next bit, come in, go home. Very rare I go into the office" (BigBus driver, male, 53 years).*

Furthermore, there were hardly any comments made about the value of a manager taking a development or leadership role. Therefore, managers were considered important to making a job good predominantly in terms of not causing harm. Their scope for positive impact was limited to supporting

individuals who had issues or making good decisions about difficulties which arose.

Learning

Although learning was of lower relative importance than some other job features, it was an aspect which many drivers felt strongly about, especially those at LittleBus and LittleCoach. It was also significantly more important to bus drivers than to the interviewees at CleanCo and ManCo ($p<0.05$, Fisher's exact test). Two main reasons for undertaking training were identified. One related to the skills required to do the job and this was seen as particularly important,

> *"Then one [course] came up at JP training, safe and fuel efficient driving, take a bus out for a couple of hours all round B_ and round the suburbs without touching the brakes. I got a gold, excellent in that"* (LittleCoach driver, male, 46 years);
>
> *"well it's got to be, when new things come in you've got to be trained up to do the right job. Definitely very important issue" (LittleBus driver, male, 56 years).*

The other related to learning in a more general way – either to support career progression, or simply to keep the brain active, and this showed more marked variation, with some considering it very important,

> *"for that day, my brain is like Yes! I am learning something and I am doing something different. And for me that is important" (BigBus driver, female, 27 years),*

and others specifically stating that it was not of interest to them.

The high importance of job related training was influenced by a mandatory requirement for drivers. Under regulations relating to the Certificate of Professional Competence (CPC) (Secretary of State for Transport 2007), all drivers of buses and coaches were required to complete five days of approved training by September 2013 in order to keep their vehicle license, and a further five days each five years thereafter. Hence it was essential

even for those who had no aspirations and who would not generally be interested in training for its own sake.

Working hours

Working hours were identified by less than half the cohort as being important to make a job good. Hours were significantly less important than they were to interviewees in chapter 5 (*p<0.001,* chi-squared test), and many were very tolerant of the varied shift patterns associated with the transport industry,

> *"I've always done shifts so it really - I've never done a nine to five so that is immaterial to me" (LittleBus driver, male, 43 years);*

> *"Not fussed. You do what's there. It's not a trade where you can say 'oh, I'm having the weekend off,' because it's a weekend trade, its Friday to Monday, the coaching trade's always been that" (LittleCoach driver, male, 61 years).*

Those who considered it an important feature sometimes did so because they found particular benefits, such as doing early shifts which allowed them to spend the rest of the day doing other things,

> *"I like shifts because you get change, like I am finishing at 2 o'clock today, so I got time at home" (BigBus driver, male, 29 years).*

More commonly, hours were identified as important by those who perceived disadvantages from particular working patterns. These included the impact on a normal social or family life of working particular shift patterns,

> *"I'm starting to plan a family and that's what's going to do me, when I have a baby, that's what's worrying me because there is no way I'll be able to carry on working 3 different shift patterns" (BigBus driver, female, 27 years);*

> *"I could start half eight in the morning, not finish till half eight at night, I don't really think that is 'early'. You don't get any social life at all" (LittleBus driver, male, 28 years).*

The impact of varying shift start times and long hours on health and potentially on safety were also discussed. There was variation in the specific working patterns which suited drivers best,

> *"I don't like doing late lates it doesn't suit me, I am much more of a morning person" (BigBus driver, female, 27 years);*

> *"earlies is my really struggle week when I feel most tired, just getting up early" (BigBus driver, male, 35 years).*

A related issue is the degree of control over working hours. Many commented on how much they valued having scope to change shifts when needed, as well as the importance of having advance notice of what their working hours were,

> *"you can shift your shifts around with other people which helps for things you need to do" (BigBus driver, male, 42 years);*

> *"our biggest problem is we never know what we are doing from one day to the next……that's my biggest gripe" (LittleCoach driver, male, 46 years).*

Overall then, there was wide variation in individuals' preferences with regard to working hours, and the extent to which this influenced their view as to whether a job was good or not. Several interviewees specifically stated that they only tolerated unsatisfactory working patterns because it allowed them to earn more than they otherwise would have done (by working longer hours). Others appeared genuinely unconcerned about the demands made on them. The impact on health of shift variation, early start times and insufficient sleep was also greater for some than others although this was of wider concern, even amongst those who were otherwise happy with irregular work schedules.

Colleagues

As with the importance of managers, the impact of colleagues on job quality was seen in two ways; the first was the adverse impact of poor relationships,

> *"when I first started for instance, [the] canteen in town, it was purely divided, you'd walk in, the middle section would be T_ drivers, the back section would be P_ drivers and the other back section would be for link drivers, nobody interacts"* (BigBus driver, female, 27 years).

The second element was the benefit of good colleagues. When discussing the positive aspects of relationships with colleagues, there were differing preferences regarding the nature of those relationships. For some, the workplace was a source of great camaraderie, like a family, somewhere that was the basis for a social life as well as work; and a positive contributor to wellbeing, helping them deal with problems at home,

> *"it is a lot friendlier. I mean [another depot] was nice as well but there is just something about here, everyone's got each other's back, it's really nice"* (BigBus driver, female, 27 years).

For others, it was about having a laugh and being friendly, but keeping this within the workplace. A third group considered that it was important to get on and be sociable, to not be '*arsey*', but they felt that work was not the source of friends, just that it was better to get on with people than not,

> *"you can make friends when you start somewhere new. They don't have to be best friends"* (LittleBus driver, female, 43 years);

> *"I come to work and I get on with them all, but I could never see myself, I haven't found anyone I would say is a buddy buddy"* (BigBus driver, female, 56 years).

For 32% of interviewees, relationships with colleagues were given as a specific factor which made this job good (Table 6-2). This highlights the range of variation with regard to working relationships; for some they were very important whilst others were indifferent provided colleagues were not actually unpleasant. There was also a recognition that the nature of bus driving was often a barrier to getting to know people and could be an isolating job. This could explain the finding that colleagues were a feature which was significantly less important to bus drivers than to those in chapter 5 ($p<0.001$, Fisher's exact test). The industry may attract a disproportionate number of those who do not seek friendships at work. Alternatively some who would

have otherwise preferred close relationships may have devalued this in recognition that they were not a core feature of the industry.

Useful to society

As with interviewees in the previous chapter, whether or not a job was useful to society was considered by most to be of relatively low importance. Whether interviewees believed that their job was useful or meaningful was not entirely clear – certainly they recognised that bus services were important to society, as discussed under job security; but there were also many comments about poor passenger behaviour, resulting in drivers feeling undervalued and abused,

> *"This is a thankless job and that is how it's becoming" (LittleBus driver, male, 56 years);*

> *"the way the passengers treat you, it's not long before it gets to you, if someone doesn't even look you in the eye or say please or thank you or acknowledge you, as a human being sat there, if you've had 3 or 400 people on your bus in a day and sometimes quite literally you can count on one hand the people that talk to you" (BigBus driver, female, 44 years).*

Only one interviewee out of 50 gave usefulness as a reason for the job being good (Table 6-2). Possibly, the fact that some drivers feel unrecognised by society leads them to feel that the job is not useful. Certainly usefulness was reported as relatively low on the hierarchy of features which influence job quality.

Interesting

As with interviewees at ManCo and CleanCo, there was wide variation for this feature with a small number identifying it as very important that a job was interesting, and most others considering it to be relatively unimportant. However, many gave explanations of their job which highlighted the ways in which they did find their job interesting, and that they valued this,

> *"I couldn't do a job that was just working in a factory putting stuff on every day, every minute of every day, that wouldn't do me any good"* (BigBus driver, male, 61 years);

> *"I don't carry the same people every day, so the people make it different…… when you have the banter or the chat with people when you are getting the cases on and off, and talking to them when they are on the coach, it makes it different"* (LittleCoach driver, male, 48 years).

In addition, Table 6-2 shows that 'Passenger relationships' was identified by 68% of interviewees as contributing to their current job being good; hence what they actually did in their job mattered to them, even though they scored interesting as relatively less important than other features,

> *"if I could put a smile on one person's face in the morning coming to work I'd achieved my aim"* (BigBus driver, male, 53 years);

> *"I suppose it helps if you've got a passion for the job in the beginning, going back to my car repairs I loved everything, I was fascinated with how cars worked, how they could be taken apart and put back together to showroom condition"* (BigBus driver, female, 27 years);

> *"it is nice that you get to see your regular passengers, you get to know them. In the last week I've had a jam doughnut, a box of Ferrero Rochers, and a bag of Mars Planets!"* (BigBus driver, male, 35 years).

Therefore, although whether a job is interesting or not may have been less important than other features to make a job good, the job content nonetheless had an impact on the experiences bus drivers had of work, as it did for interviewees at CleanCo and ManCo. This suggests that job content contributed to a job being considered as good, but only once other core features such as pay and security had been satisfied.

For other interviewees, job content as a bus driver was not considered favourably. They didn't particularly enjoy the job they did, or disliked some aspects of it, so that the nature of the work reduced its perceived quality,

> *"I've got a lot of reasons to stay on here, I don't find any aspect of this job hard. Do I enjoy my job? The best answer would be I don't dislike it. But I know I could do better"* (BigBus driver, male, 44 years);

> *[when asked what would make the job better]* *"more money; and not having to pick passengers up"* (BigBus driver, male, 53 years).

This indicated that some individuals had compromised on job content - again it was a lower priority than satisfying other demands. This issue, and its influence on job choice will be explored further below in section 6.3.4.

Autonomy

As Figure 6-1 illustrates, autonomy and control were considered of relatively low importance to most interviewees in this cohort. This is not especially surprising, as the job of a bus driver is one which is very structured and permits little autonomy, so there is likely to be a degree of self-selection involved. There was, however, an apparent contradiction in that 34% of drivers gave 'freedom' as the factor which made their current job good (Table 6-2),

> *"it's better than being in an office, and being watched over and stuff, or a hairdresser or anything like that"* (LittleCoach driver, female, 29 years);

> *"freedom on the road, you are just sort of your own boss, you've got no one to answer to from day to day as long as you keep your nose clean"* (BigBus driver, male, 39 years).

This relates to the fact that drivers were not closely supervised once they had taken their vehicle out of the depot. In practice the actual impact of this perceived freedom on opportunities for driver decision making was minimal, beyond decisions made about how to drive their vehicle. BigBus drivers were in constant radio contact with their control centre, and both LittleBus and BigBus had tracking devices and CCTV in their vehicles.

However although some of those who had chosen driving jobs were tolerant of the high level of structure, it is possible that there was additional self-selection within the transport industry and that those who valued more

autonomy chose the companies or roles where they were likely to get this. Coach driving was seen as more autonomous than bus driving, and at LittleBus, drivers felt that there was less manager involvement in their day to day activities than in other bus companies,

> *"you pick your coach up and away you go for the day or the week or whatever the case may be and back again. You're just your own boss, basically that is how I like it" (LittleBus driver, male, 56 years);*

> *"Not as pressurised as in some other companies – management don't know what they are doing so you can get away with murder!" (LittleBus driver, female, 43 years).*

Some drivers said they would have preferred more control in their current job, or would prefer to do a job which gave them more control; just as there were those who were quite content with the low level of control they had. There is, therefore, a wide range of views regarding the importance of this feature and the preferences that individuals hold.

Promotion

As with those at CleanCo and ManCo, promotion was of importance to a relatively small number of interviewees. A range of reasons for not wanting it were given including job related issues such as not wishing to work in an office, or the impact it would have on relationships. Others gave personal reasons such as it not being important because they were older,

> *"I'm not an office person, I've been in an office and I hated it so for me working in an office all day is probably my worst case scenario" (BigBus driver, female, 27 years);*

> *"I am 60 now, I do realise that all the managers who progress through the company are ex drivers which is great if you are an age, but at my age, it doesn't really bother me" (BigBus driver, male, 60 years).*

There were a small number who said they would seek out opportunities for promotion. There were also those who considered it important but unavailable within their organisation and regretted this,

"if there is something to achieve and move up the ladder it'd be good, its non-existing here, but if there was opportunities to move up and better yourself, that's very important" (LittleCoach driver, male, 35 years).

However, those with such ambition were in the minority and for the majority of interviewees it was a job feature of low importance (Figure 6-1).

Physical demands

Interviewees were not specifically asked whether they considered it important to have physical activity in their work. However, when they were asked what contributed to a particular job being good or not good for health, 60% spontaneously identified the sedentary nature of their job as being problematic. Many gave personal examples of having gained weight or experienced musculoskeletal problems as a result of their work, and others who were not overweight identified the adverse impact on colleagues,

"Bus driving is bad – sat down, not much exercise, no time to do exercise" (LittleBus driver, male, 61 years);

"you are sat for possibly a maximum of about 4,4 ½ hours at a time and you can get like cramps in the leg, your left leg goes dead anyway because you are not using your left leg at all, you tend to sit there and you are not moving, you are not as active, so you are putting weight on" (BigBus driver, male, 43 years);

[what is good about this job?] "Nothing – sitting all day, getting fatter" (LittleBus driver, female, 44 years);

"very bad, extremely bad. It's a job where you are sitting on your backside and you can put on a hell of a lot of weight, I am constantly watching what I am eating" (BigBus driver, male, 53 years).

No drivers said that they were considering changing their job to reduce the impact of this inactivity, but they clearly recognised it as a negative feature which had an impact on their overall health and wellbeing.

Location

Location was not specifically addressed in the interview schedule. However, it arose during discussion about why interviewees had chosen to work for a particular company or (for BigBus) at a particular depot. As Table 6-2 shows, it was a specific feature which made the job good for 20% of interviewees,

> *"the only reason I like B_ is [that] the bus stop is on the embankment. I'd love to work at L_ but it would mean driving every day" (BigBus driver, male, 60 years);*

> *"For me personally, it takes me about 5 minutes to get to work so at the end of a long day I know I haven't got the stress on the way back from a job thinking I've still got another half an hour drive home" (LittleCoach driver, male, 48 years).*

In the case of bus drivers, location is particularly important if they are starting and finishing work at extreme ends of the day, particularly as some will inevitably be travelling at times when public transport is not running. Location was similarly important for many interviewees in chapter 5, with location being given as a key reason for job choice for several at CleanCo.

6.3.4 Job choice and compromise

It has already been suggested above that having desirable job content can make a job good, but only once other demands have been met. Further evidence to support this, and to illustrate that there is a hierarchy in the importance of job features comes from two areas. The first is the theme 'compromise' which was identified during qualitative analysis of the interview data, this was also discussed in chapter 5. The second is the issue of job choice, which interviewees were asked about explicitly.

With regard to compromise, almost half of those interviewed gave examples of how certain features in a job took precedence over others which they would have liked, including several who had given up a job with positive attributes because it failed to satisfy more critical criteria,

"I enjoyed that, but the money was ridiculously poor; then I went to a dead end job for more money and where you can't really go anywhere!" (BigBus driver, male, 23 years);

"I like driving, it is a steady job although it is shifts but I do enjoy it" (BigBus driver, female, 56 years);

"if I could choose I would have a 9-5 job, but again because of that [pay] I have to do the hours I do" (BigBus driver, male, 44 years).

The majority of statements made to this effect prioritised extrinsic reasons such as pay, and to a lesser extent job security, over other features: interviewees tolerated undesirable working patterns, stress, demanding work or job content they disliked to ensure a good enough wage. A smaller number prioritised job content, tolerating long hours or shift working because they enjoyed what they did.

Table 6-3 shows the responses to a question about why interviewees had chosen their current job. Neither intrinsic factors around job content nor the extrinsic factors which predominate in Figure 6-2 appear to be the key influences here. Most report that the main reason for choosing their current job was purely that it was available at the time they needed it, or that a friend or family member introduced them. This may indicate that the need to have *any* job took precedence over job quality at the time of commencing employment; or it may be that they assessed the key features of the available job and made a judgement that it was 'good enough' against their personal criteria, but did not express this during the interview.

For those who did consider job content when choosing their job, the enjoyment of driving was far more prevalent than the desire to work with passengers. This has potential for conflict, given that passenger service was a priority for BigBus at least, the implications of this will be considered in chapter 7.

Table 6-3 Responses to the question 'Why did you choose to be a bus driver?

(This table shows the number who gave each response as a percentage of the number of interviewees in that company and overall. Some gave more than one answer)

Responses	BigBus (n=29)	LittleBus (n=11)	LittleCoach (n=10)	Total (n=50)
Redundant, unemployed or previous job bad	59%	36%	50%	52%
'It was there'; pragmatic	41%	36%	40%	40%
Enjoy driving and buses	34%	27%	20%	30%
Family connection	41%	9%	20%	30%
Job security	7%	36%	10%	14%
Good pay	21%	0%	0%	12%
Location	7%	0%	20%	8%
Intended to be a temporary job	7%	9%	10%	8%
Clean, safe easy	7%	9%	0%	6%
People and passengers	7%	0%	10%	6%
Only one I could get	3%	18%	0%	6%
Freedom	3%	9%	0%	4%
Career prospects	0%	9%	0%	2%

Finally, Table 6-3 confirms that safety was very rarely an explicit reason for choosing a job, despite it being the second most important feature necessary for a job to be good (Figure 6-1). This would support the view that some features were necessary as baseline characteristics to make a job good enough, but by themselves did not make a job good or particularly desirable. Overall the above results illustrate that achieving adequate pay and security generally took precedence over job content, even though job content was more likely to be cited as a positive contributor to a job being 'good'. Poor working hours were a necessary evil which had to be tolerated to permit the other demands to be satisfied. However, the importance of particular working hours varied greatly between individuals, confirming wide variation in the individual importance of many job features. This applied also in relation to colleagues, job content (especially with regard to passengers), autonomy and promotion.

6.3.5 Influencing factors

It was possible to identify a number of factors which influenced the

preferences individuals had regarding jobs and the features that they considered were important. These were similar to those identified in chapter 5, but have been expanded in the light of the additional data.

Age and stage of life

Several interviewees suggested that bus driving was a job which better suited older individuals. This was in part because it was relatively physically easy and also that the impact on one's social life made it unsatisfactory for younger people,

> *"if you like weekends out, no chance because you only get one off in six, for a young man, I can't understand why you get young men coming into the job to be quite honest, especially single" (BigBus driver, male, 61 years).*

It was also identified by a small number of interviewees that being older changed their priorities, so that promotion, training or job security were less important. At the same time, some identified that they also had less choice as getting a job was harder once you were older,

> *"If I could find another job I'd be gone tomorrow, but there's no jobs out there, not for me now, I'm getting a bit old" (BigBus driver, male, 50 years).*

Therefore, the profile of a good job may change through life for an individual influenced by what they are prepared to tolerate, demands from other areas such as family, and the alternatives available to them.

Personality

Personality issues influenced whether the job of bus driver suited individuals (personality is used here as a general term denoting differences in the character and preferences of an individual rather than in terms of measureable personality components such as extraversion and introversion). This was most prominent in relation to the time factors, as some interviewees reported being relaxed about running late on their bus, whilst others found it very stressful. There was also a marked variation with regard to passengers,

with those who saw the social contact and the opportunities to build relationships as a key positive contributor to the job and others who regarded them as an inconvenience. Finally, there were personality variations with regards to the degree of autonomy preferred, with some indications of self-selection into long distance coach driving for those who were happier with a greater level of independence.

Personal health factors

A small number of individuals identified personal health issues as making either the current job or a previous one unsatisfactory; this related mostly to musculoskeletal issues. For example some had moved into bus driving as it was physically easier than a previous job,

> *"My third vertebrae from the bottom is out of line.......I could pick up, well move a 100kg of polythene like I used to do but if I had to do two and then three, four and five, I'd be…on my back for a week"*
> *(LittleBus driver, male, 37 years).*

Others found that bus driving aggravated existing conditions,

> *"driving takes it out of you with a frozen shoulder, pulling on the steering wheel with it being a big wheel. Every now and then I have to go off and have injections" (BigBus driver, male, 53 years).*

The difficulties of long gaps between toilet stops was also identified – this didn't arise solely in relation to health problems but could be made worse by existing disability,

> *"sometimes I don't even have a drink when I get up in a morning, knowing that I might be on there all that time" (BigBus driver, male, 50 years).*

Therefore, the match between an individual's personal capacity and the demands of the job influences their perception of job quality; this was relevant for the bus drivers as it was for those at CleanCo and ManCo.

Gender

Some comments made by female interviewees highlighted that the bus industry was predominantly male and that this had an influence on their expectations and experiences,

> *"you come into this environment and it's probably 85% men and you know there's going to be banter and you just, I'm just used to it" (BigBus driver, female, 56 years).*

None identified this as a particular problem in social terms, but it is possible that those who would find this environment difficult had self-selected out. In addition, the male environment was identified as a barrier to promotion and to the provision of adequate toilet and welfare facilities at LittleBus (this will be discussed further in chapter 7).

In chapter 5, issues related to working hours varied largely according to gender, with the female employees at CleanCo specifically seeking work which fitted in with their parental responsibilities. This was not so apparent in the current study – comments about the interaction between work and family, particularly in terms of working hours were made by men as well as women. This may reflect the relatively low number of females employed, or that those who would have struggled with the working patterns because of childcare responsibilities had self-selected out of the industry. This was illustrated by two female drivers who commented in terms of the working hours that,

> *"it mattered when the kids were at home" (LittleBus driver, female, 44 years);*

> *"it would be harder for younger women with child care, definitely but mine are grown up now" (BigBus driver, female, 56 years).*

Therefore gender issues may influence what individuals seek in their work, and how they perceive the work they do. However, the data sets gathered in these studies do not permit definitive conclusions regarding this.

Past experience

Interviewees were asked to consider their previous jobs and identify what

was particularly good or bad about them. The responses highlighted that past experience influenced perceptions of job quality. For example, some found their current working hours particularly good compared to previous jobs, others found them relatively poor,

> *"It's no problem at all, sort of like I've been doing it now, when I was tyre fitting it was 24 hour call out at night as well so I could be asleep and at 3 o'clock in the morning the phone could ring 'I've got this job for you, off you go!' " (BigBus driver, male, 43 years);*

> *"when I worked at R_, 7-3 every day, never worked weekends, used to play cricket and all sorts, don't do nowt like that now…… I've not got the time to do that" (BigBus driver, male, 50 years).*

Others valued the relative ease of the driving job compared to physical demands previously, whilst some regretted the low activity and the impact of this change on their health,

> *"Labouring was good for that though, obviously the hard work, I lost nearly 2 ½ stone in 20 months when I was labouring, when I first started" (BigBus driver, male, 25 years).*

Other features such as pay, working relationships, and health and safety risks were also considered in the light of past experiences, influencing the judgement as to whether the current job was good or not.

6.4   Discussion

6.4.1   Key findings of this study

As in the previous study, safety and job security were identified as core features which were very important to the majority of those interviewed. Autonomy, whether a job was useful, and scope for promotion were considered less important overall, although they were important to some individuals. Some features of job quality were identified as being neither completely important nor unimportant: rather they showed themselves to be composite, being made up of one or more aspects which were widely valued and other aspects which showed more variation. For example time factors

were shown in chapter 5 to be core to job quality, as working at high speed or intensity had an adverse impact on interviewees at CleanCo. However the interviews with bus drivers identified a separate aspect of time pressure which varied between drivers. Some reported that they found it very stressful when their bus ran behind its scheduled time whilst others were relaxed, considering this to be outside of their control. Thus time factors were of core importance in some respects but had a variable impact in others. The features pay, hours, colleagues, managers, and learning were similarly found to consist of more than one aspect or element.

There was recognition by many interviewees of the importance of physical activity to good health, and regret that this was lacking in their work. However, this did not substantially influence whether the job was considered to be good or not, nor was it ever mentioned as a possible reason to leave the job. Most interviewees attributed relatively low importance to whether work was interesting or useful when they were asked about these in a closed question. There was also evidence that job content more widely did not influence job choice unless other, more critical requirements such as pay level and job security were also satisfied. However, it did influence perceptions regarding whether the current job was good or not, particularly for those who enjoyed good relationships with passengers.

The factors which influenced how individuals perceived their jobs and its associated features were broadly similar to those in chapter 5, including personal health, personality and the impact of an individual's role or family situation. In addition, age, gender and the experiences and expectations individuals had of work were found to influence perceptions of job quality.

6.4.2 Strengths and limitations of this study

As the methods used in this study were very similar to those used in chapter 5, many of the same strengths and limitations apply. However, there were two additional issues in this study. The first relates to the size and content of the interview sample. The target was to recruit ten interviewees from each

company or depot: the final sample therefore included 29 interviewees from BigBus (as it had 3 depots), but smaller numbers from LittleCoach and LittleBus. As a result, the views of those at BigBus were more highly represented. However, as the focus of the study was on the range of views, rather than on the number who held each view, this is unlikely to have a significant impact on the conclusions: the range of views between drivers at the smaller companies was wide despite the smaller sample sizes.

Secondly, some of the interviews were carried out in less than ideal circumstances, such as the coffee shop where LittleBus drivers met for lunch and the rest room at LittleCoach which was busy on occasions. There was no evidence that being in the presence of colleagues made interviewees afraid to speak openly, although it may have made them more or less likely to express negative thoughts regarding their employers. Particular efforts were made to ensure that the transcripts of these interviews were accurate, despite background noise. For interviews which could not be recorded, care was taken to ensure that written notes were accurate, and that comments of particular relevance were noted down verbatim.

6.5   Revised job quality model

A theoretical model of job quality was presented at the end of chapter 5; this has been revised to take into account the findings of the interviews with bus drivers and is shown in Figure 6-2. This section will explain the changes and the resulting structure of the overall model. It will then review the constituent features, demonstrating how the model reflects the findings presented in chapters 4 and 5, the current study and the existing literature in the field of job quality.

6.5.1   Overall structure of the model

The initial model of job quality presented in the literature review (Table 2-1) showed job quality as a composite of many different features such as pay, relationships and working hours. No attempt was made to prioritise or structure these, although it was acknowledged that there was stronger and

more consistent evidence for some than others regarding their impact on health and job satisfaction.

The interviews reported in chapter 5 found that some job features were important to all (or almost all), whilst others were of significance only to some. Hence job quality was conceptualised as consisting of a number of core features, which are important for almost all workers - in principle, better provision of each will contribute to improved job quality; and a number of 'job fit' features which are important to some individuals but not others, or where individuals have different preferences. The requirement here is for each feature to be well matched to the individual doing the job. Thus for one individual, providing more autonomy may make a job better: for another, providing less may be preferred. There is also variation in how important these features are, so that for one worker, particular working hours might be a key limiting factor in job choice, whereas for another they are a low priority, a bonus rather than a necessity.

The interviews with bus drivers in the current study highlighted that many of the job features were, in fact, made up of two or more aspects, some of which were core and others which showed greater individual variation. An example of this relates to time pressure which was discussed in section 6.4.1 above. The feature 'time factors' was found to have a core element important for all employees, which related to work intensity and the impact this could have on health; and an element which was variable requiring a good fit between job and individual: this related more to the psychological impact on an individual of not being able to complete their work. Many job features were identified as being made up of several elements or aspects in this way. Only safety and security were core features, important to all in their entirety; only autonomy, promotion and location were identified as having no core elements.

Influencers

Personal circumstances; family factors
Age, stage of life
Past experience
Personal health
Nature of work
Personality
Gender
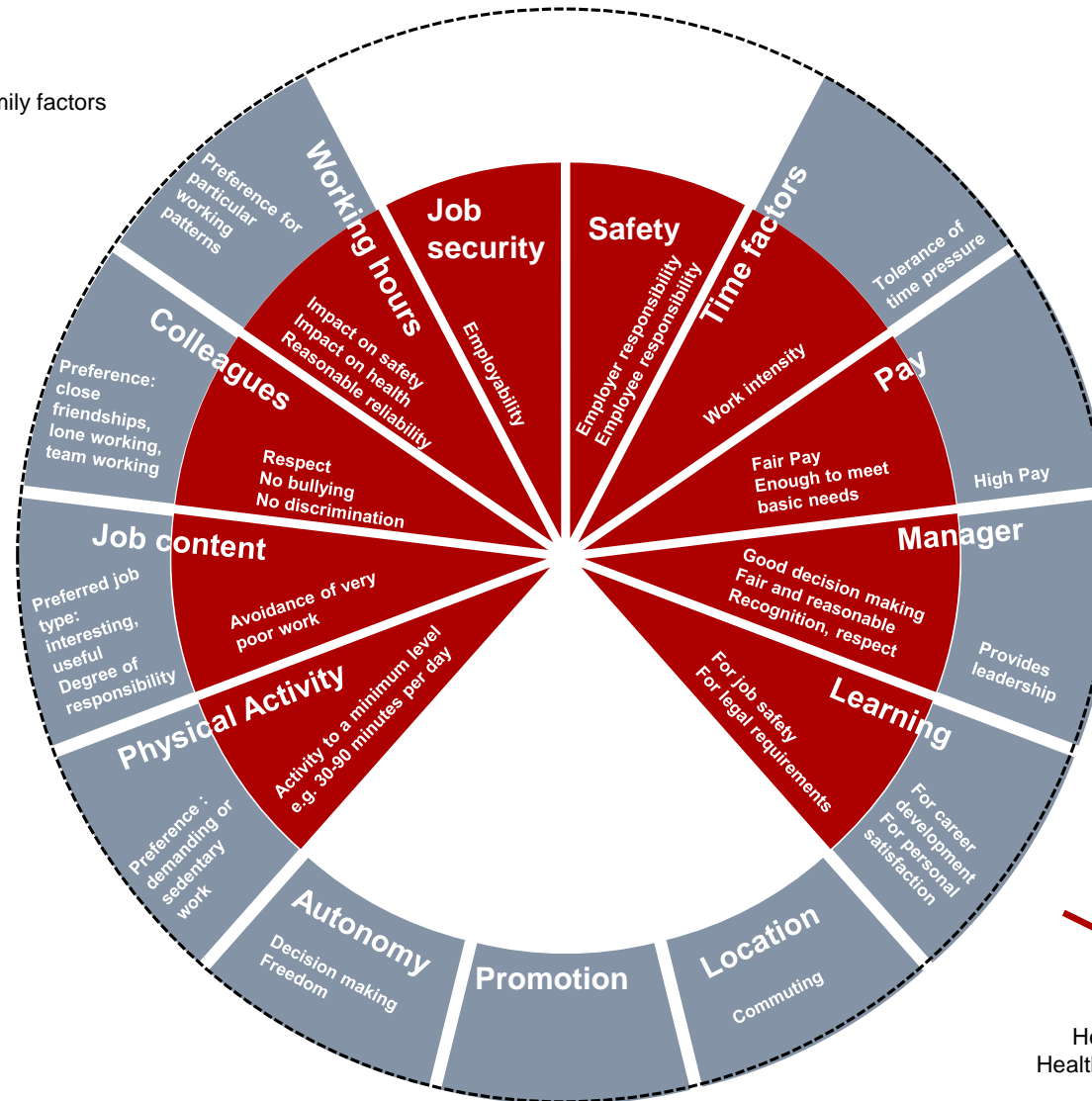
Core features
These are important contributors to job quality for all workers

Job fit features
These contribute to job quality when they are matched with the individual doing the job

Outcomes
Health, wellbeing – positive impact
Health, wellbeing – no adverse impact

Figure 6-2 A theoretical model of job quality

6.5.2 Job features within the theoretical model

The next section of the discussion will consider each job feature and explain its contribution to the theoretical model presented in Figure 6-2.

Job Security

As the model in Figure 6-2 illustrates, job security is a core feature of job quality, identified as highly important by interviewees and shown in the literature to have an impact on health and satisfaction (Frese & Mohr 1987; Beiser et al 1993; Rose 2003; Clark 2005; Muñoz de Bustillo Llorente et al 2009). Most interviewees, particularly those at BigBus, considered job security as it related to their current job. However some at LittleBus and LittleCoach equated security with being employable more generally, and appeared less concerned with whether their current job was secure. This may reflect their experiences of changing job frequently, as reported by many interviewees in the smaller companies. This valuing of employability rather than simply being employed (Hillage & Pollard 1998) is a perception of job security similar to the Danish model of flexicurity (Bredgaard et al 2005), based on mobility and transferable skills; employees from BigBus (and also those at ManCo in chapter 5) are more representative of the 'job for life' model typically associated with public sector employment (Bogg & Cooper 1995).

Safety

Safety was also clearly identified as a core feature of job quality: it was consistently recognised as being very important by interviewees in the three bus companies as well as by those at ManCo and CleanCo. The consequences of poor safety management are highlighted by statistics which show, for example, one million work accidents per year in the United Kingdom, and a similar number of cases of work-related ill-health (HSE 2012). It is also important to consider the legal duties regarding safety at work. These apply not only to the employer, but also to the employee who is required to 'take reasonable care of himself and the health and safety of

other persons' under the Health and Safety at Work Act (HSE 1974) and also to cooperate with the health and safety arrangements of his employer. By law, choosing *not* to take safety seriously at work is not an option. This further supports the conclusion that safety is a core feature of job quality.

Time factors

Time factors were initially identified in chapter 5 as being core to job quality, based on the experience of the interviewees at CleanCo who reported adverse impacts from the high physical demands of their job associated with excessive time pressure. High work pace has been identified as a contributory element in the association between physical work demands and musculoskeletal symptoms (NRCP 2006). High job demands are also associated with an increased incidence of mental health problems (Stansfeld et al 1999; Andrea et al 2009).

However, it was apparent from interviews with bus drivers that there was individual variation with regard to this feature with some reporting anxiety or distress in relation to timetabling difficulties and others being unconcerned. This is largely a reflection of personality, for example the difference between type A and type B personalities (Friedman et al 1986), or tendencies to neuroticism (McCrae & Costa 1987). This study found clearly that some coped better with this aspect of the work than did others, and thus appeared better suited to the role, although there may be scope for employers to teach employees coping skills to help them deal more effectively with the psychological demands of the job (Aust et al 1997). Consequently, the model illustrates that time factors show a job-fit aspect as well as the core element.

Pay

There was wide variation across all three studies with regard to the importance of pay, with some identifying it as the only thing they worked for, and others considering it less important than other aspects of job quality. The perceived importance of a high salary, and the willingness to accept lower pay in return for other advantages has therefore been identified as a job fit

feature. This parallels findings in the literature regarding the relatively low importance of pay for many compared to features such as useful or interesting work (Muñoz de Bustillo Llorente et al 2009; Tangian 2009). However, the impact of having insufficient pay cannot be discounted. There is strong evidence that having low pay is bad for health (Grzywacz & Dooley 2003; Caron & Liu 2010), and many in the current studies had taken jobs they disliked in order to earn sufficient salary to meet their needs. A further factor with regard to pay is that of fairness: whether income is considered to be reasonable relative to demands. This was raised particularly by bus drivers who were paid relatively poorly, and considered this unfair in the light of the responsibility they had in their work. The literature supports an association between perceived high effort/low reward situations and poor health, including a significant association between high 'Effort Reward Imbalance' and cardiovascular symptoms in bus drivers (Siegrist 1996). Pay in terms of being fair and being sufficient to meet needs has therefore been identified as core to job quality in addition to the job fit elements related to a preference for higher pay.

Manager

In all three studies the importance of not being mistreated by managers was identified as important, so that this aspect of the feature is core to job quality in this respect. However, there was also variation suggesting that there are job fit elements as well. The variation related predominantly to the nature of the job - only interviewees at CleanCo considered the manager to be particularly important, and only here did the line manager have a significant impact on the day to day experience of work. At the other companies, managers were only involved if something went wrong, if a problem needed to be resolved or if there was a need for disciplinary action. These are predominantly manager roles described by Avolio and Bass (Avolio et al 1999) as 'management by exception'. The behaviours associated with transformational management, which seeks to develop employees and enhance their performance were barely mentioned by interviewees. Manager actions such as 'expressing confidence' 'modelling ethical standards' and

'teaching and coaching' are associated in the literature with improved job satisfaction (Judge & Piccolo 2004). The fact that interviewees did not expect these from their managers may reflect that they had rarely seen them in their own work experiences (but might value them if they had). Alternatively such leadership may not be of particular relevance to the industries studied. In bus driving, for example, there is relatively little opportunity for contact between drivers and managers during the working day, and the nature of the job is clearly circumscribed.

Learning

There was variation in the value ascribed to learning amongst the bus drivers interviewed, as there had been for interviewees at CleanCo and ManCo. This corresponds with the contradictions surrounding the topic in the literature. For example, Tangian (2009) found that many employees had relatively little interest in learning new things, and considered an employment model requiring this to be potentially misguided. However, others have shown improved training opportunities to be associated with increased job satisfaction (Schmidt 2007; Schokkaert et al 2009). The interviews with bus drivers, who are required by law in Europe to undertake on-going training, illustrated that learning is a core feature of job quality when it relates to being able to do one's job safely and to a legally recognised standard. However beyond this it is preferable for learning opportunities to match individual preference; many interviewees neither sought nor desired learning opportunities for career development reasons or for intrinsic satisfaction.

Working Hours

Working hours are also a feature which showed elements common to all, and others which illustrated the importance of good job fit. The main core issue related to the impact of particular working patterns on health and safety. The literature on these is substantial with shift work being associated with an increased risk of heart disease (Thomas & Power 2010), cancer (Parent et al 2012) and depression (Driesen et al 2010). Many bus drivers interviewed raised concerns over the impact of early mornings, of changing start times to

their shifts, and of short overnight breaks; these are issues which are widely discussed in the literature, particularly in relation to the rail industry which faces similar challenges (Ingre et al 2004; Ingre et al 2008). Shift working and unsociable hours are unavoidable in some industries, and there is a clear responsibility on employers to minimise the incidence of both accident risk and fatigue by careful scheduling. A second core feature related to the importance of knowing working hours in advance, to enable planning of other commitments. It was apparent from interviews that this caused more difficulty for some than others, but even those drivers at LittleCoach who were highly accepting of their erratic working hours were distressed by not knowing their schedule more than one or two days in advance.

The area of job fit with regard to hours relates to whether individuals prefer particular working patterns. For example, some may choose to do shift work or not, depending on how it affects them: there were examples at ManCo of individuals who had selected work without night shifts because they found them difficult to tolerate. Others may choose particular working patterns for reasons relating to family demands or other elements in their personal circumstances, as discussed by Liu (2011) and illustrated by the cleaners at CleanCo who valued the working patterns in the role because it fitted with their family commitments. The shift workers at ManCo who appreciated their twelve hour shifts for similar reasons were typical of those described by Costa (2003) who tolerate the adverse impact of their shifts because they value the extra days off accrued as a result.

Colleagues

As with managers two different aspects of relationships with colleagues were identified, with the core element relating to the negative impact of poor relationships. This was identified as potentially problematic by individuals in all companies, and accords with the literature which identifies the negative effects of poor relationships (Kinman & Jones 2005; Humphrey et al 2007). Its importance is demonstrated in the literature by the HSE, who include it in the stress management tool (2007) – its significance highlighted by the fact

that a single individual reporting bullying or harassment is labelled as requiring 'urgent action' regardless of how highly the organisation scores in other areas.

The importance of good relationships for both job satisfaction and health has been discussed in the literature (Lowe & Schellenberg 2001; Lowe et al 2003; Humphrey et al 2007; Netterstrom et al 2008). However, it was apparent in the current study that the interpretation of 'good' varied between interviewees. Some variation related to the nature of the work, as those at ManCo worked in teams and hence depended on each other, whilst those at CleanCo and in the bus companies were more likely to work on their own for most of their shift. However, there was also variation between individuals. Some sought close friendships, and appreciated family type relationships. Others, particularly some of the bus drivers, were concerned only with the core requirement to not have poor relationships; they did not consider it important to have close relationships with work colleagues. This is a significant departure from the conclusions of Buckingham and Coffman (2005) for example, who considered that employees confirming they had a 'best' friend at work was an important contributor to an organisation being successful. It better reflects the view of Warr (2007b) that social contact is an 'additional decrement' feature – one where the right level is better than either too much or not enough. This distinguishes it from a feature such as pay, where an individual may be anxious about not earning enough, but is unlikely to be distressed by pay being too high. In terms of relationships, therefore, it is important that a job provides the right level of contact to match the preferences of the individual.

Job content

Job content concerns what an individual actually does - whether the job is considered interesting, useful and the extent and nature of interactions with people other than work colleagues. There were contradictions within the current data sets regarding its importance to job quality and further discrepancies when compared to the literature. For example, aspects of job

content such as relationships with passengers for bus drivers or contact with students for cleaners, were considered important to make a job good (Table 6-2). However, in closed questions, usefulness and interesting work as individual features were considered relatively less important than many other features such as security and pay (Figure 6-1).

There was wide variation between interviewees. Firstly there were differences regarding whether job content mattered at all. For some it was a highly important feature which guided job choice, and for others it appeared insignificant, the purpose of employment being purely to meet economic needs. For those who did identify job content as having an impact, there was variation regarding what they considered to be 'good' in this respect. For example, some bus drivers considered passengers to be the best part of their job, whilst others saw them as a barrier to getting the job done. Similarly amongst cleaners, there were those who achieved great satisfaction from cleaning student bedrooms, and others who found it demoralising and pointless.

Job content has been recognised in the literature as being important for job quality. 'The job itself' was found to be the most important element for women: less so for men who valued it behind security and pay (Clark 2005; Clark 2011). International Social Survey Programme data found similar results, with 50% of European respondents considering it important to do work which was useful to society and a similar number valuing work which was interesting. However, Rose (2003) has suggested that although such things are important emotionally to individuals, employment decisions are actually based on the extrinsic factors. There may be a variance regarding what is important to individuals *per se* and which are the priorities, the most important things. Interviewees in the current study were not limited regarding how many items they could class as 'very important' but it is likely that they prioritised internally and so might discount the importance of a job being useful and interesting if they considered these to be lower priorities than other features such as pay and security.

Boredom was highlighted as a key source of anxiety amongst those in the repertory grid study, who were drawn from a wide background including many in non-manual jobs. This contrasts with the low importance ascribed to 'interesting' work in the studies described in chapter 5 and the current chapter, where interviewees were drawn from a population of mostly low skilled workers. This could be a genuine difference in preference, relating to the fact that tendency to boredom increases with education (Loukidou et al 2009). However it could also relate to a lower earning potential, and hence a need to set different priorities; perhaps a reflection of personal choices restricted by low education or other factors, and hence low expectations of any 'latent rewards' (Rosso et al 2010).

Job content is an element of job quality where individual fit is extremely important. However, it could also be argued that it is a core feature, as some interviewees experienced their job content as so poor that it undermined any positive features such as pay or good working hours. Schumacher (1979) highlighted the adverse impact of very poor quality jobs, stating that 'if it's mindless work, it has a very bad effect on the worker'. Unfortunately, what is 'mindless' in this context is difficult to determine: it is impractical to set a minimum standard given the extent of individual variation already discussed. It would be advisable for employers to consider whether a job is unavoidably dull or whether it could be improved by job enrichment (Hackman & Oldham 1976); and whether its impact could be minimised by supporting good relationships or by transformational leadership which can reduce the perceived boredom of monotonous work (Loukidou et al 2009). Beyond this, job content will contribute most to job quality when the job fits the individual.

Physical activity
Physical activity was identified by many interviewees, especially by the bus drivers, as being an important contributor to health. Furthermore, there is very strong evidence in the literature regarding the impact of sedentary lifestyles on wellbeing, in terms of obesity, diabetes, cardiovascular disease

and early death (Boyce et al 2008; Patel et al 2010; Wilmot et al 2012). Given this unsustainability of sedentary jobs (Bridger et al 2013) it would be difficult to consider a job as 'good' if it did not meet at least minimum levels of physical activity. This has therefore been categorised as a core aspect of job quality, even though it was rarely discussed within the conceptualisation of a good job by interviewees. Exactly how much activity should be required as a minimum is widely debated. At least 30 minutes a day of moderate activity has been commonly recommended (Commissaris et al 2006; Department of Health 2011) and may be incorporated into commuting, or into leisure time provided long working hours do not mitigate against this. However, it has also been suggested that longer periods of activity are required, for example to prevent weight gain or maintain weight loss (Saris et al 2003), and that prolonged sitting should be avoided or at least broken up by brief periods of activity every 90 minutes to reduce the risk of musculoskeletal problems (Commissaris et al 2006).

Physical activity is also a job feature which finds individual variation and thus a good fit is important. The repertory grid study showed a range of preferences with some individuals choosing sedentary work and others preferring high physical demands. Interviewees in chapter 5 and the current chapter spoke positively about jobs they had enjoyed because they were more physically demanding than their current role.

Autonomy

There was some ambiguity regarding the issue of autonomy and control in this study. It was reported by most as being of relatively low importance, yet over one third of the bus drivers identified that 'freedom' was one of the good things about being a bus driver. In particular, it appeared that work at LittleBus was good because it was less constrained than work at BigBus, and that driving coaches provided greater freedom than driving timetabled buses. Similarly, interviewees at CleanCo gave examples of the scope they had to reorder or reprioritise their work, and how they found this helpful. What was valued in these comments regarding 'freedom' was essentially a degree of

invisibility, and some element of trust from their manager that they could be left to do the job. Actual opportunities and authority to make decisions were relatively small, and most interviewees appeared comfortable with this. However, individuals working in more senior or professional roles might consider autonomy to be much more important. This supports a view that it is not a core feature of a good job but one where a match to the individual is important.

Although the literature has found adverse health effects arising from low autonomy, particularly when combined with high demands resulting in job strain (Stansfeld & Candy 2006; Kivimäki et al 2012), it has done so using a wider definition of autonomy than the current study, based largely on the work of Karasek (1979). He considered control to comprise two aspects. The first was intellectual discretion, covering themes such as creativity, repetition and the level of training required to do a job – these would relate more closely to job content than autonomy in the current study. The second was decision authority or decision latitude, which equates more closely to the way the term autonomy is discussed here. Later assessments of control within the job strain model have included evaluations of personal freedom - whether an individual can make phone calls at work or leave without their supervisor's consent (Karasek et al 1981); and participation in organisation level issues and union involvement (Karasek et al 1998), thus overlapping further with job features such as manager skill or fairness.

It has been recognised that bus driving is an industry which allows little autonomy (Jettinghoff & Houtman 2009) and it is likely that it attracts those who are comfortable with a clear structure and minimal latitude. Therefore the interviewees in this cohort are not necessarily representative of the wider workforce. Nevertheless, the data have demonstrated that autonomy is not valued by everyone. This is a further feature which Warr (2007b) classes as additional decrement - giving some individuals greater opportunities for decision making would potentially be uncomfortable and disadvantageous for

them, making the fit between individual and job an important one in this respect.

Promotion

Promotion is a further feature where job fit is important, being valued by only a small number of interviewees. It is difficult to compare this with the literature as the evidence base is relatively small. Certainly for those who want to progress in their careers being able to do so is important, and this has been given as a key reason for job change (Rose 2003). However, unwanted or inappropriate promotion is clearly unsatisfactory. Several interviewees identified it as undesirable; some had declined invitations to advance or had been promoted and regretted it. Promotion has been associated with improved health (Loretto et al 2010; Bernstrøm 2013). However, Buckingham and Coffman (2005) identified the risk of individuals seeking unsuitable promotion in the absence of any other means of achieving prestige, and individuals who are promoted to a level where the demands of the job exceed their capacity will be at increased risk of work-related ill health (French et al 1982). Therefore the match between job and individual is important.

Location

Work location is not a feature commonly specified in measures of job quality. However, it was given by many interviewees as a reason they had chosen a particular employer or work site and has been included as an element of job quality for this reason. It is likely to be especially important for the low paid as a typical commute of 8.6 miles by car would equate to four hours pay per week for those on minimum wage (Department for Transport 2011; The AA 2013). It is also an additional challenge for those working long hours (as many of the bus drivers were), starting and finishing work at unsociable times, or having to fit work in around school times (which most CleanCo employees did). In addition to this, long commute hours can have adverse effects on health and absence, particularly in combination with long working hours (Harma 2006; van Ommeren & Gutiérrez-i-Puigarnau 2011).

6.5.3 Influencers on perceived job quality

Many factors influence individuals' preferences and priorities regarding job features, and the likelihood of these requirements being satisfied. Some of these were identified in chapter 5 including personality, health and family role, and these are shown in the job quality model. In the current study, age was also identified as relevant for some as job priorities changed with stage of life. Gender was also important, particularly given the male dominated nature of the bus driving industry. However, although being older or being male, for example, may make an individual more or less likely to value particular job features, these factors are not intended as predictors of what might suit individuals. They are included in the model to illustrate the extent of and contributors to individual variation, not to limit it by the application of broad categories.

It was identified previously that an individual's view of what makes a job good may be influenced by the job they currently do. For example, interviewees at ManCo did not identify time factors as being important because this was not an issue which caused them concern. Colleagues were identified as being much less important for bus drivers than for those in other jobs – this could indicate that those in the job had chosen it for this reason, because the predominance of lone working suited them. However, it may reflect acceptance and adjustment to the low level of contact, so that they no longer considered or admitted to it being important. Likewise, interviewees at LittleCoach considered hours, pay, and job security to be less important than drivers at other companies did. This may indicate self-selection into the job (which had lower pay than BigBus and less reliable hours than LittleBus and BigBus) as those who considered these features important would be unlikely to have chosen it. However it may also be that they had lowered their expectations to match the reality in order to minimise cognitive dissonance and distress (Muñoz de Bustillo Llorente & Fernández Macías 2005).

6.5.4 Outcomes of a good job

The potential for work to contribute positively to health was discussed in chapters 1 and 2 of this thesis. It has been suggested that a good job should support self-actualisation as described by Maslow (1943), or self-validation as discussed by Warr (2007b). However, there was limited evidence from the interviewees in this study or the two previous ones that they expected a job to contribute positively to their health – in fact much of the evidence throughout this research has shown a perception that what makes a job good is different from what make a job good for health. A good job for many was one which was secure and safe, ideally paid a fair wage, and fitted in with other demands such as family commitments. It was rarely expected to have a positive impact on health. In fact, the bus drivers in particular were generally accepting of a job which they recognised as overtly bad for their health.

This study concludes that there are two possible outcomes from a good job. One is that it may have a positive impact on health, the other that it has no negative impact. What is less clear is whether these different outcomes are predicted by particular types of work or relate more to characteristics of individuals. This will be addressed further in the main discussion in the context of the literature which emphasises the health benefits of work (Waddell & Burton 2006; Sahlgren 2013).

6.5.5 Limitations of the theoretical model of job quality

Presenting an issue as complex as job quality in a theoretical model will inevitably have limitations. Firstly, it sacrifices accuracy in the pursuit of simplicity (Weick 1979; Warr 2007b): there are thirteen 'headline' job features in the model but in practice, each one is a shorthand label for a wide, substantial 'idea'. There are overlaps between these ideas, and complications and nuances within them. This is illustrated by the various ways in which autonomy is defined and measured and the multiple aspects which fall under the broad heading of job content. Similarly pay could include or exclude tips or other benefits: or may be judged in relative terms - relative to needs, to responsibility or to the earnings of others. In addition, job quality

for some may be influenced by job features which fall outside of the shortlist discussed and included in the model.

Secondly, a recurring theme in this discussion has been the importance of individual variation. The theoretical model presented has at its core those features which contribute to job quality for most people, but there will inevitably be some who contradict this – the business consultant who chooses casual, non-secure employment which provides better pay or flexibility; the stuntman who favours a job because of its safety risks; the wheelchair user for whom physical activity is not appropriate.

A final limitation is that the interviews in this study and those presented in chapter 5 were all conducted with individuals working in low-skilled jobs. This limits the generalisability of the job quality model. The views of the wider interview sample used in chapter 4 have also been taken into account but additional testing with a more varied population would be necessary to confirm the model structure and content.

Regardless of these limitations, the model highlights that there are some job features which an employer should seek to provide for all employees as a minimum; and those where it is more important that they seek to match the individual with the job. As a starting point for further testing and discussion of this principle, the model fulfils its intended purpose.

6.6   Conclusions

This chapter aimed to address the following questions, and to incorporate the findings into the proposed model of job quality:
- What features do bus drivers from three companies consider are important for a job to be a 'good' job and to be good for health?
- What is the extent of variation between individuals?
- Does this influence job choice?
- How does this compare with the findings described in chapter 5?

The main output of the chapter therefore is the theoretical model of job quality in Figure 6-2, which has been updated from the previous version. The interviews with bus drivers have shown that many features of job quality are made up of several elements and aspects, some more widely valued than others. Such features therefore contain elements which are core, where improvement will generally lead to enhanced job quality; and others which vary in their appeal and will contribute most to job quality when there is a good fit between job and individual.

There were variations between the interviewee cohorts in their preferences for particular features. For example colleagues and working hours were less important to the bus drivers than to interviewees in chapter 5, whilst learning was more important to them. Time factors were more important for bus drivers than they were for interviewees at ManCo, and managers less important than for interviewees at CleanCo. Three possible explanations for this variation have been presented – self-selection into jobs which match particular needs, for example in terms of working hours; downward pressure on expectations to match the reality of a job (e.g. low pay, minimal social contact); and low priority assigned to job features which are invisible because they are well managed (for example time factors at ManCo). This variation does not negate the basic premise that good job quality should address all the features which are identified in the theoretical model, regardless of the industry: and despite that the fact that some may be easier to provide than others depending on the nature of the business.

This study has illustrated that many do not expect their work to contribute to health, and they may in fact be tolerant of it having an adverse impact. This can be set against the view presented by the UK Government (Department for Work and Pensions/Department of Health 2008) and some authors (e.g. Waddell and Burton 2006), who believe that work contributes significantly to wellbeing. Two points are worth considering here. Firstly, the low expectations of many of those interviewed may be quite realistic. The elements of 'satisfaction, reward and control' identified as important in the

'Review of the health of Britain's working age population' (Black 2008) are not available in all jobs, neither are opportunities for self-actualisation, personal growth, or validation; access to jobs which offer these characteristics are limited for many. Whether work might be good for health was not a priority for job choice in this study and that described in chapter 5 – the features which influenced whether a job was good or desirable reflected priorities of safety, security and logistics. Job content was also a low priority. Cleaners took their jobs because the hours and location were suitable, not because they wanted a career in hospitality; the bus drivers selected the industry because it was a reliable and accessible one, not because they sought fulfilment from being part of a sustainable transport system. They may subsequently have felt satisfaction as a result of these elements but they were not the key priorities. In some cases, preferred career paths had been positively discounted when selecting jobs, because they could not satisfy the basic needs of individuals. This issue of compromising between job features was also discussed by those interviewed as part of the repertory grid study in chapter 4 who were from a broader employment background; it is not therefore an issue which solely affects those in low skilled jobs, although it was more apparent in these groups.

A second barrier to work having a positive impact on health relates to the low levels of physical activity in many jobs, typified by the bus drivers in this study. Given the overwhelming evidence in the literature regarding the risks which arise from this, a requirement for a minimum level of activity at work has been included in the job quality model as a core feature. To do otherwise would be to accept that a job can increase mortality significantly and still be considered good. However, this is a departure from the common view of what constitutes good work in society. The job quality of the financers and administrators, those roles which currently feature highly in the models of the best and safest jobs in the modern world, would be downgraded against such a model: whilst the perceived job quality of those in moderately active roles such as tradesmen, caretakers and child carers would increase.

This chapter has presented a theoretical model of job quality which emphasises that individuals seek different things from their work. The core features shown in the centre of the model need to be provided for all; without these, a job carries a risk of adverse health effects and thus cannot be considered good, even for individuals who have low expectations regarding job quality. Beyond this, it is important that there is a match between individual and job. In reality, many prospective employees have limited choices regarding the jobs they take, due to the need to balance priorities; some jobs have limited scope to be 'good' in the terms presented in the model, yet still need to be done. Therefore, although the ideal is that work should be good for health, the best outcome for some individual/job combinations may be that the job does no harm.

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Chapter Seven Is bus driving a good job? Applying the theoretical model of job quality to a comparison of three companies

7.1   Introduction

A theoretical model was presented in chapter 6 showing the features which contribute to good quality work, whilst also highlighting that there is variation between individuals in their preferences and priorities. The study described in this chapter evaluated this model by using it as a framework to explore job quality in the three bus companies studied previously. It tested its adequacy in terms of the included features and also its structure with regard to the balance between core and job fit features. It therefore fulfilled the following objective:

- Objective three – to evaluate this model by applying it to different companies within an industry

7.1.1   Bus driving

The introduction to chapter 6 identified some of the challenges to providing good quality jobs in the bus industry. In a comparison of 26 different working sectors across Europe as part of the European Working Conditions Survey (EWCS), only agriculture was found to be worse than land transport in terms of health outcomes, and only hotel/restaurant work and agriculture were identified as worse in terms of working conditions (Jettinghoff & Houtman 2009). Although the same report states that those working in land transport are relatively well paid in Europe, this includes train drivers who are generally paid higher rates, in the UK at least (ASHE 2012). As Figure 7-1 shows, the median hourly rate for bus drivers in the United Kingdom is 12% below that for the full time working population, and those at the lowest 10th percentile are paid only just above the minimum wage. These wage rates are particularly noteworthy in the context of the poor working conditions described in the EWCS survey which include long working hours, non-

standard working hours and poor work-life balance, as well as a risk of violence (Eurofound 2009). Given this combination of poor working conditions and low wages, it is perhaps not surprising that bus driving scores particularly badly on job satisfaction (Rose 2003).
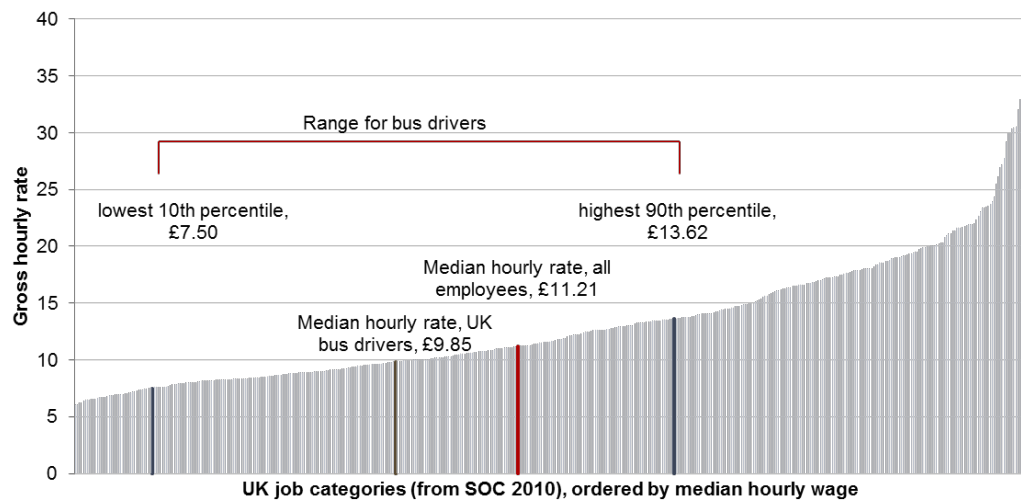
Figure 7-1 The median salary of UK bus drivers, compared to all full time UK employees

(illustration constructed using data from Annual Survey of Hours and Earnings (2012))

7.1.2 Exploring barriers to improving job quality

As the research described in chapters 4, 5 and 6 has shown, the demands and characteristics of different jobs vary widely and this can make it difficult to draw comparisons between them. For example in chapter 5, the cleaning jobs at CleanCo were generally considered good by those who did them because they provided suitable part time hours in a friendly working environment. The jobs at ManCo were considered good because there was high attention to health and safety, good job security and wages, and shift patterns which suited many. However, it would be difficult to say that the jobs at ManCo were better or worse than those at CleanCo, as they appealed to individuals who had different requirements. Using the comparisons between

the two jobs to illustrate how either could improve would thus be of limited value.

Comparing companies within an industry provides greater opportunities to see where improvements could be made. Thus those features which show variation between companies might provide the most scope for intervention to bring all up to the standard of the best. Where there are similarities between companies, particularly in aspects of work which are poor, this is more likely to relate to the intrinsic nature of the job or industry or its value within society and may be more difficult to address.

7.1.3 Study questions

The aim of this chapter was to answer the questions:

- o Is bus driving a good job in the three companies studied?
- o What are the barriers to it being a good job/a better job ?
- o Is the proposed job quality model satisfactory?

7.2 Method

7.2.1 Data sources

The three bus companies which participated in this study were described in chapter 6. Within these companies, data were gathered through the following:

a) interviews with bus drivers (n=50), these have been described previously;

b) interviews with operational and functional managers at each company to explore how the organisations operated and to gather background company data;

c) a questionnaire which was completed by a wider sample of drivers in the three companies. This included the questions:

      i. Do you consider your job to be a good job?

> ii. Do you consider your job to be generally good for your health?
>
> iii. How is your health in general? (self-rated health)?

d) categorisation data (age, length of service, marital status etc.) were also gathered from questionnaire respondents. In addition, the questionnaire included a job quality measurement tool, the findings from this will be reported in chapter 8;

e) observation - in order to carry out interviews and arrange for questionnaire completion, the researcher made multiple visits to each of the bus depots. This provided opportunities for unstructured observation and for conversations with drivers and managers/supervisors other than those interviewed formally. Where appropriate, other data were also gathered; for example notes were made regarding shift records, bus timetables and route cards, and copies of company policies were requested.

7.2.2 Data collection

At LittleBus and LittleCoach, questionnaires were distributed by the researcher or by line managers when drivers presented for the beginning of their work shift. Several visits were made by the researcher to encourage completion. Drivers either completed questionnaires in the depot whilst waiting to begin their driving duties, or took them away for completion and returned them to the depot in a sealed envelope addressed to the researcher. A total of 36 questionnaires were returned at LittleBus and 15 at LittleCoach. At BigBus, an in-house training programme was in progress, and the questionnaire was incorporated into this. Approximately half of the driver workforce attended during the study period, 413 drivers, and all completed the questionnaire, i.e. a 100% response rate. The rest of the driver population had attended the same training course previously and the two groups did not differ markedly in age, length of service or gender. Table 7-1 provides further detail regarding the number of visits made, and the number of interviews (formal and informal) undertaken at each company.

Table 7-1 Details of visits undertaken and data gathered for each study company

	LittleBus	BigBus	LittleCoach	Total
Number of drivers employed	110[1]	819	60[1]	989
Interview sample	11	29	10	50
Questionnaires completed	36	413	15	464
Manager interviews	3 (Administration manager, Timetabling manager, Chief operations manager)	5 (2 depot managers, HR manager, Timetabling manager, CCTV manager	2 (Managing director, Transport manager)	10
Number of visits	17	19	3	39
Informal interviews and conversations	5 supervisors 15 drivers	6 supervisors 6 drivers 8 trainers	2 supervisors 6 drivers	48

[1] Approximate: company did not have accurate records

7.3   Results

7.3.1   Participant characteristics

The characteristics of interviewees were presented in chapter 6 (Table 6-1). Table 7-2 provides further details regarding the larger sample who completed the questionnaire.

Table 7-2 Characteristics of employees at each company who completed the questionnaire

		BigBus (n=413)	LittleBus (n=36)	LittleCoach (n=15)
Age	16-24	21	2	1
	25-34	78	7	1
	35-44	107	8	2
	45-54	129	8	4
	55-64	76	7	5
	65+	1	2	2
	missing	1	2	
Gender	male	386	31	14
	female	26	2	1
	missing	1	3	
Length of service	<1 year	39	10	4
	1-2 years	63	13	2
	2-5 years	111	10	3
	5-10 years	122	2	3
	10-20 years	62	1	2
	>20 years	16	n/a	1

7.3.2 Job quality at the participating bus companies

The next section will present findings regarding job quality for bus drivers, in terms of the job features included in the theoretical model of job quality (Figure 6-2). For each feature the aspects which are common to all companies will be summarised: a table will then show key aspects for each of the three companies separately. Data are drawn from interviews, observation (including artefacts gathered) and manager interviews: the summary tables (table 7.3 to table 7.13) are annotated to indicate the source of the information presented. In most cases, particular aspects of work have been identified as contributing positively or negatively to job quality. This is a judgement made by the researcher, based on the literature and on the opinions of interviewees regarding the impact of their work.

Job Security

Overall, security appeared to be good at all three companies in terms of organisational stability. There had been threats of job loss at BigBus twelve

months previously but these had rescinded and the company was actively recruiting. There was no history of driver redundancy in any of the companies. In addition, drivers identified that having a PCV (Passenger Carrying Vehicle) license made them highly employable if they did lose their job, although this was more relevant to drivers at LittleCoach and LittleBus who were more likely to have worked in other bus companies,

> *"I think there is always a demand for bus drivers… it doesn't matter where you go in the country if you've got a PCV license, there's always a local firm looking for a driver in some shape or form"* *(LittleBus driver, male, 44 years old).*

Table 7-3 summarises the key characteristics of job security in the three companies, particularly those which vary between them.

Data sources

(these apply to tables 7-3 to 7-14
I – driver interview(s)
O – observation, paperwork
M – manager interview(s)
Q – questionnaire data

Table 7-3 Job quality in terms of job security, key aspects for each company

Positive aspects	Negative aspects
BigBus • A minimum of 39 hours' work per week was paid for all drivers (even if they were scheduled to work less) (M)	• Interviewees reported a high risk of dismissal for sickness absence, misdemeanour etc., and this was acknowledged by the HR manager (see quote below) (I,M) • The consequences of job loss or change were high – drivers could be £500 per month worse off if they moved to other companies (I,O) • The organisation was shrinking, there was a threat to their market share from other transport providers (I,O,M) • There was a perception that the company looked for excuses to dismiss staff (I)
"I've seen quite a few lose their job and some of them have been a bit OTT. And I think that some of the drivers feel so too. Everybody, we're only human, one guy got out of his cab	

Table 7-3 continued

because a lad spat at him and… because he got out of the cab they sacked him" (BigBus driver, female, 56 years old); *"in 2010, the most popular reason for drivers leaving was summary dismissal….. when drivers leave here, and then go and work for another operator, they want to come back because they go away for 6 months, realise 'crikey BigBus wasn't that bad after all' and then they want to come back" (BigBus Manager).*	
LittleBus • Regular working hours were guaranteed for most drivers (I,M) • The organisation was growing (M)	• New employees worked on 'back up' duties until a regular route became available, hours were not guaranteed for these drivers (I,M)
LittleCoach • Interviewees considered the company to be secure (I)	• Work demands varied: at certain times of the year, less work was available and wages might fall at this time (I,M)

In summary, there was no evidence at the time of study that job security in terms of continuing employment was a major issue in the organisations studied; although there was some perception of risk at BigBus, largely related to internal procedures, and some concerns regarding irregular work at LittleCoach. LittleBus went into administration one year after data collection but this was not predicted from the data gathered at the time.

Safety and welfare

Drivers in all three companies identified the key safety risks as passengers and other traffic,

> *"I like to feel I am in a safe environment, but at the end of the day you are on the roads, there can be nothing worse" (LittleBus driver, male, 43 years old).*

There was variation between the companies in the measures taken in response to these hazards, as shown in Table 7-4. In addition, it was observed that there were potential risks to safety and welfare arising from the management of the facilities and the vehicles themselves; again there was disparity between the companies in the commitment to addressing these.

Table 7-4 Job quality in terms of safety, key aspects for each company

| Positive aspects	Negative aspects
BigBus	
• There was a clear process in place to manage health and safety with regular committee meetings, training, and robust implementation of safety procedures (walkways, high vis jackets etc.) (I,O,M) • Cab screens protected drivers from potential passenger violence (I,O,M) • Drivers had been trained to diffuse difficult situations (I,M) • All buses had CCTV (I,O,M) • Drivers had periodic training to improve driving skills (O,M) • Buses were well maintained (M)	• There was a perception by some drivers that health and safety management was taken too far or misdirected (I) • Drivers and managers disliked cab screens (I,M) • Some drivers felt that the company considered them to be less important than passengers (I) • Most bus routes ran in the city centre, and carried a greater risk of passengers incidents compared to rural areas (I,O,M) • There was a perception by some that bus quality and driver comfort had deteriorated (I)
"Since the buses have had CCTV on, people think twice about having a go" (BigBus driver, male, 61 years old); *"There's a lot more aggression and a lot more abuse than there used to be, I can't see that getting any better any time soon because nothing is done about the people that are doing it, they've got the whip hand the passengers" (BigBus driver, female, 44 years old).*	
LittleBus	
• Drivers interviewed did not raise concerns about risk from passengers. None regretted that they did not have screens (I,O) • All buses had CCTV (I,O,M)	• Many buses were old (10 years or more) (I,O) • There was evidence of poor maintenance (I,O) • Buses were reported as being poorly designed in terms of driver comfort (I) • The Health and Safety policy was not available to view (O,M) • There was poor implementation of safety measures e.g. in relation to high vis jackets, protected walkways etc. (Figure 7-2 and 7-3) (I,O) • There was poor compliance with Workplace Regulations (e.g. welfare facilities see Figure 7-4) (I,O) • Drivers carried large amounts of cash back to their depot at the end of their shift (O)
"because the vehicles he buys are well past their sell by date and they're forever breaking	

Table 7-4 continued

down and we get fed up of it" (LittleBus driver, male, 56 years old).

LittleCoach • Buses were well maintained (I,O) • Passengers were generally friendly and non-threatening (I)	• There was poor compliance with workplace regulations (e.g. welfare facilities see Figure 7-6) (I,O) • There was poor maintenance of the work site e.g. spillages around refuelling pumps, reported ice problems in winter see Figure 7-5) (I,O) • Some drivers reported poor compliance with smoking legislation (I)

"Basically, no protective clothing, splashes all over the place [when filling diesel]. There isn't a lot of health and safety" (LittleCoach driver, male, 41 years old).
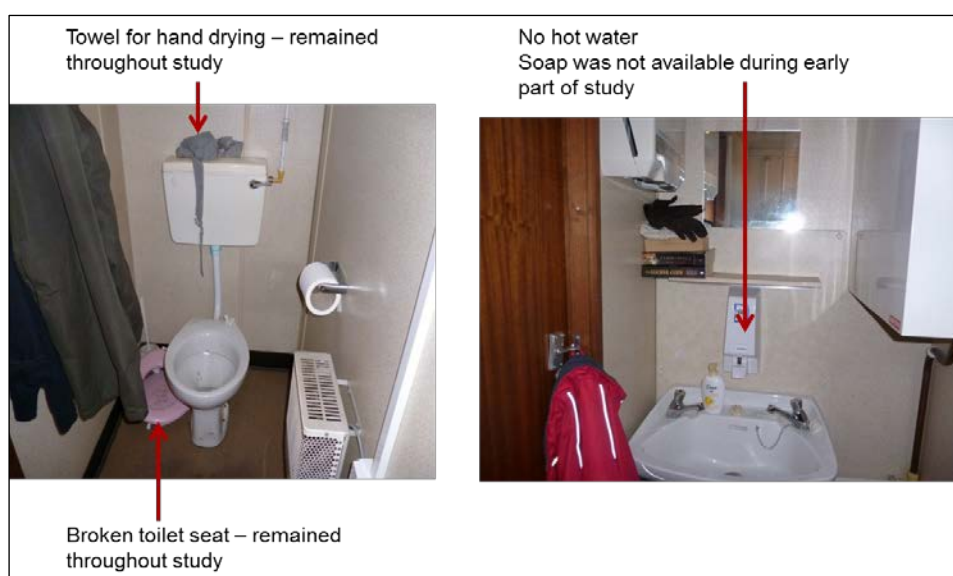
The photographs in Figures 7-2 to 7-4 show aspects of poor health, safety and welfare provision at LittleBus. Figures 7-5 and 7-6 show similar issues at LittleCoach.
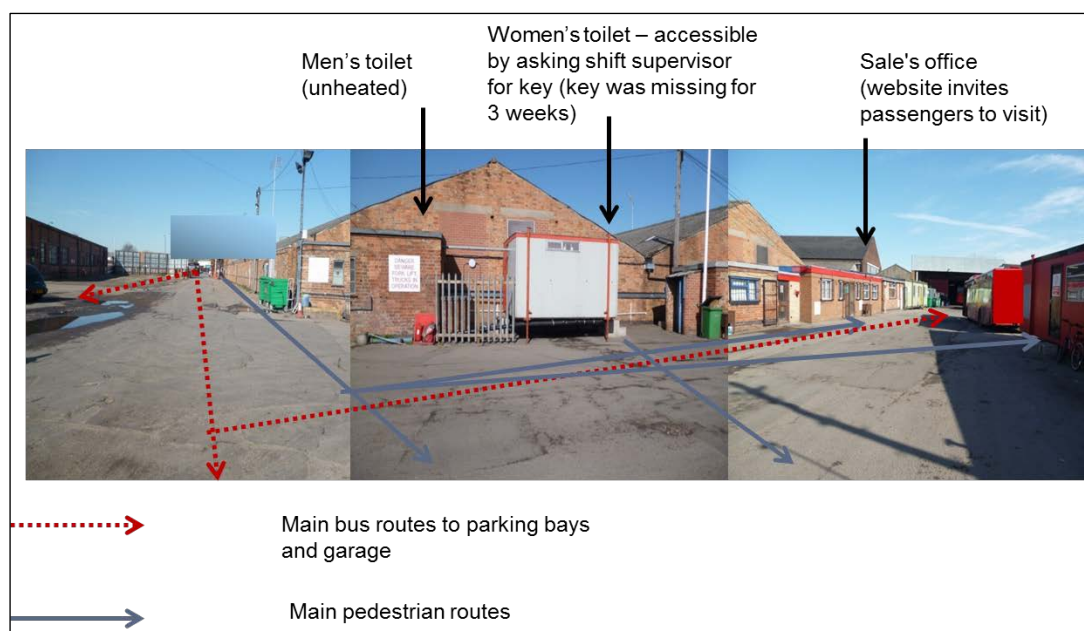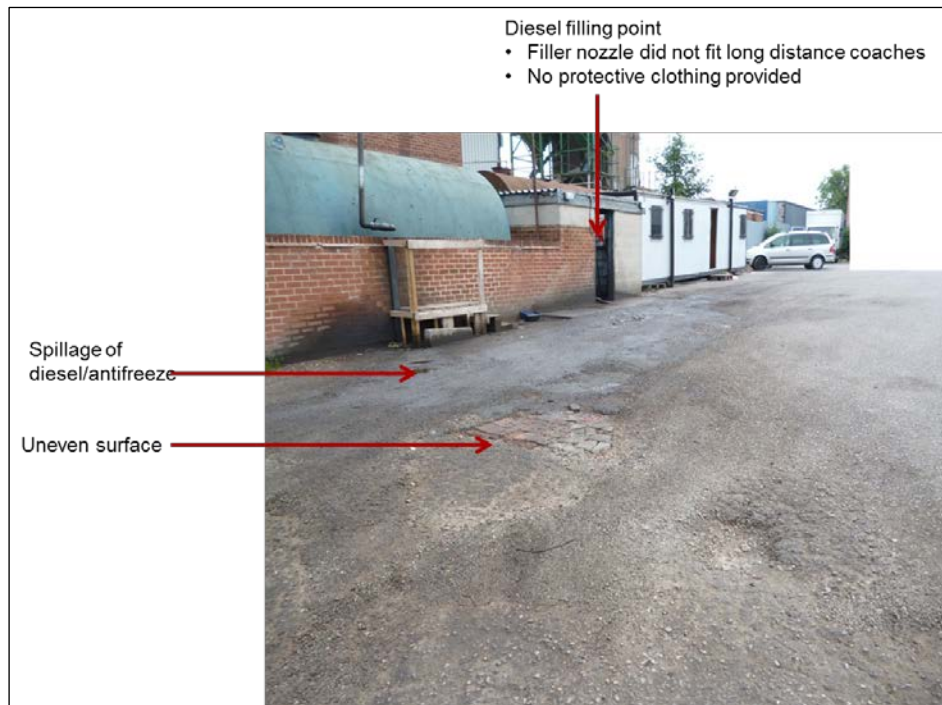

Figure 7-2 Main yard and office entrance at LittleBus
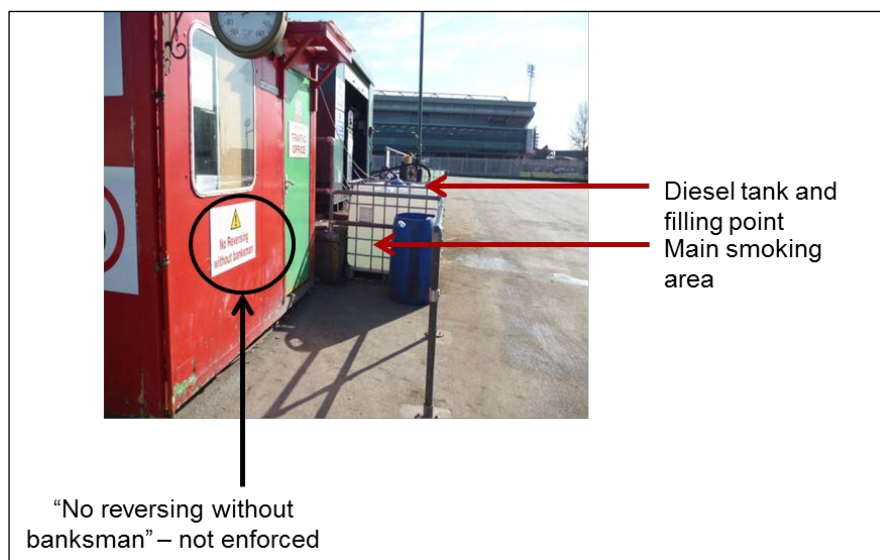
Figure 7-3 Despatch office at LittleBus

Figure 7-4 Women's toilet at LittleBus

Figure 7-5 Vehicle filling point at LittleCoach

Figure 7-6 Rest facilities and men's toilet at LittleCoach

The risks arising for bus drivers from other traffic and especially from passengers and the potential for assault could be minimised but not eliminated. Overall, BigBus took safety issues more seriously than the other two companies, putting in considerably more effort to overcome the risks. At LittleCoach and LittleBus, there was evidence that safety had a lower priority, particularly in terms of the management of the depots and the welfare arrangements. However, it was not possible to draw conclusions regarding the impact of this as the number of actual incidents was small, and the records kept were not comparable between the three companies.

Time factors

Discussions with drivers and timetabling managers at BigBus and LittleBus highlighted the difficulties of scheduling local bus timetables. Particular challenges included the variability of traffic at different times of day and the time taken by passengers to board the bus. The result was pressure on drivers who may end up late for breaks, disliked handing a bus over to colleagues late, and faced criticism from passengers who had been kept waiting,

> *"it's not that brilliant when you are late because I said before I am the first one there who will take the blame, even if it is not my fault that the bus is late, I will take the blame" (BigBus driver, male, 32 years old);*

> *"that's very stressful if you're chase chase chase; I always say to the passengers, do you really think I want to be late? If I'm late I miss my 5 minutes at the terminus, I'm late for my dinner or I'm late home" (LittleBus driver, male, 37 years old).*

There were differences between the organisations in terms of how they managed or mitigated timetabling issues; these are shown in Table 7-5. However, as identified in chapter 6, there was variation in the impact on drivers which appeared to relate more to their personality than to the extent of the problem,

"It's how you make it yourself really. If you get stressed as a bus driver you get stressed all the time. If you take things as they come and don't panic and stress out you're alright then aren't you?" (LittleBus driver, male, 47 years old).

Table 7-5 Job quality in terms of time factors, key aspects for each company

Positive aspects	Negative aspects
BigBus	
• Timetables were based on measured journey times from bus tracking (M) • Regular meetings were held with drivers to review timings on each route (I,M) • If buses ran late, drivers were given guidance on route changes by central control (I,O) • If drivers arrived late for breaks due to traffic, there would usually be a spare driver to cover them (I,M) • Pre-employment personality testing was undertaken, this may result in recruitment of drivers with higher tolerance of time pressures (O,M)	• Some routes had very little flexibility if they were running late (I,M) • Customers had high expectations of reliable service (O,M)
LittleBus	
• Timetables for local routes were based on measured journey times from bus tracking (M) • If drivers arrived late for breaks due to traffic, there would sometimes be a spare driver to cover them (I,M) • Long distance routes were scheduled to ensure there was sufficient time (I)	• Drivers reported that some local routes did not take account of traffic conditions (I,O) • Drivers reported minimal guidance/support when running late e.g. due to accidents, heavy traffic (I) • Some drivers reported insufficient time between different roles e.g. driving service buses and school buses (I)
LittleCoach	
• Most routes were scheduled with sufficient time (I)	• Long distance coach drivers had tachographs, so the consequences of misjudging route timings were more serious (I,O)

In summary, drivers sometimes ran behind schedule due to unavoidable factors such as heavy traffic and they experienced adverse consequences from this. There was scope for companies to minimise difficulties by realistic

timetabling of routes, and through maintaining communications with both drivers and passengers, and BigBus appeared to manage this more actively than LittleBus, although difficulties still arose. However, the actual impact on drivers was partly influenced by the attitude of the drivers themselves as some tolerated the time pressures better than others.

Pay

Pay and benefits varied greatly between the companies. They were relatively good at BigBus as shown in Table 7-6, and generally recognised as such by its drivers, many of whom had chosen the job for that reason. Pay was poor at LittleCoach and LittleBus, again this was recognised by its employees.

Table 7-6 Job quality in terms of pay, key aspects for each company

Positive aspects	Negative aspects
BigBus	
• Pay rates were approx. £10 per hour (O,M)	• Pay rates increased with seniority for those driving double decker buses, but not for those driving single deckers (I,O,M)
• Paid lunch break (O,M)	
• Sick pay scheme (O,M)	
• Pension scheme (I,M)	• There were some complaints that pay had not risen in recent years (I)
• Uniform was provided (O,M)	
"there is not really a great lot out there that pays the hourly rate that we're on here" (BigBus driver, male, 53 years old).	
LittleBus	
• Pay may be boosted by bonuses on busy routes (M)	• Pay rates approx. £7 per hour (O,M)
• Uniform was provided (I,O)	• Statutory Sick Pay (SSP) only (M)
	• No pension scheme (M)
	• Unpaid lunch break (up to 2 hours)
	• There was a perception that pay was low relative to responsibility
"We are the lowest paid bus company in the area but for most this is the last resort company for people who are ex BigBus because they have been fired or they have had enough" (LittleBus driver, male, 26 years old);	
"the average [bonus] on the whole of that driver fleet is between £30 and £60 per week, the drivers on premium routes can be earning between £100 and £150 in bonus" (manager, LittleBus);	
"there is no chance of exceeding your target to get your bonus" (observed driver, LittleBus).	

Table 7-6 continued

LittleCoach	
• Pay may be boosted by tips on some duties (I,M)	• Pay rates approx. £7 per hour (lower during holidays) (O,M)
	• Paid for 10 hours daily work when on tour, even if actual working day was longer (I,M)
	• SSP only (M)
	• No pension scheme (M)
	• Unpaid lunch break (30 minutes)
	• No uniform provided; some routes required one which employees had to buy themselves (I,O)
	• There was a perception that pay was low relative to responsibility

" …. the pay for the job is absolutely abysmal" (LittleCoach driver, male, 48 years old);

"I mean obviously some of the trips I do quite often they have a whip round, but it is not guaranteed, nowhere near guaranteed" (LittleCoach driver, male, 46 years old).

In summary, there was wide variation between pay rates at the organisations studied and rates at LittleBus and LittleCoach were not far above the minimum wage. For those who chose it, there was optional overtime commonly available at all three companies.

Manager

The roles of a manager in all three bus companies were almost entirely task led, relating to the timetabling of buses and associated rota planning, bus despatch, problem solving and discipline. Manager responsibility for discipline, and for dealing with individuals' personal problems, was held by a very small number of people in each company or depot, each having responsibility for 60 – 500 people. A shift supervisor would be responsible for the provision of bus services and dealt with any issues which arose during that shift but they had no continuing responsibility for the drivers as individuals,

> *"[managers are] not that important, not with buses" (LittleCoach driver, female, 29 years old;*

"it's one of them kind of companies where if you're not in trouble you don't deal much with the managers" (BigBus driver, male, 35 years old).

Table 7-7 Job quality in terms of managers, key aspects for each company

Positive aspects	Negative aspects
BigBus	
• Clear structure regarding manager roles (O,M) • High availability of training for managers at all levels, including Foundation degrees for many (M) • Very active union, involved in organisational decisions (I,O,M) • High levels of communication during work hours by radio link, active intervention if problems arose on routes (I,O,M) • There was a process for drivers to be commended for good behaviour (I,O,M) • A 'Driver of the year' award had recently been introduced (O,M)	• Flat structure – up to 500 drivers to one depot manager. Depot manager role was predominantly disciplinary (I,O,M) • Day to day management was by supervisory staff who had no continuing responsibility (O,M) • Managers were frequently perceived as invisible or irrelevant (I) • Managers were perceived by some as being overly harsh (I)
"had they picked that up on the CCTV I'd have been getting a disciplinary for daring to talk to a passenger in that manner, doesn't matter that he started on me first" (BigBus driver, female, 44 years old); *"is that M [the depot manager]? I always wondered!" (BigBus driver, male, 58 years old).*	
LittleBus	
• Some drivers reported high support and flexibility to accommodate personal needs (I,O) • Managing Director was accessible to all drivers (I,O) • One key manager was observed to be extremely constructive and supportive on many occasions (O)	• Some drivers reported very poor support, misinformation etc.; it appeared that some managers were inconsistent or partial in their decision making (I) • Some drivers felt unsupported e.g. when things went wrong during their shift (I) • Some drivers reported very poor interactions with the managing director (I) • There was no formal mechanism for employee involvement (I,M) • There was no manager training apparent (O)

Table 7-7 continued

"They listen if you have a problem, and sort it out" (LittleBus driver, male, 61 years old);

"I just spoke to him [the MD] one to one before I even rang VOSA: he shouted, he screamed"(LittleBus driver, male, 37 years old).

LittleCoach

- Managing Director was accessible to all drivers (M)

- There was some conflict evident between managers in different roles (O,M)
- There was no formal mechanism for employee involvement (I,O,M)
- There was no manager training apparent (O)
- Inadequate management of poor behaviour was reported (I)

[regarding two drivers who had been rude to passengers] "them 2 guys only got 2 days suspension. If you'd have been my company, you would have been sacked, I wouldn't have argued with you, 'get out' " (LittleCoach driver, male, 61 years old);

"if you think there's something wrong, often you'll find when you get upstairs 'well there's the gate if you don't like it' " (LittleCoach driver, male, 35 years old).

In conclusion BigBus, a larger, council owned organisation, had developed more active management processes than the smaller companies; their drivers were thus less vulnerable to abuse as a result of a poor relationship with an individual manager. However, the core roles taken by managers were the same in all companies, as were the wide variation in the perceptions of how constructive and supportive managers were, sometimes with opposing views of a single manager. Little evidence was seen of managers taking a leadership or developmental role in any of the companies.

Learning

It was identified in chapter 6 that all bus drivers were required to complete five days of approved CPC (Certificate of Professional Competence) training by September 2013 in order to keep their PCV license, and a further five days each five years thereafter (Secretary of State for Transport 2007). There was variation in the way the three companies had approached this, and in the content provided, as shown in Table 7-8. The regulations require

only that training courses are at least seven hours in length, that the training provider is approved, and that the subject matter is drawn from a list of topics included in the regulations. None of the specific topics are compulsory, and there was some scepticism from drivers in all three companies about the value of what they were taught,

> *"most of it is what you already do every day. Common sense, what we already bloody know" (LittleBus driver, male, 43 years old);*

> *"you can't drive a bus how the CPC course tells you to, you just can't do it" (BigBus driver, female, 44 years old).*

Table 7-8 Job quality in terms of learning opportunities, key aspects for each company

Positive aspects	Negative aspects
BigBus • Training was provided to ensure all drivers met the full CPC requirement. Most drivers had completed 4 days training (at April 2012), the fifth was being planned (O,M) • Training was provided by a dedicated in-house training team. It covered 5 different topics including first aid, fuel efficient driving and practical driving skills (taught one-to one) (O,M) • Drivers were paid for their time when attending training (O,M)	
LittleBus • CPC training was provided free of charge on site by external trainers (M)	• Drivers had to attend in their own time (M) • Most drivers had only had 2 days training (at January 2012) (I,M)
LittleCoach • CPC training was provided on site by an internal trainer (I,M)	• Drivers had to attend in their own time (M) • Drivers had to pay registration costs (£25 plus £5 per day) (M) • Most drivers had only had 1-2 days training (at May 2012) (I,M) • Only one manager was qualified to provide training, he was only approved to cover three subjects; he

Table 7-8 continued

	had many other duties (M) • The intention was to teach the same course several times to each driver (M)

In conclusion, training provision at BigBus was far superior to that at LittleBus and LittleCoach. Managers at LittleBus and LittleCoach had concerns that they would not be able to provide sufficient training to satisfy the legal requirement - the responsibility would then fall to drivers to arrange and fund training themselves, and if they did not they would lose their licenses. There would also be a risk that the bus companies would not have sufficient drivers to operate their services.

Working Hours

The working hours were frequently unsociable in all three companies, involving early starts, late finishes and weekend working. In addition, the changeovers between shifts could result in relatively short rest periods overnight and variation in starting times,

> "Say a fortnight ago when I was on middles, one day I could start at 6 o'clock in the morning, the following day I don't start work until half 11, then the day after that I start at 7, then you get back to 11 again, then Friday I started at 6" (BigBus driver, male, 50 years old).

There was no evidence of failure to comply with the law in terms of working hours at any of the companies, although the relevant legislation varied between them, this is discussed further in the discussion in section 7.4.2. Nevertheless, in all three companies it appeared that the working patterns not only affected drivers' wellbeing but were also seen to adversely affect driving safety,

> "If you are tired, then driving through Cornwall where it's not wide enough for two vehicles that you are taking a coach down, being tired is not a nice thing because you have to concentrate and if you can't concentrate that's when accidents happen" (LittleBus driver, male, 44 years old);

> *"I've had 4 hours sleep: it should be illegal"* (LittleCoach, observed driver).

However, as shown in Table 7-9 there were also differences between the companies.

Table 7-9 Job quality in terms of working hours, key aspects for each company

Positive aspects	Negative aspects
BigBus	
• Work rotas were planned several months in advance (I,O,M)	• Standard three shift system interfered with social life (I,O)
• Drivers chose which bus route/rota they wished to join (I,O,M)	• Short turn arounds could occur between late and early shifts (I,O)
• Standard working days were eight hours or less, including a paid break (I,O,M)	• Many early starts – often 4.30 am or earlier (I,O)
• On most rotas, drivers worked five days each week with an optional sixth (I,O,M)	• Shift start times often varied considerably on consecutive days, as well as from one week to the next
• 92% of drivers worked less than 48 hours per week (Q)*	
• Drivers were able to exchange shifts with colleagues (I,O,M)	
• Early shifts permitted time off to be with the family (I,O)	
"It's not so much the job that keeps me here, it is the working hours, I know where I am, when I am" (BigBus driver, male, 25 years old);	
"the week after earlies I do find it hard to stay asleep until later, my internal clock will wake me up" (BigBus driver, female, 56 years old);	
"I love them [early starts] because you've got the rest of the day for yourself" (BigBus driver, male, 53 years old).	
LittleBus	
• Some drivers had regular working hours by choice, or slow rotation on a weekly basis (I,O,M)	• Shift start times could vary on consecutive days, e.g. 5.45; 7.15; 5.45; 5.45 am; 14.30; 14.00; 11.30; 5.30; 5.30 (I)
	• Most shifts were at least ten hours long (I,O)
	• Shifts may include up to two hours unpaid break time (I,O)
	• 50% of drivers worked more than 48 hours per week* (Q)
	• Short turn arounds could occur between late and early shifts (I,O)

Table 7-9 continued

"you might finish a shift late and they want you back in after 9 hours, not enough chance to go home and relax and sleep, you should have at least 10 or 11 hours between shifts" (LittleBus driver, female, 43 years old).

LittleCoach

- Because of the nature of the work, drivers worked to EU regulations which are more stringent than domestic rules (I,O,M)
- Many working days started at 'regular' times e.g. 6.00, 7.00 (O)

- Work was often scheduled less than two days in advance (I,O,M)
- Working days/hours may change at 24 hours' notice or less (I,O,M)
- Pressure on drivers to work overtime at busy times (I,M)
- High incidence of weekend working (I,M)
- Some long distance routes (including overseas) were single manned, drivers reported that this could cause difficulties with fatigue and permitted driving hours (I)
- Overseas travel could involve very long days, and disruptive working hours, especially with single manning on long journeys (I,O)
- 64% of drivers worked more than 48 hours per week*

"she likes me home at night, fairly reasonable, not one or two o'clock in the morning, not like last Friday, started at 5, didn't finish while half past 10" (LittleCoach driver, male, 49 years old).

*an assumption has been made that higher working hours were disadvantageous based on the impact of fatigue and conflict with family life. However, it is also possible that for some drivers longer hours were preferable as they increased earning capacity. Long working hours against drivers' wishes would definitely be a negative feature.

There was evidence in all companies that many drivers had adapted to shift work, and accepted it as an inevitable aspect of the job. Some positively valued it, especially those who had negotiated working patterns that particularly suited them. Nevertheless, working hours were poor in all companies in terms of their potential impact on health, safety and on social life. The work was better planned at BigBus, especially in comparison to that at LittleCoach, but there was also wider variability of working hours.

Colleagues

Overall, good working relationships were observed between drivers at all depots and most interviewees spoke positively about their colleagues,

> *"being at this depot, it's like being in a little family" (BigBus driver, female, 27 years old).*

However, there was also an acknowledgement by some that the job was essentially a solitary one, as drivers only met up with colleagues at the beginning of their shift and at break times. The extent of contact with colleagues varied between the different bus depots and with the nature of the work – long distance coach drivers might work alongside a colleague for the whole of their shift, those at the largest bus depot might only rarely see colleagues they knew,

> *"people on my rota, even some of those, I just know by their first name or by sight; you don't get to know everybody's name, it's a shame really, it's important that your colleagues are good" (BigBus driver, male, 61 years old).*

All the companies had a predominantly male workforce and there were several instances of lewd or smutty humour observed. Female drivers joined in with these and there was no evidence that it caused them distress, but the culture might discourage some women from remaining in the job,

> *"It's better now 16 years on than when I first started, and it's completely changed me I can tell you, no one messes with me now after 16 years of working with blokes, you know what I mean, you've got to toughen up" (BigBus driver, female, 44 years old).*

The workforce in all depots was predominantly Caucasian, although there were some Asian and Afro-Caribbean drivers at BigBus and several Polish drivers at LittleBus and LittleCoach. There was insufficient evidence to judge whether there was any racial tension but no obvious signs of difficulty were observed.

Table 7-10 Job quality in terms of relationships with colleagues, key aspects for each company

Positive aspects	Negative aspects
BigBus	
• There were differences between the depots. The smallest considered itself like a family, and undertook many out of hours social activities. The middle sized one was also very sociable and colleagues met up in their canteen. The largest depot had a reputation at the other depots for being less friendly, partly because of its size (it was the base for around 500 drivers), and also because the drivers there apparently considered themselves superior because they drove bigger buses. However, the drivers at the larger depot did not report particular problems (I,O)	• Some disrespectful behaviour was observed from a radio control operator (for example, he advised one female driver to 'get some platform shoes' as she was too short to be heard clearly on the radio) (O) • Sexual innuendo was used to engage drivers during training sessions, and the company gym had posters of barely dressed women (O)
LittleBus	
• The manager who handled recruitment was intentionally trying to increase the number of female drivers, as he considered that this had a positive impact on the workplace as a whole, making the banter between staff less likely to be toxic or racist (M)	
• Staff sat in groups at lunchtime and discussed common concerns (O)	• The women's toilet was out of use for three weeks during data collection as the key had been lost. Females had to use the men's toilet, and to dress for work in a changing room with a window onto the yard (I,O)
LittleCoach	
	• Several drivers made critical comments about colleagues; this did not happen at other companies/depots. Criticisms related to other drivers not taking care of vehicles or not treating customers well (I)

In conclusion, relationships were generally good and colleagues supported each other at all the companies. However, the extent to which relationships extended into friendships varied between individuals and also between the

different depots. Those who valued close working relationships found limited opportunities for this at some depots. In addition it was evidently a male-dominated industry.

Job content

Interviewees were asked specifically about the importance of work being interesting and useful. Some drivers expressly commented that they found their job to be interesting and varied, and considered this to be a positive feature,

> *"every day is an interesting day, no two days are the same, each day is different, completely interesting" (BigBus driver, male, 43 years old).*

Others, however, considered it to be monotonous and repetitive,

> *"I do the same routes every day, it gets a bit tedious, but it's a job" (LittleCoach driver, male, 35 years old).*

There were few comments made about whether drivers considered the job to be meaningful or useful, and it has already been shown that this was not identified as an important job feature. There were many who made comments when discussing job security to the effect that,

> *"everyone needs bus drivers" (LittleBus driver, male, 28 years old).*

This illustrates that the role is one which is valuable at a societal level, even if few interviewees identified this as being of personal importance. However, there were also indications that passengers did not necessarily value the service provided,

> *"I have found there are more ignorant people who don't want to give you the time of day now……, you are in their way in their progress of getting somewhere so they don't really see you" (BigBus driver, male, 50 years old).*

Job content is wider than the aspects 'interesting' and 'useful'; many talked about other aspects of their work in terms of what they actually did, whether they enjoyed the key elements of their job – driving and passengers. For

some, these were specific reasons why the job was considered to be good by some drivers (Table 6-2),

> *"I enjoy meeting the public, I enjoy working in the city, driving a bus, and I like driving even after 35 years" (BigBus driver, male, 60 years old).*

Driving was more frequently given as a reason for choosing the job than working with passengers (Table 6-2). In fact there were those, particularly in BigBus and LittleBus, who expressly disliked passengers and for these individuals bus driving was clearly not a good job,

> *"Don't get me wrong I love driving the bus, if there's no traffic and passengers, it's a brilliant job" (BigBus driver, female, 44 years old);*

> *"I hate old people – just when you are trying to catch up after the rush hour, they stop you at every stop. They expect you to stop and wait while they sit down" (LittleBus driver, female, 44 years old).*

Table 7-11 Job quality in terms of content, key aspects for each company

Positive aspects	Negative aspects
BigBus • All potential recruits underwent personality and aptitude testing to assess suitability to be a driver; the drop out of new drivers had decreased substantially since this process commenced (M) • Drivers applied to go on particular rotas which suited them in terms of location, route and working patterns (I,M)	• Employees who had been in the company a long time stayed for the pay and benefits, even though they disliked the job content (I,M) • Safety screens reduced customer-driver interaction, these were widely disliked. Most passengers used swipe cards rather than cash, this further reduced interaction (I,O,M)
"I hate the screens, I think they are a really negative part of the job" (BigBus driver, male, 44 years old).	
LittleBus • Drivers had some scope to choose what sort of duties they undertook – coach, service work or private hire (I,M)	• The company had difficulty recruiting new drivers, they would generally accept any driver with a suitable license (I,M)
"I'm not a person that can go round and round the same place for 6, 7 ,8 maybe 10 times a day and stopping every couple of hundred yards, it messes with my head" (LittleBus driver, male, 44 years old);	

Table 7-11 continued

"we've got some drivers who do country routes, they love it. We say you're doing a really good job, we'll move you to red ones [urban], they say 'I'll leave the company' " (LittleBus, manager).

LittleCoach
- Most drivers had self-selected the company as they preferred coach driving to service buses (I,M)
- Drivers had some scope to choose which duties they undertook – local or long distance coach, private hire or holiday work (I,M)

- Drivers may have to cover work which they disliked if the depot was short staffed (I,M)

"We've got more tour work, so the drivers that were wanting that more regularly are getting that more regular, they are not getting put on day work, national express, and the rubbish work they call it, they are getting what they want more" (LittleCoach, manager);

"Coach driving is a lot better, because it is varied, you are not doing the same all the time, a lot of the time you are going places that you've never been before so you are getting to see a lot of things" (LittleCoach driver, male, 35 years old).

All companies tried hard to match individuals with the nature of work that suited them best. Many drivers positively enjoyed their jobs, and considered passengers to be the most important aspect of this. However, there were individuals in all companies who disliked their job, but felt trapped there by lack of comparable opportunities (or any opportunities) elsewhere.

Physical activity

The sedentary nature of the job was widely recognised by interviewees as having an impact on health. The effects were further aggravated by irregular mealtimes, limited access to good food, and the challenge for drivers of engaging in exercise after a long and mentally demanding day,

> *"It's very difficult to get up at half three in the morning, finish at one and then think 'I'll go to the gym' " (BigBus, manager);*

> *"Not good for your waistline! Until I started driving I was a 32 waistline, now I am a 36. You can work that one out" (LittleCoach driver, male, 49 years old);*

> *"no set meal times, you eat when you eat" (BigBus driver, male, 61 years old).*

Drivers might sit in their cabs for up to 5 ½ hours between breaks. The prolonged immobility had an impact in addition to the general health effects already mentioned. Firstly, drivers reported musculoskeletal issues which arose from a combination of the inactivity and the sitting postures in some vehicles, aggravated by poor road conditions and speed bumps. Secondly there were challenges arising from the long periods between toilet breaks, and the lack of available facilities. Both of these issues were particularly problematic for those with pre-existing health issues.

Table 7-12 Job quality in terms of physical activity, key aspects for each company

Positive aspects	Negative aspects
BigBus • Relatively short working days, therefore time available for exercise (I,O,M) • On-site gym (O,M) • Fitness campaigns run with local authority (O,M) • Attempts to provide healthy options in canteens (O,M) • Most routes had breaks every 3 ½ to 4 hours (O,M) • Break length was calculated to include additional time to walk to and from the nearest refreshment point (M)	• Some buses were in worse condition than others, affecting driver comfort (I) • No interviewees reported using the company exercise facilities (I)
LittleBus	• Most working days were ten hours or more, making exercise difficult (I,O,M) • Many old or poorly designed vehicles (I) • No catering facilities – drivers had an informal arrangement with a city centre coffee shop (I,O) • Most routes had breaks after 4 ½ hours, some after five hours or more (I,M)
LittleCoach • Many vehicles were good quality (I) • By law, drivers were only able to drive for 4 ½ hours between breaks (I,O,M)	

In conclusion, lack of physical activity was a major issue for drivers in all companies: BigBus took steps to mitigate the impact but with limited success.

Autonomy

The job of bus driver is one which generally allows little autonomy as drivers are operating to a route and timetable set by others. They also have working hours which are scheduled for them. Their control is largely limited to how they respond to other road users and to passengers.

However, as discussed in chapter 6, many drivers perceived a high level of 'freedom' in that they were not in a constrained office-type environment, and were responsible for their vehicles and passengers,

> *"you are in control of a 12 ½ ton vehicle and you've got to have a certain amount of control with that" (BigBus driver, male, 43 years old).*

Table 7-13 Job quality in terms of autonomy, key aspects for each company

BigBus
• Buses were electronically tracked and had radios. A central controller made decisions about how to respond to delays, traffic etc., and gave instructions to drivers. Some drivers appreciated this and saw it as reducing the pressure on them, others saw it as undermining their skill
"we are lucky here ….. control just gets in touch with you and moves you around, so that takes the onus off you then because they makes the decision for you. So that's good" (BigBus driver, male, 52 years old);
"I am a professional driver so let me be professional and make the judgments when I am out on the road, but they say 'no we tell you what to do' " (BigBus driver, male, 53 years old).
LittleBus
• Buses were tracked but had no radio contact (drivers had to use their own mobile phones to call if they had problems)
• Many drivers valued the freedom they had to make their own decisions, although others complained that they felt unsupported when problems did arise (see under **Time factors** and **Manager** above)
Little Coach
• Long distance coach drivers, particularly those on holiday routes, had a higher degree of control, deciding when and where to make stops and how to plan their day

Overall most drivers were happy with the level of control they had, with the exception of some who had worked at BigBus for a long time and had previously had more scope for decision making.

Promotion

This was an issue which was of relatively low importance to most drivers, although some expressed interest. There were opportunities for promotion at BigBus, where drivers could be seconded to be trainers or inspectors. There were fewer opportunities at LittleBus and LittleCoach, largely because of company size; there were also complaints that where promotion was available this was not handled in a fair fashion.

Location

All bus depots were quite centrally located and easily accessible by public transport except for very early or late shifts when buses were not running. There was agreement between local providers that all drivers could travel on competitors buses free of charge. Parking created some difficulties, as a parking levy prevented employers providing parking spaces for drivers at city centre depots and LittleBus were considering that they might have to relocate their depot as a result of this. This would increase the distance that some drivers had to travel to work, which was an influencer in job choice. A manager at LittleBus observed that two drivers had left to work for a company closer to where they lived as this would save them £30 to £40 per week in travel costs.

7.3.3 Summary of bus driver job quality in three companies?

The findings presented in tables 7-3 to 7-13 illustrate the similarities and differences between the three companies for the different features which contribute to job quality. Based on this data, a judgement was made regarding the quality of work for each feature in each company, using the scale shown in Table 7-14. In each case, job quality was judged relative to jobs and work overall in the UK at the current time. The scale has not been

formally validated but is used as a way of summarising a large amount of data in a concise, comprehensible format, and facilitating comparisons between the three companies and between the job of bus driver and that of other jobs.

Table 7-14 A scale constructed to summarise job quality for the different contributory features

Job quality label	Criteria
Excellent	All aspects of job quality are good in terms of this feature
Good overall	Many aspects of job quality are good in terms of this feature, only a small number are poor
Good and bad aspects	The good and bad aspects of job quality are evenly balanced
Poor overall	Many aspects of job quality are poor, only one or two are good
Very poor	There are no good aspects apparent for this job feature

As Table 7-15 confirms, there were differences between the companies: overall job quality was higher at BigBus than at LittleBus and LittleCoach. However, even at BigBus job quality was good in some aspects only and relatively poor in others. In addition, there were aspects of the job which were only satisfactory for those well matched to the role, particularly in terms of job content (such as liking passengers and driving), being tolerant of shift working, being relaxed about time pressures and not requiring a close-knit working environment. The next section will highlight the key factors restricting job quality at each company. This information was used to produce a report for each company with feedback on their strengths and weaknesses. The executive summary from each of these can be found in Appendices F – H.

Table 7-15 Summary of job quality across the three companies

Job feature	BigBus	LittleBus	LittleCoach
Job security	Good and bad aspects	Good overall	Good and bad aspects
Safety	Good overall	Good and bad aspects	Good and bad aspects
Time factors	Good overall*	Good and bad aspects*	Good overall*
Pay	Good overall	Poor overall	Poor overall
Manager	Good and bad aspects	Good and bad aspects	Good and bad aspects
Learning	Excellent	Good and bad aspects	Poor overall
Working hours	Good and bad aspects*	Good and bad aspects*	Good and bad aspects*
Colleagues	Good and bad aspects*	Good and bad aspects*	Good and bad aspects*
Job content	Good overall*	Good overall*	Good overall*
Physical activity	Poor overall	Very poor	Poor overall
Autonomy	Good and bad aspects*	Good and bad aspects*	Good and bad aspects*
Promotion	Good overall	Good and bad aspects	Good and bad aspects
Location	Good and bad aspects	Good and bad aspects	Good and bad aspects

*Depending on personal preference

BigBus

There were many good aspects to working at BigBus including relatively high pay and benefits; the opportunity for short, flexible and reliable working hours; excellent provision of training; and commitment to health and safety. Managers were highly trained and there was a clear management structure in place. However, there was an emphasis on manager involvement in discipline rather than leadership; and a perception that mistakes were dealt with too firmly led to a feeling of insecurity amongst some drivers, although job security was otherwise good.

BigBus were committed to on-going improvement. The report provided by the researcher was constructively received and led to discussions at senior management level to address issues of manager invisibility and consider how to develop their interviewing and coaching skills. The researcher was also invited to address a team meeting of managers to discuss the report and its implications, and those present were receptive to some the issues raised,

> *"I think it is an issue to be open about; they are, by and large, lone workers. There is that issue. Every bus company's got it, but it doesn't mean we shouldn't address it" (BigBus, manager).*

Working hours were likely to remain a challenge with early starts and wide variation in shift starts times being the key issues. There was little obvious scope for change, and the managers clearly believed that they had achieved the best they could,

> *"we are almost on fixed hours compared to what they have to do in the rail industry" (BigBus, manager);*

> *"In all fairness, nobody comes into this job with their eyes closed because when they come for a job they are explained about the shifts, we do make sure that we know, that we are happy that they are happy with the type of hours we ask them to do" (BigBus, manager).*

The health risks associated with the sedentary nature of the job were also resistant to intervention, although BigBus were keen to address these where possible, with on-going implementation of campaigns and sport opportunities in conjunction with local providers.

LittleBus

Two key strengths were noted at LittleBus, both of which related to its relatively small size and informal structure. One of these was the freedom they extended to drivers, who valued being 'left alone' to run their services. The other was the willingness of the organisation to be flexible and supportive of drivers in balancing their work with their personal commitments.

However, neither of these were universal advantages. Some drivers felt unsupported rather than autonomous. Others reported very negative experiences when asking for help or reporting concerns, suggesting wide variation in terms of manager skill or attitude.

The disadvantages of employment at LittleBus included low pay, long working hours and poor working conditions in terms of health and safety, welfare, and the condition of some of the vehicles. Learning opportunities were also inadequate in relation to legislative requirements.

At the time of study it was unclear whether the main barriers to improving job quality were financial or cultural. Limited engagement by senior managers during the study suggested a lack of motivation to make changes; no response was received by the researcher following submission of the final report, despite follow up contact and offers to meet to discuss the conclusions. Evidence that financial factors were also key came with the closure of the company twelve months after data gathering; this was attributed by the administrators to over expansion and a lack of capital.

LittleCoach

LittleCoach shared with LittleBus the negative job attributes of poor pay, long working hours and low commitment to training and health and safety. In addition they had a poor record on work planning with late notification of drivers' working hours. This appeared to arise from acceptance of last minute bookings by the Managing Director, poor organisational skills on the part of the scheduling manager, and low regard for the personal lives of the drivers. This was illustrated by the enforcement of late shift changes and expectations of extremely high availability and commitment from its drivers.

Finance may have been the limiting factor in terms of pay rates, and also an influencer with regard to availability of training. However, the key limiting factor to improving job quality at LittleCoach related to management style.

There would be minimal financial outlay required to improve work scheduling or health and safety, or to engage in greater consultation with employees. As at LittleBus, no response was received when the researcher's report was provided to the company. The research was mostly arranged through contact with a middle level manager who had concerns about the effectiveness of colleagues both above and below him in the structure, and limited scope for influencing the performance of either. It was therefore unlikely that any action would be taken in response to the recommendations made. However, action would be necessary with regard to training if the organisation was to continue to function after September 2013. Recruitment of suitably qualified drivers after this date may become increasingly difficult, which could encourage LittleCoach to improve its working conditions; or could result in organisational failure if they did not do this.

7.3.4 Job quality outcomes

The data presented above illustrate that job quality was higher at BigBus than at LittleBus and LittleCoach. Differences between LittleBus and LittleCoach were relatively small by comparison.

Three outcome measures were taken from the questionnaire data and used to assess whether the differences outlined above corresponded with variation in how individuals perceived their job and their health. Results are shown in Figures 7-7 to 7-9. In each case, responses have been dichotomised to enable statistical comparisons, as the numbers involved were small in some cases. Comparisons were made initially using chi squared tests; Fisher's exact test was then used instead if expected cell counts were too low to be valid, as described in chapter 3.

Drivers at BigBus were more likely than those at LittleBus to consider their job to be a good one ($p<0.01$, Fisher's exact test, Figure 7-7). This corresponds with the findings above. BigBus jobs were also better than those at LittleCoach but the difference was not significant, which may relate to the small sample size at LittleCoach. It is also possible that those working at

LittleCoach were better matched to their jobs having specifically chosen coach driving; or that they had less scope to move elsewhere and had therefore revised their opinions of the job accordingly.
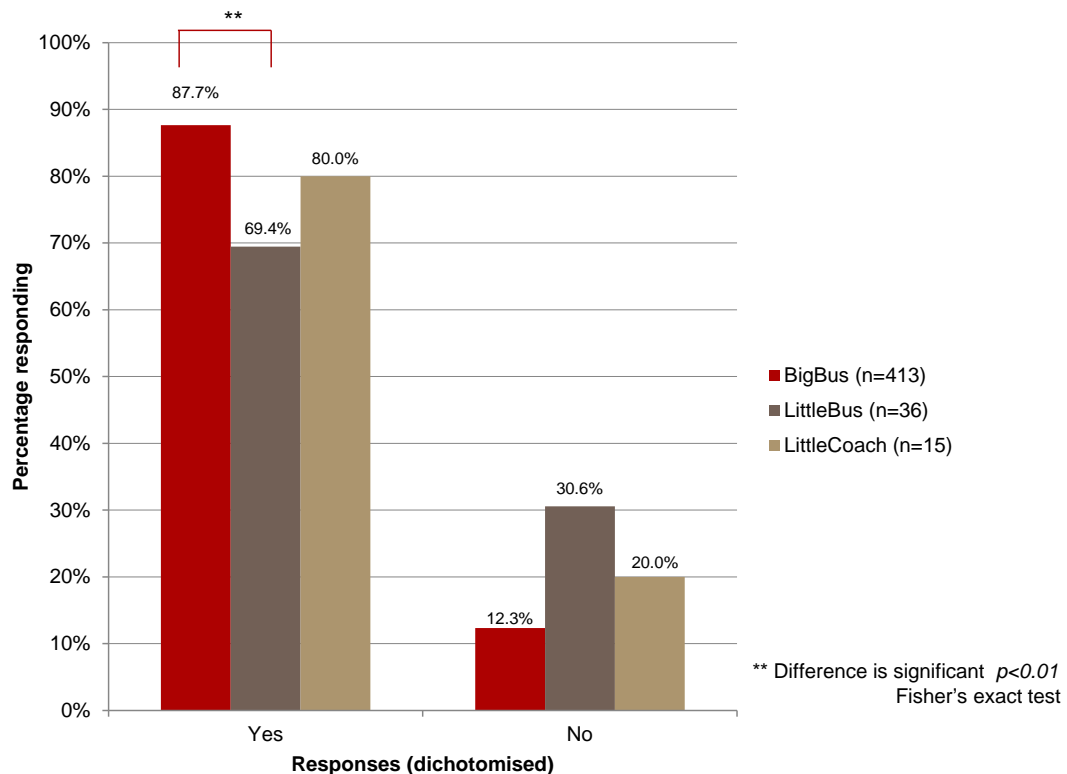
Figure 7-7 Responses to 'Do you consider your job to be a good job?'

('Yes' includes the responses *definitely* and *mostly*; 'no' includes *not sure*, *not really*, and *definitely not*)

Differences in job quality between companies did not match the responses regarding the perceived impact of work on health (Figure 7-8). In fact, the perceived impact of work on health was worse for BigBus than for the other two companies. This may reflect different expectations regarding work, particularly as the main job characteristics likely to be associated with health risk, such as the low activity level, shift work and time pressures were common to all companies.

Comparison between Figures 7-7 and 7-8 shows that whilst most drivers considered their job to be good, most also considered it to be bad for their health: 61% of the questionnaire sample considered their job to be a good

job, whilst simultaneously believing it to be bad for their health. This shows that 'good' and 'good for health' are two different constructs despite the fact that the health effects of work are a common way of judging its quality (Warr 2007b; Smith et al 2011). The findings of chapter 4 showed a similar effect and the implications of this will be discussed in chapter 9.

No differences are significant
Chi squared / Fishers exact test
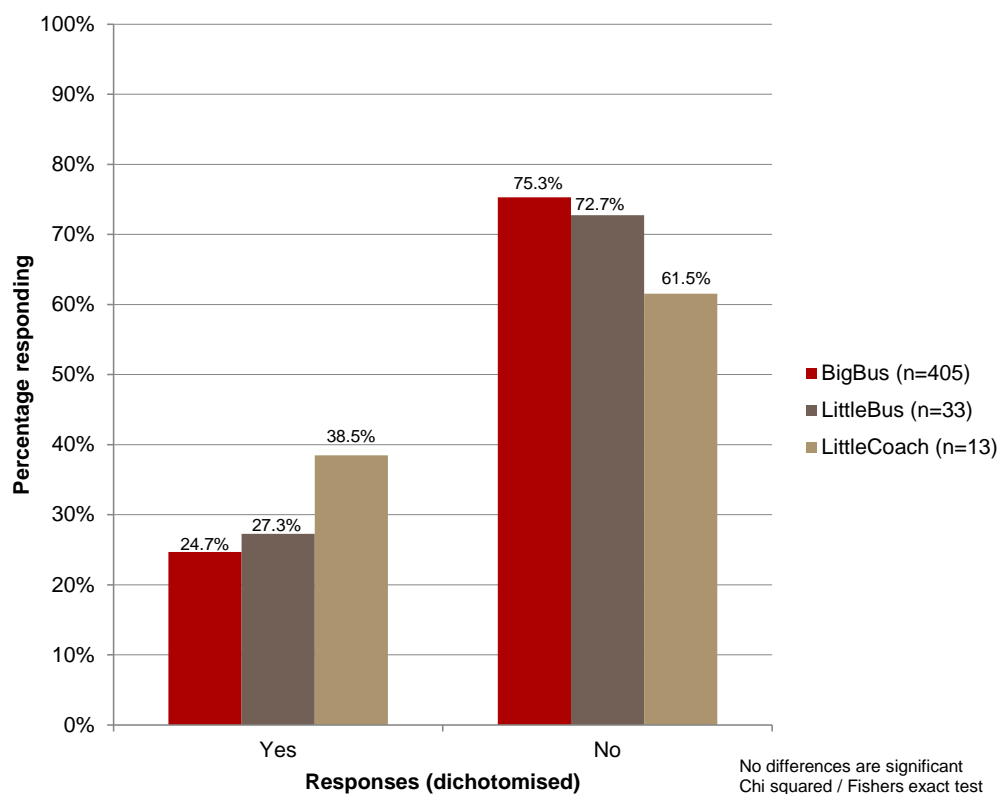
Figure 7-8 Responses to 'Do you consider your job to be generally good for your health?'

(Responses are dichotomised as in Figure 7-7)

Responses to the question about self-rated health (SRH) are shown in Figure 7-9. For comparison, this graph also shows the SRH of 641 individuals from the same occupational category (NS-SEC 13.3 Routine Technical which includes bus drivers alongside welders, printers, butchers and upholsterers as well as van and lorry drivers) who were surveyed by Health Survey England (2011). Bus driver self-rated health was worse than that of the comparator sample ($p<0.01$, chi squared test); only 71.2% of the total bus driver sample considered their health to be good, compared to 77.5%

of the comparator data. This may reflect the health impact of the job discussed above, for example in terms of working hours and physical activity. However, it cannot be concluded that bus driving is a <u>cause</u> of health problems in this cohort as poor health may be a reason for some individuals to choose bus driving, especially as it was considered by some to be a relatively easy job.
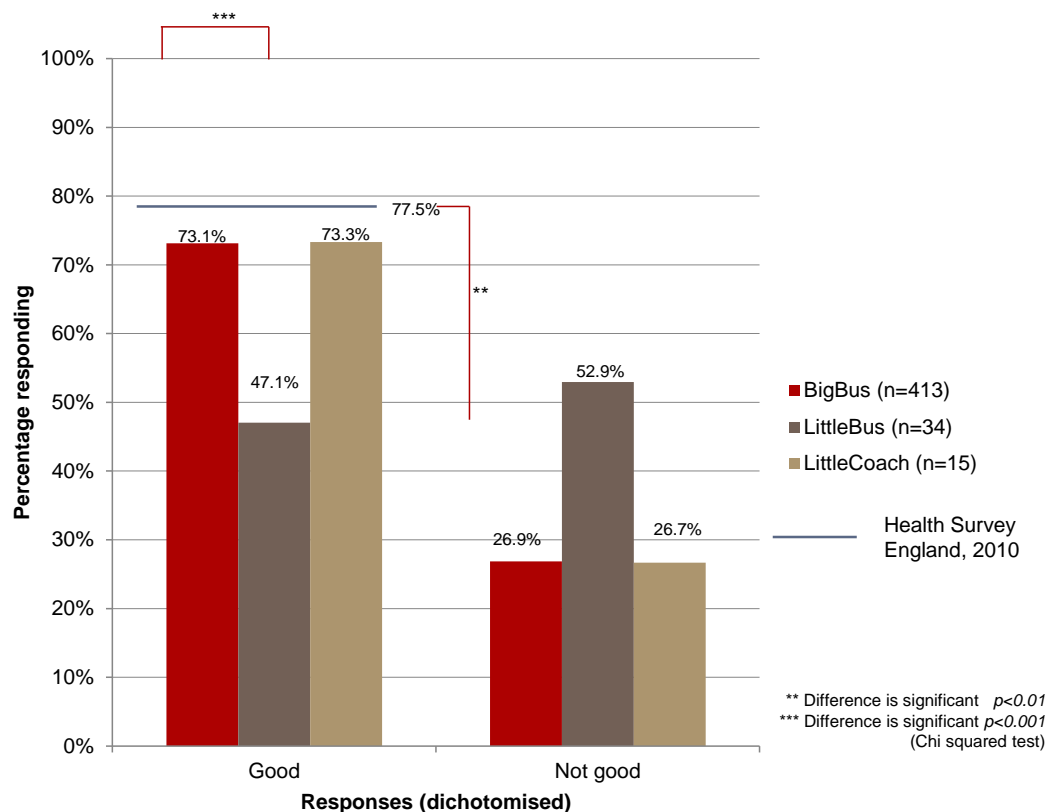
Figure 7-9 Responses to 'How is your health in general?'

('Good' responses include *very good* and *good*; 'not good' responses include *fair*, *bad* and *very bad*)

Drivers at BigBus were significantly more likely than drivers at LittleBus to consider their health to be good (*p<0.01,* chi squared test, Figure 7-9). Again, it is not possible to conclude that the poor job quality at LittleBus was the cause of their worse health. LittleBus were less selective when recruiting drivers and were less likely to dismiss those with sickness absence than BigBus.

7.4 Discussion

7.4.1 Summary of findings

The findings presented above have shown that there were differences between the three study companies in terms of the job quality they provided. Each company had strengths and weaknesses, although BigBus provided better job quality overall than the two smaller companies: this is illustrated below (Figure 7-10). Most drivers considered that their job was good, even in LittleBus and LittleCoach, whilst simultaneously reporting it to be bad for their health. Finally, the drivers overall had worse health than others from the same occupational category, but it is difficult to draw firm conclusions regarding cause and effect.
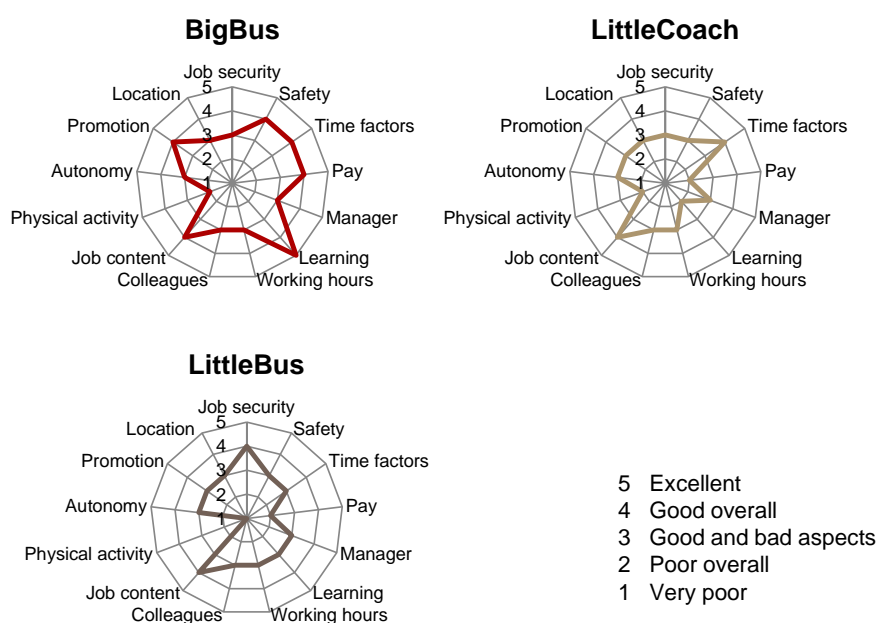
Figure 7-10 Radar diagrams summarising job quality at the three companies

Figure 7-10 (and Table 7-15 on which it is based) summarises job quality in the three study companies, demonstrating the features which were provided to a good extent and those which were less satisfactory. Job quality in terms of features such as working hours, low autonomy and low physical activity was poor in all companies and is likely to limit job quality in the bus and

coach industry more widely, although there were some differences between the companies. For other features such as pay and learning opportunities there were wider variations between companies, suggesting that the main limiting factors are at an organisational level. The job features included in the theoretical mode of job quality shown in Figure 6-2 and the extent to which each limits job quality in bus driving are summarised in Table 7-16. This shows that there are also societal factors which affect job quality in bus driving and which are likely to influence job quality in other industries as well.

This discussion will proceed by considering the challenges to good job quality which are intrinsic to the bus industry. It will then explore the differences between companies particularly in terms of pay, security and learning opportunities and how this influences job quality. A conclusion will then be reached regarding the best bus driving job which might be theoretically possible given the constraints of the industry, based on the findings of this study and the literature. Finally the usefulness of the theoretical model presented in Figure 6-2 will be reviewed and assessed with regard to its adequacy for assessing job quality in the context of bus and coach driving work and more widely.

Table 7-16 A summary of the main barriers to improved job quality in bus and coach driving

Job feature	Limiting factors within companies	Limiting factors within job		Limiting factors within society
		Nature of limitation	How it might be mitigated	
Job security	Financial stability – nature and source of work Culture - company policies, disciplinary decisions			Economic factors – recession Competition between companies
Safety	Company culture and motivation Financial factors	Passengers and traffic are intrinsic risks	Driver training to improve driving skill and deflect difficult passenger situations	(Driver training is required by the CPC regulations, this could lead to improved driver training in these safety-critical areas)
Time factors	Financial factors Influence of particular routes (for example, longer routes are less flexible to schedule) Skill of scheduler	Traffic is unpredictable	Teach resilience Recruit staff who are tolerant of time pressures	
Pay	Financial factors Culture – perceived 'value' of drivers Ease of recruitment			Availability/scarcity of labour Economic recession– competition between companies; reduced rates paid by councils e.g. for school buses Perceived value of different types of work
Manager	Culture	Nature of work - limits contact between drivers and managers		
Learning	Culture Financial factors – costs of training, costs of drivers taking time away from other duties			(CPC regulations should contribute to improved training opportunities in the industry)

Table 7-16 continued

Job feature	Limiting factors within companies	Limiting factors within job		Limiting factors within society
		Nature of limitation	How it might be mitigated	
Working hours	Financial factors Skill of scheduler Commitment to improvement	The nature of the job involves early starts, late finishes, changing shifts	Recruit staff who are comfortable with this Plan shifts to minimise impact on drivers	Existing legislation (most aspects of the Working Time regulations do not apply to bus and coach drivers) Economic factors – availability of work
Colleagues	Culture – commitment to equality and discrimination issues	Nature of job - limits working relationships, especially in some companies/depots	Recruit staff who are comfortable with this (or match staff to appropriate depots)	Job choice is influenced by economic necessity
Job content	Recruitment Individual-job match	Will always involve passengers!		Job choice is influenced by economic necessity
Physical activity	Financial factors (more breaks could be scheduled, this would cost more) Provision of facilities, association with healthcare and fitness charities	The role is generally a sedentary one	Good vehicle design reduces musculoskeletal impact of driving More frequent breaks (but there are costs associated with this)	
Autonomy	Culture	The role generally has low autonomy	Recruit staff who are comfortable with this	Job choice is influenced by economic necessity
Promotion	Company size Culture – importance of fair processes	Limited scope in some companies due to small company size		
Location		Early and late starts limit public transport use		

7.4.2 Can bus driving be a good job? Features intrinsic to the bus and coach driving industry which limit job quality

Hours

The working hours of those in the transport sector have been identified as poor by Eurofound (2009) who observed long working hours, unsocial working (weekends and evenings) and poor work/life balance across Europe, particularly in southern and eastern areas and in the UK. These factors were all found in the current study, and reflect the customer focused nature of the industry, with bus schedules which start early in the morning, and finish late at night. Drivers' hours within the UK are additionally influenced by the legislative requirements, falling under two different sets of legislation which are summarised in Table 7-17. The European Rules apply to those driving coaches, and the GB domestic rules under the Transport Act (1968) apply to those operating service buses within 50km of their base (Vehicle and Operator Services Agency 2011).

Table 7-17 Permitted working hours in the UK for drivers and other employees

	Working time Regulations	European Rules (for Coach drivers)	GB domestic rules (for drivers within 50km of base)	
Total working hours allowed	48 hours pw (can opt out)	48 hours pw (can opt out) 90 hours driving per 2 weeks (max 56 hours per week)	48 hours pw (can opt out) max 10 hours driving per day, over a 16 hour period	
Permitted time between breaks	6 hours (followed by a 20 minute break)	4 ½ hours (followed by a 45 minute break)	5 ½ hours (followed by a 30 minute break)	OR	7 hours 45 minutes driving in an 8 hours 30 minutes period
Minimum overnight rest period	11 hours	11 hours (reducible to 9 hours three times per week)	10 hours (reducible to 8.5 hours three times per week)	
Minimum days off	One day off per week	Two 45 hour periods per fortnight	At least one 24 hour period per fortnight	

In some respects drivers have less entitlement to breaks and rest periods than would be permitted under the Working Time Regulations (1998). For example, overnight breaks can be reduced to 8 ½ hours three times each

week; if a driver needs to commute to and from work during this break, it could reduce the time available for sleep to less than six hours, with a consequent increase in accident risk (McGuffog et al 2004). As the job quality model in Figure 6-2 shows, working hours which minimise effects on health and on safety are a core feature of good work, and should be provided for all employees. In the case of bus drivers, this is not necessarily achieved by compliance with the law, but for companies to operate to a higher standard than the legal minimum would put them at risk of being uncompetitive. The main union representing bus drivers led a campaign in 2010 to reduce bus driving hours to a maximum of eight hours per day, with 4 ½ hours maximum between breaks (Unite 2011) but there has been no evident impact from this.

Despite the limits of the job and the legislation, there were examples of good practice in this study such as eight hour working days and advance planning at BigBus and progressive shift changes for some at LittleBus. There were also examples of poor practice, such as widely varying start times at BigBus, long unpaid lunch periods at LittleBus and short notice of duties at LittleCoach. There is therefore, scope for companies to minimise the impact of working hours on drivers by careful planning and consideration of their needs. However, the nature of the job is such that some degree of disruption to sleep and to normal family life is inevitable for drivers. Some individuals, through a combination of physiology and circumstances, will be better suited to the work than others. It is therefore important to ensure good fit between job and individual as shown in the job quality model.

Autonomy

Driving a bus along a predetermined route to a pre-set timetable requires a high degree of compliance from drivers as they have minimal opportunities to 'choose or change the order of tasks, methods of work and speed or rate of work' (Eurofound 2009). Scope for control is limited to deciding how to drive the bus and respond to other traffic, and how to interact with passengers. Autonomy in the wider sense may be increased by consultative participation as an alternative means of improving job quality (Gallie 2013). There was

evidence of this at BigBus, both through union activity and also driver representation regarding route schedules. However, there was limited scope for autonomy in day to day working in any of the companies, and this is unlikely to change: in fact it may be reduced further through the increased use of technology such as bus tracking, CCTV and radio control.

The best outcomes for job quality in respect of this feature are therefore likely to be achieved by good matching between job and individual as shown in the job quality model; many drivers interviewed were happy with the degree of control they had. BigBus had introduced personality testing in recent years to ensure drivers matched a profile which the company found most successful in its existing workforce, and this could be expected to progressively increase the proportion of their workforce who were comfortable in a low-autonomy environment. There was also evidence of self-selection into LittleCoach and LittleBus based on preferences regarding control.

Time factors and other sources of pressure

The time pressures arising from unpredictable traffic conditions have been reported as a significant source of stress in the bus industry (Tse et al 2007; Biggs et al 2009), resulting in an increased risk of fatigue and psychological ill-health. A second commonly identified stressor in the same literature as well as in the current study is passenger behaviour.

Good scheduling provides some protection against time pressure, for example by using real-time data to construct timetables and including capacity to catch up in case of overrun. LittleBus and BigBus both used historical journey times and bus tracking data when planning schedules, and BigBus also had regular discussions with route representatives to address difficulties. However problems persisted due to the unpredictability of traffic, the need to ensure that buses did not run ahead of time, and the economic constraints which limited the inclusion of spare capacity into timetables.

This study found variation between drivers regarding the personal impact of being behind schedule or under time pressure: this mirrors findings in the literature about the impact of different coping styles (Machin & Hoare 2008). There are two ways to address this. The first is driver training which can teach more effective coping strategies, and thus reduce the impact on driver health (Aust et al 1997) as well as reducing accident risk (Dorn et al 2010). An alternative option is for bus companies to recruit drivers who are more tolerant of the inevitable time pressures.

The second commonly identified stressor is passengers, who can threaten the safety of drivers in addition to causing distress by ignoring or abusing them. The service bus companies in this study had taken steps to address this (it is reportedly less of a problem in coach driving). LittleBus and BigBus had both installed CCTV to reduce the risks and had found it to be very successful. The number of incidents had dropped and the footage provided protection from spurious complaints against drivers by passengers. BigBus had also trained drivers to approach passengers in a non-confrontational manner. In addition, BigBus had installed screens to protect drivers from assault by passengers. However, these were not perceived as satisfactory by either drivers or managers; a determined passenger could still reach around if they wished, and the screens interfered with passenger communication and reduced interaction and relationship building.

Again there was variation between drivers; some raised concerns regarding the risks from passengers, whilst others saw them as a positive element of their job and barely mentioned the negative aspects. Ideally, bus driving jobs would attract those who wished to work with passengers. In reality, many in this study took jobs for more practical reasons. In addition, where job content did influence job choice, 'driving' was more likely to be given as a reason than 'passengers' (Table 6-2).

In summary, the elements of bus driving which have been reported as causing tension relate largely to time pressures and passenger factors. There

are steps the companies in this study took to mitigate these impacts but they are nevertheless an inevitable aspect of the industry. As with irregular working hours and low autonomy, employee selection is therefore of key importance to minimise the impact of these on perceived job quality.

Manager

It has been suggested that management in the bus industry is generally task focussed (Biggs et al 2009), and this was certainly observed to be the case in the current study. There were examples of manager involvement in responding to individuals' personal issues in BigBus and LittleBus, and one manager in LittleBus was observed giving positive, constructive feedback to drivers. Otherwise there was little evidence of leadership in the observed companies. Poor management in the bus industry reportedly has adverse consequences, contributing to increased fatigue amongst drivers (Biggs et al 2009) and lost opportunities for providing positive feedback and recognition and thus reducing job strain (Tse et al 2007).

A particular issue for the smaller companies, as succinctly put by one interviewee who had worked in both organisations, was that '*they are chaotic, as all family companies are.*' Both companies relied on informal discussion rather than policy to resolve problems or personal difficulties, and there was a wide range of skill amongst managers, so that the results were unpredictable. There was little evidence of positive feedback. BigBus had more formal processes, including letters of commendation from managers, and a 'driver of the year' award. These aspects were not overtly valued by many interviewees, perhaps because of the perceived irrelevance of managers. Therefore, there was scope for improvement in manager behaviours and roles at all three companies. However, even with improved commitment and skill, the flat structures and low manager-employee contact in bus driving is likely to continue to limit the role of managers in the industry.

Physical activity

Prolonged sitting is intrinsic to bus driving. The adverse impacts of this have been discussed in section 6.5.2, with the impact on mortality and morbidity from heart disease, diabetes and obesity being of particular concern, particularly in light of the fact that sedentary behaviour is an independent risk factor, even for those who undertake regular exercise (Wilmot et al 2012). Additional impacts of these diseases include increased accident risk (Taylor & Dorn 2006) as well as the potential for drivers to lose their PCV license (DVLA 2013) and therefore their livelihood.

The health risks associated with prolonged sitting could be reduced by scheduling more short breaks (Commissaris et al 2006; Dunstan et al 2012). However, such breaks are limited by the timetabling and traffic constraints discussed above under 'time factors'. The motivation amongst companies to make such changes is also influenced by the legislative factors mentioned above (Table 7-17) which permit drivers to continue for 5 ½ hours between breaks (or 7 ¾ hours under the alternative provision, which was not used by any of the companies in the current study but was reportedly applied in other organisations). Increased exercise may help to offset some of the risk of prolonged sitting, particularly in relation to diabetes; it also improves sleep quality (King et al 1997) which may help to reduce the impact of shift variations. Strategies to improve exercise might include provision of on-site facilities and also scheduling of working hours to ensure sufficient free time; these were both in evidence at BigBus although their impact was difficult to measure. Unfortunately, the literature shows minimal benefit on driver health from worksite intervention on diet and exercise (French et al 2010). One reason for this may be that variable working hours, as are common in bus driving, are a particular obstacle to changing habits (Taylor & Dorn 2006). In addition, as mentioned above, regular exercise does not compensate wholly for the risk of prolonged sitting (Wilmot et al 2012).

A second adverse impact of prolonged sitting is musculoskeletal problems. The incidence of these in bus driving is further influenced by immobility

(Brunoro et al 2012) as well as postural stress and whole body vibration (Okunribido et al 2007). Lowe, writing almost 20 years ago, observed that the ergonomics of bus cabins lagged behind those in the design of trains and aeroplanes (Lowe et al 1995); only in 2005 was an international standard for good cab design in buses published for the first time (ISO 2012). The impact of this will be limited by the choice of vehicles made by companies. For example, at LittleBus there was a focus on running a low cost business, thus vehicles were old and appeared to be poorly maintained, with further consequences for driver comfort.

In conclusion activity levels, which are shown as a core feature of job quality in the theoretical model (Figure 6-2) due to the potential for health effects, are a significant challenge in bus driving. The impact can be partially mitigated by appropriate route planning and vehicle design, but there are cost elements which operate here; any increase in activity is also dependent on driver motivation and opportunity, both of which may be additional limiting factors.

Additional limitations

The main factors which restrict job quality in the bus industry have been discussed above. However, as Table 7-16 illustrates, bus driving is also unlikely to be an 'excellent' job in terms of promotion, location, colleagues and safety.

Promotion prospects were generally good at BigBus but more limited at LittleBus and LittleCoach, with this restricted scope for advancement being the more common situation within the bus industry (Tse et al 2007). Depot location influenced the choice some drivers had made about where to work. The cost of travel is likely to be a significant proportion of income for those on a low wage, thus depot location for bus drivers can be a limiting factor - influencing not just whether a job is considered to be good or not, but whether it would actually be taken. The scope for close working relationships with colleagues is limited by the nature of bus driving, which provides little

opportunity for sustained social contact (Evans & Johansson 1998). Some drivers in the current study were able to form close friendships but this varied by depot. In fact it was not a feature which was valued by all, the importance of close friendships being an aspect of job quality where job – individual fit was important, as shown in the job quality model. It may therefore be resolved by drivers who are tolerant of this low level of social support at work self-selecting into the industry. However the passenger facing aspect of bus driving may appeal to those who value sociability, who might thus find the lack of good working relationships to be particularly unsatisfactory.

Job quality in terms of safety is limited by the presence of hazards outside the control of the organisation, namely passengers and other drivers. Approximately 1.5% of transport drivers in the UK are assaulted or threatened with assault annually, making them the fifth highest at risk group (Buckley 2013). The incidence of major injury at work for urban transport drivers is around 1.3 per 1000, which is above the level of 1 per 1000 for all UK employees (HSE 2013). There is, therefore, a degree of inherent risk in the industry which is difficult to eliminate. However, in addition to this there was variation between the companies in their management of health and safety. Seven company behaviours have been identified in the literature as associated with good safety management (Cohen 1977) - BigBus demonstrated almost all of these, including employee selection and stability, high level management commitment and good standards of housekeeping; the two smaller companies lacked all seven of the features described. Failings were presumed to be largely cultural or related to lack of knowledge, as the cost of improvements (such as marking safe walking routes or enforcing smoking legislation) would have been minimal. The poor welfare arrangements in place at both small companies (particularly the lack of an adequate female toilet at LittleBus) were also cultural, suggesting a 'rough and ready' philosophy which placed low priority on employee comfort, as well as highlighting the gender conflict at LittleBus.

7.4.3 Can bus driving be a good job? Factors within companies which limit job quality

Pay

Economic factors were of concern at all companies due to competition between providers, and there is evidence that this affects the industry widely, (Secretary of State for Transport 1985; Cowie 2002; BBC 2006; The Journal 2012). This may be one explanation for low pay in the industry as a whole, but the problem was particularly acute in the smaller companies which paid a wage in the lowest 10th percentile for bus and coach drivers within the UK (Figure 7-1). The hourly rate was less than that required to provide a living wage for a single adult, and with a forty hour week would be less than half that needed to support a family (Davis et al 2012). Drivers could work longer hours to compensate for this (and hours in the smaller companies were typically higher than at BigBus), but this may lead to other problems such as increased fatigue, reduced sleep and reduced opportunity for physical activity outside of work (Taylor & Dorn 2006).

The fact that pay was better at BigBus reflects the common tendency for higher wages in larger organisations and may result from their greater financial resources as well as the presence of an active union (Hollister 2004). However, whether the low pay rates at LittleBus and LittleCoach related solely to economic factors (i.e. that was the most the companies could afford to pay) or were also cultural (i.e. that was all the companies believed the drivers were worth) was not clear. Employees generally tolerated working at these rates, which was a disincentive for change in either company, although the companies had some trouble recruiting and were increasingly reliant on drivers from Eastern Europe.

A final factor which might have influenced pay is the perception of what drivers are 'worth', both to the individual companies (as mentioned in the paragraph above) and at a societal level. There are two interesting comparisons which can be drawn. Firstly, the drivers at LittleBus and

LittleCoach were earning an hourly rate very similar to that paid to the cleaners at CleanCo. The cleaners worked hard for this wage, but they did not need to have a skill or qualification (unlike the drivers), nor did their job carry much responsibility for others. The drivers, by comparison, had responsibility for 50 passengers on occasions (more if they were driving a double decker vehicle). Secondly, the wage of the driver can be compared to that of train drivers. Like the bus drivers, they work unsocial hours, and carry responsibility for passengers (admittedly, in larger numbers than the bus drivers). They are subject to similar stressors: in fact, they are not required to interact with passengers, which reduces one area of possible conflict. Their median wage is more than double that of bus drivers in the UK (ASHE 2012), and is three times the hourly rate of the drivers at LittleCoach and LittleBus.

In summary, there was variation in pay between the companies, which is likely to reflect economic factors, although issues of value and worth within the company and more widely may also have an impact.

Job security

Job security in the three companies was partly influenced by the wider economic environment. Working hours were unpredictable at LittleCoach because customer demands varied; BigBus had previously had a period of uncertainly related to loss of business to other providers; LittleBus, which appeared stable at the time of study, went into administration subsequently. However there were also specific organisational factors which influenced security at BigBus. The company had a very strong customer service ethos, and some interviewees perceived that passenger needs took precedence over those of drivers. In any dispute, they felt, the company would always take the customer's side and firm disciplinary action would follow if a driver behaved 'inappropriately'; this adversely affected perceptions of job security. Thus job security varied between companies in addition to being influenced by wider economic factors which are not specific to bus driving.

Learning

Opportunities for learning and training in bus and coach driving might be expected to be better than in many other industries due to the legislative requirement for drivers to undertake training (Secretary of State for Transport 2007). This could improve job quality - using the training time to improve driver skill with regard to difficult passengers or challenging traffic situations, or to improve coping skills with regard to time pressures could have positive impacts. However the smaller companies struggled with the significant costs involved, such as fees paid to an external provider, hiring training facilities and the opportunity costs of using in-house trainers who were then not able to do other work.

The legal obligation to arrange training is actually on drivers rather than the companies and this is problematic for those who might have to pay the costs out of low earnings as well as losing wages to attend courses. The long term impact on job quality is uncertain. It may reduce the availability of qualified drivers, thus increasing their value and earning potential, but may also result in the failure of those companies operating close to the margins of financial survival. In conclusion, there were definite differences in training provision between companies and these were largely economic in origin although company culture may also be a factor.

Summary regarding job quality in the bus industry

The section above has identified the barriers to high job quality in three companies in the bus and coach industry. Some of these were specific to particular organisations. Others were more influenced by the nature of the job and were problematic in all companies, although there was still variation in the extent to which internal arrangements mitigated the impacts. Overall then, the findings provide an indication that bus driving is not a particularly good job. However, it also been discussed that individual variation is important – as illustrated in the theoretical model (Figure 6-2), perceived job quality improves when there is good fit between job and individual. There were some interviewees in this study who were unconcerned by the time

pressures, low autonomy and irregular hours associated with the job. Taking this into account, Figure 7-11 represents a theoretical 'best' bus driving job. This assumes that the job is located within an organisation which has adequate resources and is motivated to maximise job quality, and that the individual doing the job is well suited. The figure also illustrates how job quality is lower if there is not a good fit between the job and the individual.
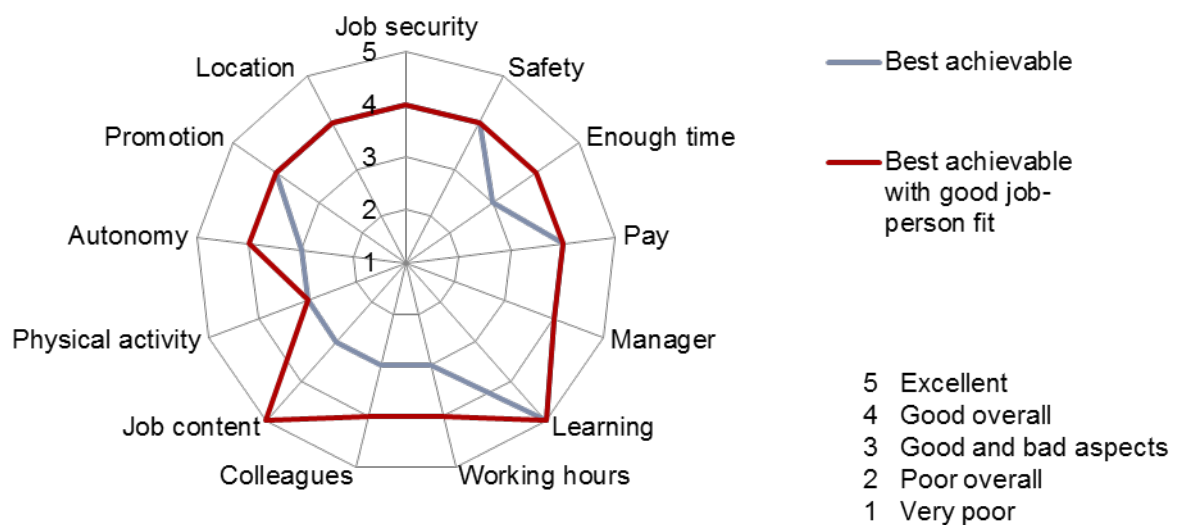
Figure 7-11 A view of the best job in bus/coach driving which could be theoretically provided within the current constraints

Figure 7-11 shows job content to be potentially excellent although this relies on the recruitment of drivers who want to drive buses and carry passengers. In reality, some drivers in this study took jobs and remained in them even if they were unhappy with job content or other features because they perceived limited choices elsewhere. This state of 'job lock', characterised by remaining in a job with which an individual is dissatisfied, is increased by local unemployment, by being older and by being in a job with a company pension (Huysse-Gaytandjieva et al 2013). These factors would particularly mitigate against employees at BigBus (who were also paid relatively highly) leaving their jobs even if they were unhappy, although such employees were found in all companies. Thus, the match between job and individual is sometimes imperfect; individuals self-select into jobs which suit them only to a limited

extent, reflecting the reality that compromise is common in job selection. Similarly, few organisations are in a position to select perfectly suited employees. There may be, for example, a relatively low number of individuals who would be comfortable with the low autonomy and low colleague contact involved and also relaxed and resilient to potential passenger abuse associated with late running services. In addition to potentially poor job-individual fit, job quality in bus driving can be constrained by pay rates. These were poor in two of the three companies studied, and it is not clear whether this relates more to financial or to cultural factors within companies. Finally, the job of bus driver is poor in terms of physical activity and the scope for improving this is limited.

In summary then, bus driving could be a good job but not an excellent one in most respects. However, given the limitations of achieving excellent individual-job fit, in most cases it will continue to be lower than that predicted in Figure 7-11.

7.4.4 Development of the job quality model

This study assessed three bus companies using the theoretical model of job quality as a basis. This was successful, and highlighted that some aspects of poor job quality reflected the nature of the industry and were difficult to address, whilst others were more likely to relate to differences between organisations in terms of financial security and company culture. The study also demonstrated the importance of individual variation as shown in the model, such that bus driving was a much better job for some than for others depending on their personal preferences and priorities. This was particularly found to be the case with regard to working hours, time factors, relationships with colleagues and autonomy.

There were some limitations in the extent to which this study was able to validate the job quality model. Firstly, with regard to the importance of learning: legislative requirements make this essential to all drivers in the passenger transport industry and this was recognised even by those who

might not value learning for its own sake. It was therefore difficult to assess the importance of job fit in this case. There was a similar limitation regarding the role of the manager – they were generally considered unimportant or irrelevant due to the nature of the industry, so it was difficult to distinguish between individuals for whom this feature might be more important than others. There may be more variation in jobs where the manager had a greater role. Finally, although the job feature location was confirmed as being important for many it is something which the employer might have little scope to change, making it difficult to position within the job quality model. Further study would be required with a more varied data set to clarify the role of these three features within job quality and their contribution to a good job.

The model differentiates job features into those which are important for all (or have aspects which are important for all) and those which vary more widely. In reality, however, it is unlikely that such a simple dichotomy exists, as individuals will value some features more than others. For example, location and working hours were common limiting factors in the industries studied – not just important for a job to be good but essential, such that an individual would not take a job if it did not satisfy these needs regardless of its quality in other ways. Other limiting factors may also exist, for example for those who have specific requirements in terms of pay, autonomy or friendships. It is difficult to illustrate this within the model, and particularly to determine how individuals trade-off between features so that they accept poor quality in one area in order to meet their needs in others. This does not invalidate the model, but it does highlight the need to consider these effects and the impact they have on individuals. It also illustrates the influence of the wider context on job choice and perceptions of job quality. For example the wider economic environment was seen in this study to influence job choice, lowering the expectations of some and raising their tolerance of poor jobs.

In conclusion, the model has been generally confirmed in its overall structure. Its particular strength is in proposing a potential compromise between the 'one size fits all' perspective which underpins much research into job quality

as a single entity; and the view that job quality is so dependent on individual context as to be immeasurable at a composite level. Study in other industries would be required to further validate the model, particularly in terms of the limitations identified above. The model could then be used as a basis for the construction of tools to assess job quality within companies and industries.

7.5   Strengths and limitations of this study

The main limitation of this study relates to the small sample size as only three organisations were involved. In particular, no very large organisations were included. This is potentially a significant shortcoming given that five such companies provide many of the scheduled bus services in the UK (Cowie 2002). However the three companies selected covered the industry well in other respects. BigBus is widely regarded as a good company, winning several awards in the industry for the quality of its service provision and staff support. LittleBus by comparison was described by its staff as the 'company of last resort', typifying the other end of the spectrum. LittleCoach added an additional perspective, that of longer distance coach drivers. In fact, the main issues faced were common across the three companies; and a study of drivers conducted in one of the 'big five' found a very similar picture (Tse et al 2007).

Secondly, there were sampling issues, particularly within the smaller companies, where interviewees may not have been representative of the wider workforce. Interviewees were recruited directly by the researcher, and thus selection was partly influenced by shift patterns and availability, which may have restricted the sample (for example those who worked late night shifts would not have been approached). It is also possible that those who wished to be interviewed because they had an opinion to express would have made themselves visible to the researcher, and that those who did not wish to be approached would have facilitated this also. Therefore caution is necessary when interpreting the results and drawing conclusions about the whole organisation based on these interviews; although the fact that the observational data were in general agreement with the findings from

interviews provides some support for the validity of the interview data. The questionnaire sample at LittleBus and LittleCoach is similarly self-selected as well as being small, and this limits the extent to which it can represent the views of the whole company in terms of whether bus driving is considered to be good or good for health.

A further limitation was the absence of objective outcome data such as sickness absence or staff turnover data. Had these been available they may have shown a clearer impact of the differences in job quality between the companies. Such data would be particularly useful in longitudinal studies, as they may demonstrate changes associated with improvements in job quality.

7.6   Conclusions

The stated questions for this study were as follows:
- o   Is bus driving a good job in the three companies studied?
- o   What are the barriers to it being a good job/a better job?
- o   Is the proposed job quality model satisfactory?

The study identified differences between the three companies. Job quality was good in some aspects at BigBus and in fewer ways at LittleCoach and LittleBus. However, many of the main challenges to high job quality for bus drivers reflect the underlying nature of the work and are therefore difficult to address. They are difficulties which are common to those in many industries: prolonged sedentary work, and the potential conflict between the needs of the employee and those of the customer or wider society. In bus driving, this results in unsociable working hours, low levels of autonomy, relatively low pay for some, and a risk of hostility or violence from passengers.

Given that there is limited scope to change the nature of the bus driver's job, and to design out aspects such as low autonomy, poor working hours and time pressures, other ways need to be found to address job quality in this industry. One option is to improve the skills of drivers to better fit the demands of the job. There is scope for drivers to learn better ways of dealing

with difficult passengers, and to develop their coping skills to reduce the adverse effects of the work stressors. This could include guidance on the maintenance of good health, including sleep hygiene to minimise the impact of shift working. The CPC legislation provides a mechanism for companies to provide this training.

A second option is to support companies and drivers in findings ways to compensate for the impact of the job. Increased physical activity to balance the sedentary nature of the work is an example of this, as is provision of healthy food. However such measures had met with limited success at BigBus and although increased physical activity is beneficial in reducing the risks of diseases such as diabetes, it will not completely offset the risks arising from prolonged periods of sitting.

The third option is to improve the process of matching jobs and drivers. This is common in many industries. For example the police and fire services and the armed forces carry out testing to ensure that recruits are capable of meeting the demands of the job. Psychometric testing is increasingly common to ensure that job applicants are a good psychological fit for particular roles, although this is used most often in higher level jobs (Rankin 2009). Such testing has been recommended for use with bus drivers to guide recruitment and training and thus minimise the incidence of accidents (Dorn et al 2010). It was used by BigBus in the current study, and they found it to be a useful strategy. However, it is likely to be beyond the resources of the smaller companies, and also of limited use if there are insufficient job applicants for their vacancies. In addition, it does not resolve the issue of low physical activity.

It is unlikely that bus driving will ever be a 'good' job, but this study has illustrated that it could potentially be good in most respects in well-resourced and motivated organisations for those who are temperamentally suited to it.

This chapter evaluated the job quality model which was proposed at the end of chapter 6. It found this to be largely satisfactory, although further testing is required to explore its applicability to other jobs. If this confirms it as satisfactory, it could then be developed further and used to underpin tools for the assessment and improvement of job quality.

A key element of the job quality model relates to individual variability and the current study supported this principle, showing that a job can be good for one individual and not for another. Despite this variability, it is useful to be able to measure job quality and draw comparisons between jobs and organisations. Chapter 8 will therefore test an existing tool which has been designed to take account of individual variation.

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Chapter Eight   Measuring job quality using the DGB-Index tool – a study of bus drivers

8.1   Introduction

It was identified in the literature review that individuals differ in the features they seek from and value in their work (Edwards & Cooper 1990; Burgess & Connell 2008). Such variation was found in interviewees in the research described in chapters 4, 5, and 6 of this thesis, with the effect persisting even between individuals working within a single industry. Such differences can make it difficult to measure job quality in a meaningful way. Consider, for example, the HSE stress management standards (HSE 2007) in which one of the hazards assessed is the degree of control which employees have: a job which does not provide this will receive a low score. However, the impact in reality will depend on whether autonomy is important to the employees doing that job, and whether they are comfortable with it being so constrained.

Regardless of the difficulties inherent in measuring job quality, it is an important step towards assessing its impact in order to drive improvements. It was noted in chapter 3 that there are limitations in the design and scope of many tools which address job quality; the DGB-Index (Deutscher Gewerkschaftsbund Index) was identified as a tool which merited further evaluation. This is specifically designed to take account of individual preferences when measuring job quality. The tool has not previously been used outside of Germany and the opportunity to extend its scope was an additional reason for its selection. This study described in this chapter fulfilled the research objective:

- Objective four – to identify and evaluate a suitable tool to measure job quality

8.1.1 **Study questions**

Data have been published which demonstrate the ability of the DGB-Index to differentiate between good and bad jobs (Mussman 2009b; Schütte 2011). However, as identified in chapter 7, the potential for employers to learn from good practice in other industries may be limited due to the wide variation in demands and constraints. It would therefore also be useful if the tool were able to distinguish between good and bad working situations in each industry, as a basis for feedback to employers. The availability of the qualitative data presented previously provided an opportunity to evaluate the tool in this respect.

The particular questions addressed by this study were:
   o Can the DGB-Index be used for measuring job quality in the United Kingdom?
   o Can it differentiate effectively between jobs and employers of different quality?
   o Does it generate data which would be useful for employers who wish to improve job quality?

8.2   **Method**

8.2.1 **Overall study design**

The study was carried out in the same three bus companies which were evaluated in the study described in chapter seven. The DGB-Index was incorporated into a paper questionnaire which was completed by employees in all three companies; this also included categorisation data, and a number of global questions (e.g. is this a good job? Is your job good for your health?) which have been reported in chapter 7. These global questions were asked at the beginning of the questionnaire so that the responses were not influenced by completion of the DGB-Index.

8.2.2 **DGB-Index structure**

The DGB -Index is made up of three partial-indices: Resources, Burdens, and Income/Security. These in turn comprise 15 dimensions, assessed by 31 questions on relevant factors. The structure is summarised in Table 8-1.

Table 8-1 The structure of the DGB-Index tool, showing how the individual factors combine to form dimensions and partial-indices

Partial-index	Dimension	Factors (these form the basis for questions)
Resources	Training and learning	Training opportunities
		Skills development opportunities
	Creativity	Opportunities to use own ideas
	Promotion	Promotion prospects
	Control over work	Opportunities to plan work
		Influence over amount of work
		Influence over how work time is organised
	Information, communication	Access to necessary information
		Conflicting or contradictory demands
	Manager	Work planned well by supervisor/line manager
		Appreciation from supervisor/line manager
		Personal development valued by manager
	Senior manager, culture	Cooperation encouraged
		Competent management
	Relationships, colleagues	Support from colleagues
	Meaningful	Work useful for society
	Hours	Control over how much overtime worked
		Working hours reliable and predictable
		Personal needs considered when working hours are planned
Burdens	Pressure, intensity	Unwanted interruptions
		Work with high time pressure
		Need to compromise work quality
	Emotional demands	Need to hide feelings
		Respect from others
	Physical demands	Physically hard work
		Working under strain, poor postures
		Loud noise exposure
Income and security	Job security	Worry about job/work future
	Income	Fair pay
		Enough pay
		Enough pension

Each question is made up of two parts – the employee is asked whether they consider particular factors to be present in their workplace, and then whether the absence of such factors (or the presence of bad features) bothers them. Example questions from the tool are shown in Figure 8-1.

A structured scoring system combines the responses to allocate a final score out of 100 for each partial-index and for the overall DGB-Index. Work which scores 80 points or higher is considered to be good, work which scores 50-80 is medium quality, and a score lower than 50 indicates poor quality work.

Some of the questions below have two parts. Depending on how you answer the first part of each, you may need to answer the second part as well.								
EXAMPLE						If 'to a small extent' or 'not at all', how much does this bother you?		
	To a great extent	To a good extent	To a small extent	Not at all		Not at all	A little	A lot	Very much
4.1. Do you get opportunities to undertake useful training?	(A)	▨	(C)	(D)	→	(A)	(B)	(C)	(D)
4.2. Can you plan and organise your work yourself?	(A)	(B)	(C)	▨	→	(A)	▨	(C)	(D)

Figure 8-1 Sample questions from the DGB-Index tool showing the two part structure of the questions

8.2.3 Translation of the DGB-Index tool

Because the DGB-Index had not been used outside of Germany it had to be translated for the current study. The accepted method of translation for international survey tools is a complex process involving forwards and backwards translation by independent translators, pilot group work and cross cultural comparison of the final version (Bullinger et al 1998). An alternative methodology was adopted for the current study, involving the following steps:

a) translation of questions using three separate online translation tools (World Lingo, Freetranslation, and Babel);

b) reconciliation of the results to produce a first draft (with reference to an existing DGB-Index conference paper published in English , Mussman 2009b);

c) revision of the draft to improve the clarity and structure of questions;

d) review of the draft by two native English speakers who were fluent in German. They were given the German version and the initial English translation. Where they suggested changes, a decision was made whether or not to incorporate these, to ensure questions remained comprehensible and fluent in English. For example, the question '*Do you have opportunities for advancement*?' was revised to '*Do you have opportunities for promotion?'* However, the question '*does your work use your qualifications and experience*?' was used in preference to the more direct translation '*Are your personal training requirements supported through real opportunitie*s?'

e) review of the draft by one of the academics working with the tool in Germany, who was a native German speaker and fluent in English. Again, his comments were incorporated where they improved questions. For example '*Do you have control over the amount of work you are asked to do?*' was revised to '*Can you influence the amount of work you are asked to do?'* However, in some cases a decision was made to discount the 'better' translation as it made less sense, for example '*Do you have opportunities to use your own ideas at work?'* was kept in preference to the exact translation '*Can you bring your own ideas into your work?'*

8.2.4 Pilot testing

The tool was pilot tested with seven postgraduate students (two of whom spoke English as a second language). The students had no difficulty understanding the questions and all successfully completed the questionnaire. The results were scored and analysed; the findings were in line with expectations given the role of a PhD student, with high scores for *creativity*, *training and learning* and *relationships*, and very low scores for *income* and *job security*.

A larger pilot test was carried out with a cohort of cleaners, employed within a university in the United Kingdom. Questionnaires were returned by 73

employees, but only 26% of these were correctly completed. Many respondents did not understand the two-part structure of the questions. To address this, revisions were made which included the addition of the worked example question shown in Figure 8-1. The labels on the four point response scales were also modified to improve clarity and thus face validity (Rick et al 2001), Figure 8-1 shows the final version. This had been an area of particular challenge during the initial translation, as direct interpretation of the German scales gave responses such as 'in very high measure', and it was difficult to find meaningful alternatives. The final version of the complete questionnaire can be found in Appendix I.

8.2.5 Questionnaire administration and analysis

The questionnaire distribution/completion process has been described in chapter 7. At the two smaller companies, the researcher attended the site on several occasions and thus was available in case questions arose. At BigBus, the questionnaire was completed by drivers attending an in-house training course. The process was therefore administered by the BigBus trainers who provided assistance to any employees who had difficulty with completion e.g. due to poor literacy. In addition a short film was recorded which was shown to the drivers at BigBus. This explained the background to the study, emphasised the anonymity of the findings and gave specific instructions on how to complete the questionnaire. The script used for the film can be found in Appendix J.

The questionnaire was also completed by 44 non-drivers at BigBus. These respondents were managers, inspectors and supervisors who attended driver training as they held a Passenger Carrying Vehicle (PCV) license. Their responses were analysed separately as a comparator group. An additional comparator sample consisted of questionnaires completed by bus drivers in Germany (n=72) (unpublished data); these were drawn from national data sets gathered over a four year period between 2007 and 2010 (e.g. Mussman 2009).

Questionnaire data were retrieved by scanning completed questionnaires into Excel. An algorithm (shown in Appendix K) was used to convert responses into DGB-Index scores, which took the form of a score out of 100 for each question and each individual. These were then combined into dimensions (as shown in Table 8-1), partial-indices and finally a DGB-Index score. These data were further analysed in SPSS 19.

8.3 Results

8.3.1 Questionnaire responses and missing data

A total of 464 questionnaires were completed by bus drivers and a further 44 by non-bus drivers. Questionnaires were removed from the dataset if they were insufficiently or incorrectly completed, such that calculation of a valid DGB-Index score for an individual was not possible. Three types of error were identified: unanswered questions; responses to the first half of the two part question, but not the second; and responses which answered a question as if it had a single eight-part response scale. Questionnaires with seven or errors or missing questions were removed. This excluded all questionnaires which had a complete page missing, and was also an effective dividing point between those who had simply missed occasional questions, and those who demonstrated a more serious misunderstanding of the questionnaire structure. For those with six or fewer errors/missing responses, the DGB-Index score was calculated using the remaining information. Further details regarding the assessment of incomplete questionnaires are given in Appendix L. A total of 43 were removed, 8.5% of the overall sample.

Table 8-2 shows the response rates for questionnaires in the three companies. The breakdown of respondents in terms of age, gender and length of service was shown in chapter 7 (Table 7-2).

Table 8-2 Questionnaire response rates for each company and overall

	BigBus (819 employees)	LittleBus (110 employees)	LittleCoach (60 employees)	Total bus drivers	BigBus Non-drivers
Questionnaires issued (N)	413	110	60	583	44
Questionnaires returned	413	36	15	464	44
Incomplete questionnaires	32	8	1	41	2
Final sample (n)	381 (92.3%)	28 (25.4%)	14 (23.3%)	423 (72.6%)	42 (95.4%)

8.3.2 Questionnaire statistics

Cronbach's alpha was calculated as a measure of the internal consistency of the DGB-Index, results are shown in Table 8-3.

Table 8-3 Cronbach's alpha for DGB-Index index and partial-indices

Index or partial-index	Cronbach's alpha
Total DGB-Index score (constructed from 31 questions)	0.92
Resources score (constructed from 19 questions)	0.85
Burdens score (constructed from 8 questions)	0.79
Income/Security score (constructed from 4 questions)	0.65

These measures are satisfactory: Pallant (2010) recommends that scores should generally exceed 0.7 for a scale to be considered reliable, but notes that lower scores may be found where a scale has a smaller number of items.

8.3.3 Overall job quality results

The job of a bus driver for the combined sample scored 60.6 on the DGB-Index tool. This falls within the category 'medium work' according to the published literature, as good work is that which scores 80 or above, and poor quality work is that which scores below 50 (Mussman 2009a). The partial-indices Resources and Burdens also had medium scores (68.4 and 65.6 respectively), whilst Income/Security was poor overall (47.6).

There were no differences in DGB-Index score according to age, gender, marital status or having children. DGB-Index scores were higher for those who had been in their job for less than one year, compared to those who had been in post for 5 – 10 years (mean difference in DGB-Index score = 9.0, *p<0.05)* or 10 – 20 years (mean difference = 10.2, *p<0.05*).

Table 8-4 summarises the DGB-Index results broken down by company and also presents the comparator data from the BigBus non-bus drivers and the German bus drivers. The next three subsections will draw comparisons between these data sets. As described in chapter 3, parametric tests have been used as the data are interval in nature and distributed normally. Evidence of normality is shown in Appendix M.

Table 8-4 DGB-Index scores for the whole sample and by company

|	n	DGB-Index overall		Resources		Burdens		Income/security	
		mean	SD	mean	SD	mean	SD	mean	SD
BigBus	381	61.8	15.99	70.0	13.06	66.1	21.08	49.2	24.82
LittleBus	28	50.4	22.97	54.6	33.72	61.4	27.16	35.3	29.97
LittleCoach	14	48.8	16.96	53.4	20.20	61.6	22.41	31.5	22.92
Total for bus drivers	423	60.6	16.90	68.4	14.89	65.6	21.56	47.6	25.48
Non-bus drivers (BigBus only)	42	69.5	13.96	80.1	13.69	73.3	17.04	55.1	22.09
German bus driver sample	72	49.3	19.03	58.6	18.66	55.2	24.88	33.4	26.81

8.3.4 **Job quality differences between companies**

There were significant differences between the organisations studied; these are illustrated in

Figure 8-2. Work at LittleBus scored 50.4 which was on the boundary between medium and poor quality work, and work at LittleCoach was poor quality (48.9). The score for BigBus, at 61.8, fell clearly within medium quality. This pattern of scoring corresponds with the findings in chapter 7, where job

quality at BigBus was found to be better than that at LittleBus and LittleCoach. The higher score for BigBus will have influenced the total results for bus drivers, given the much larger sample size for BigBus.
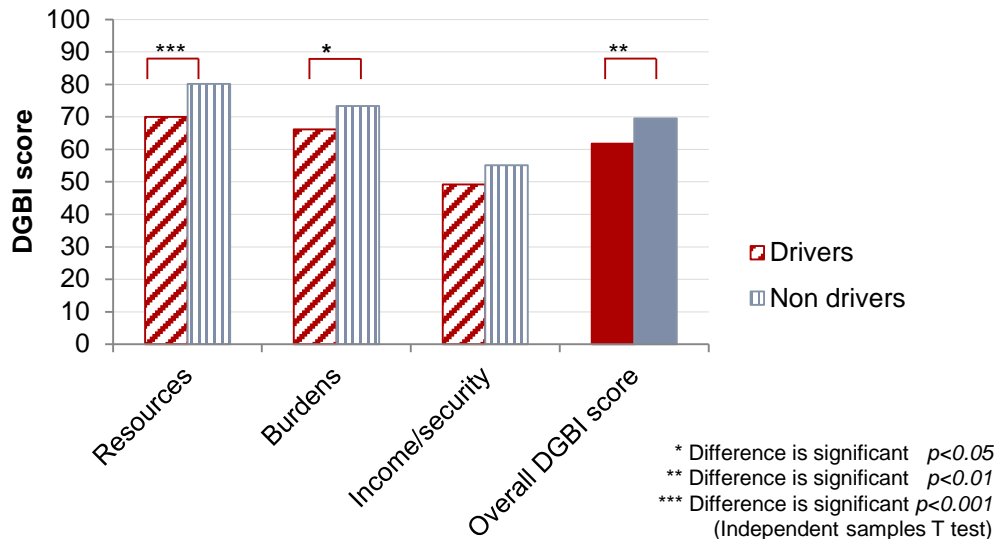
These differences were significant, with overall job quality at BigBus being better than that at LittleBus and LittleCoach ($p<0.01$, $p<0.05$ respectively; Anova with posthoc Tukey test). Job quality was also better in terms of the partial-indices Income/Security ($p<0.05$) and Resources ($p<0.001$). The differences for Burdens were not significant: this reflects those aspects of work which are intrinsic to bus driving, such as time pressures and physical and emotional demands.
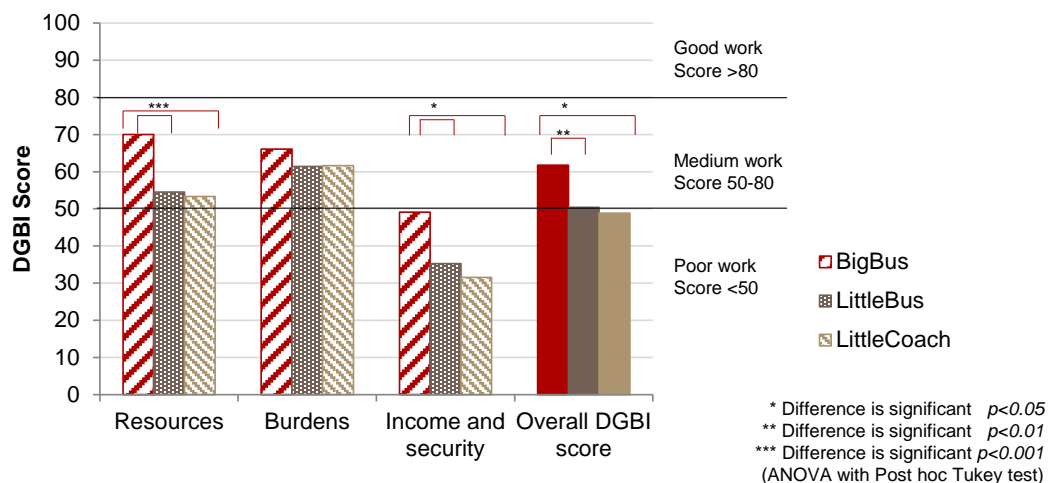
Figure 8-2 DGB-Index scores overall and for partial-indices, by company

8.3.5 **Job quality results compared to non-drivers**

Although bus driving jobs at BigBus scored favourably compared with those at LittleBus and LittleCoach, they were worse than those jobs at BigBus which did not involve routine bus driving (Figure 8-3). This was the case overall ($p<0.01$) and also for the partial-indices Resources ($p<0.001$) and Burdens ($p<0.05$). Only the partial-index Income/Security did not show a significant difference.

* Difference is significant   *p<0.05*
** Difference is significant   *p<0.01*
*** Difference is significant *p<0.001*
(Independent samples T test)

Figure 8-3 DGB-Index scores overall and for partial-indices for drivers and non - drivers at BigBus

Non-drivers were also more likely than drivers to consider their job to be good for their health (Figure 8-4); differences in self-rated health and whether they considered their job to be good were not significant.

*** Difference is significant *p<0.001* (Chi squared test)
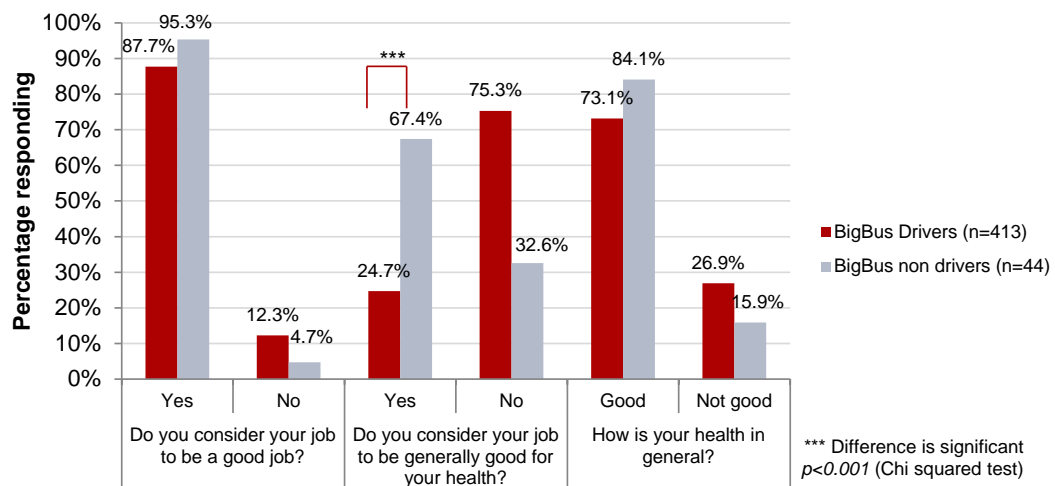
Figure 8-4 Outcome measures for drivers and non-drivers at BigBus

8.3.6 **Job quality in the UK compared to Germany**

Data from the current study were compared to those from bus drivers in Germany (Figure 8-5). Overall scores for LittleBus and LittleCoach drivers were similar to those from Germany; the scores for BigBus were significantly

better than those for Germany (*p<0.001)* for the DGB-Index overall and for each partial-index (2 tailed independent samples t-test).
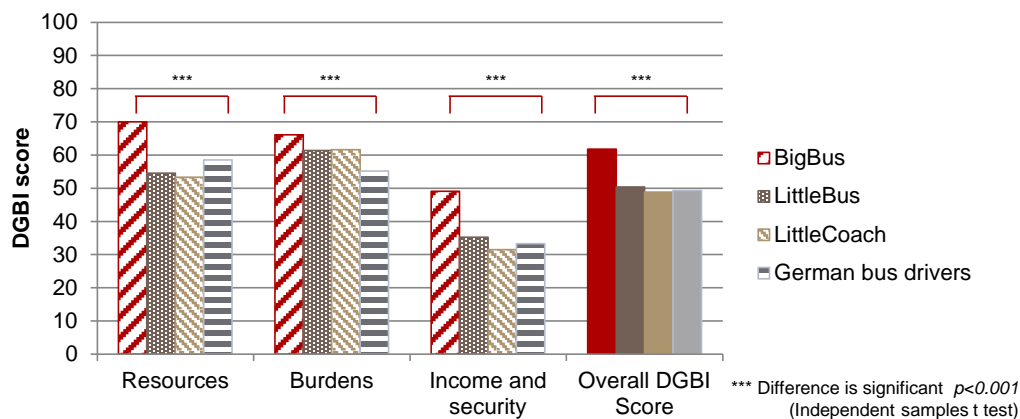
Figure 8-5 Comparison between DGB-Index scores for the UK and Germany

8.3.7 **Job quality compared with outcome measures**

This section will compare DGB-Index scores with dichotomised responses to the global questions included in the questionnaire about whether jobs were considered to be good, good for health and whether respondents considered their health to be good or not (SRH). These outcomes have been considered for the different companies in chapter 7 where it was shown that drivers at BigBus were more likely to consider their job to be a good one than drivers at LittleBus and also more likely to consider their health to be good. It was also shown in section 8.3.5 that non-drivers were more likely than drivers to consider their work to be good for their health.

Comparisons were made using independent samples *t* tests. The results shown in Table 8-5 are based on the data from bus drivers from the three companies. The same tests were conducted using a data set which included non-bus drivers from BigBus (not shown) and this reached similar conclusions. In all cases, scores on the DGB-Index were higher amongst those who gave more positive responses to the global questions. This association between the DGB-Index scores and respondents' overall assessments of job quality indicates that the factors which individuals used when assessing their job quality were either the same as, or closely associated with, those features measured by the DGB-Index tool. The

associations with health are more difficult to evaluate, as those who have worse health may be more likely to judge their job negatively than those in good health.

Women were more likely than men to consider their job to be good for their health (chi squared test, *p<0.01)*. Self-rated health was higher amongst those who had less than 5 years service (*p<0.01)*, those who did not drive to work (*p<0.01)*, and those who worked less than 48 hours per week (*p<0.05)* (all chi squared tests). This may relate to the health effects of bus driving, given that longer hours and longer service are associated with worse health; commuting by public transport or on foot/bicycle may partially offset the health impact of sitting down all day at work.

**Table 8-5 Comparions between DGB-Index scores and responses to the global questions regarding good jobs and health**

Questions	Responses	n	Mean DGB-Index score	SD	Significance
Do you consider your job to be a good job?	Yes (definitely, mostly)	365	62.7	15.83	*p<0.001*
	No (not sure, not really, definitely not)	58	47.3	17.50	
Do you consider your job to be generally good for your health?	Yes (definitely, mostly)	103	68.6	15.58	*p<0.001*
	No (not sure, not really, definitely not)	311	58.1	16.43	
How is your health, in general?	Good (very good, good)	300	63.9	15.91	*p<0.001*
	Not good (fair, bad, very bad)	122	52.4	16.63	

8.3.8 **Dimensions of bus driving**

The results presented in sections 8.3.3 to 8.3.7 relate to the overall scores on the DGB-Index tool and those for the three partial-indices. These are the 'headline' figures. However, the data can also be considered at a more detailed level, comparing results for the 15 dimensions of job quality. This is useful for providing detailed feedback to employers, and also for considering whether the findings of the DGB-Index are plausible based on other sources

of information. Figure 8-6 illustrates the findings for the three bus companies studied. These are shown alongside data from the German sample and from the non-bus drivers at BigBus in Table 8-6; significant differences are also indicated here.

As with job quality overall, the majority of dimensions fell into the category of 'medium'. Only the dimensions relating to *usefulness* of work and *relationships* (at BigBus) were categorised as good, whilst the job scored poorly in terms of *creativity*, *security* and *income*. The relatively high scores for usefulness and the relatively low scores for creativity and pressure are consistent with the nature of the bus driver role, and can be seen across all three companies and also in the German sample. The small amount of variation for these factors suggests that there is limited scope for improvement. Security scored poorly across all samples; there was no evidence that this was an issue which was intrinsic to the industry, it is more likely to reflect economic uncertainties more widely. Interestingly, security was scored more highly at LittleBus than at BigBus. This may reflect that fact that drivers at LittleBus saw their security more in terms of employability overall rather than relating it to the current job (this was demonstrated in chapters 6 and 7).
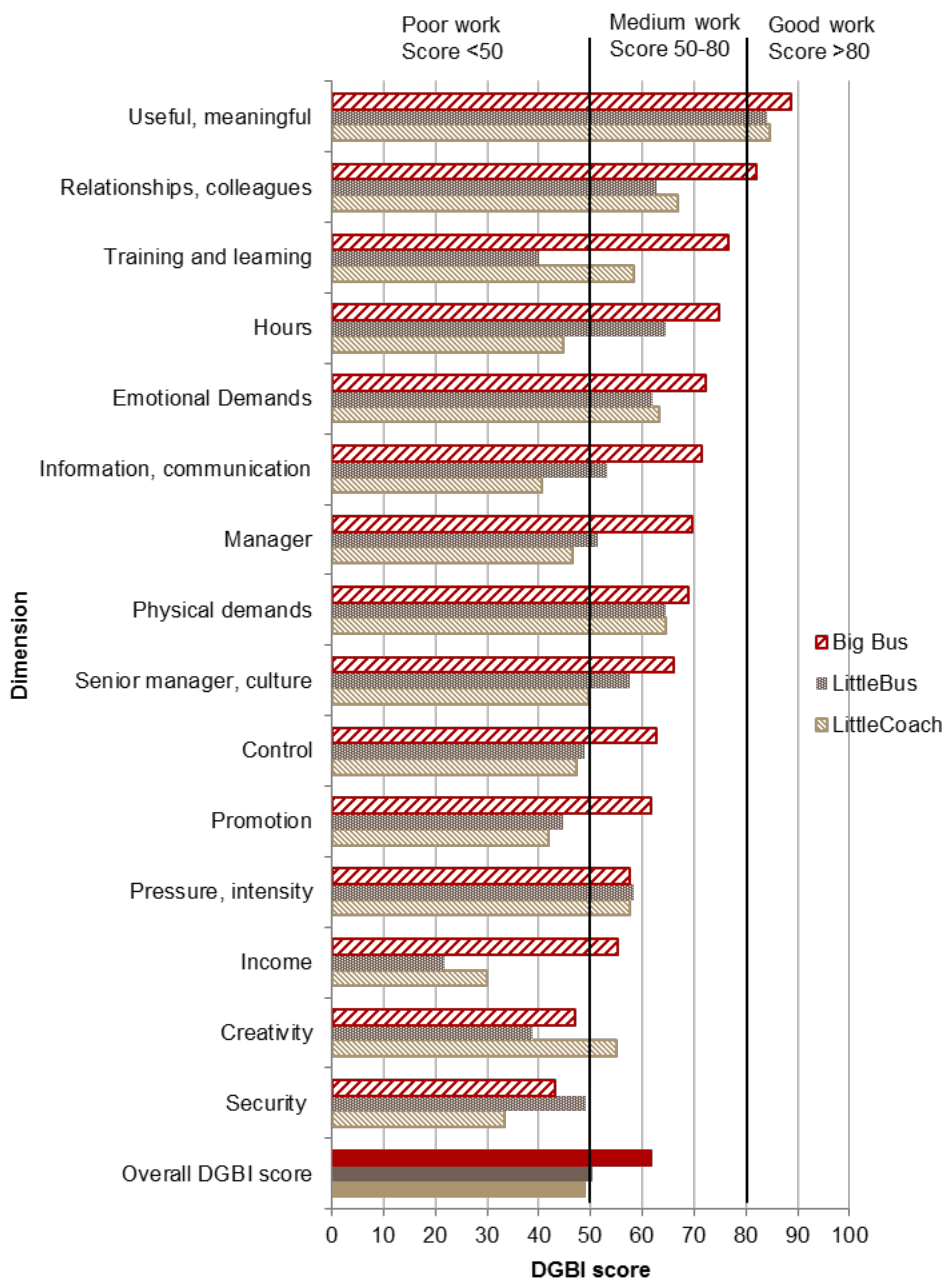
Figure 8-6 DGB-Index scores by dimension and by company

Scores in the smaller companies were particularly low for *income.* Although this outcome reflects low rates of pay, it was also influenced by pension provision. Neither company offered access to a pension scheme, therefore all respondents in LittleBus and LittleCoach scored zero on the question relating to this (which contributed one third of the total score for the income dimension). Other dimensions where there were large differences between the companies were *training, information,* and *promotion.* These all reflect

variation which was also highlighted by the qualitative data; this will be considered further in the discussion section of this chapter.

Non drivers scored more highly than the BigBus drivers on every dimension except security, many of these differences were significant (Table 8-6). The biggest difference was for *creativity* with drivers scoring 47.0 and non-drivers 80.5. This demonstrates that job quality, even in a relatively good bus company, is still lower than that for non-drivers in many ways.

The results for the German drivers were similar to those for LittleBus and LittleCoach with the exception of *information* where they scored more highly. Like LittleCoach and LittleBus, the German drivers scored lower than BigBus on many dimensions.

Table 8-6 DGB-Index scores broken by dimension scores, presented for the three study companies and the two comparator samples

	Big Bus		LittleBus		LittleCoach		Non-drivers (BigBus)		German	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Useful, meaningful	88.5	15.66	83.9	26.75	84.5	21.14	91.4	8.45	88.5	14.26
	No significant differences found									
Relationships, colleagues	82.0	21.49	62.5	34.73	66.6	23.57	90.9	14.82	75.2	25.01
	BigBus is better than Little Bus and Little Coach (p<0.01)						BigBus is worse than non-drivers (p<0.01)		BigBus is better than German drivers (p<0.05)	
Training and learning	76.4	18.36	39.9	27.80	58.3	27.73	84.1	21.45	45.9	22.73
	BigBus is better than LittleBus (p<0.001) and LittleCoach (p<0.05) LittleCoach is better than Little Bus (p<0.05)						BigBus is worse than non-drivers (p<0.05)		BigBus is better than German drivers (p<0.001)	
Hours	74.6	18.17	64.5	29.36	44.4	20.89	76.0	19.61	57.2	26.92
	BigBus is better than LittleCoach (p<0.001) Little Bus is better than Little Coach (p<0.05)								BigBus is better than German drivers (p<0.001)	
Emotional Demands	72.2	29.39	61.9	36.66	63.1	35.16	74.4	27.45	49.5	34.19
									BigBus is better than German drivers (p<0.001)	
Information, communication	71.4	24.14	53.0	32.01	40.5	31.83	73.0	22.90	70.1	25.76
	BigBus is better than LittleBus (p<0.01) and LittleCoach (p<0.001)								German drivers are better than LittleBus (p<0.01) and LittleCoach (p<0.001)	
Manager	69.5	19.89	51.2	32.40	46.4	35.36	78.0	22.19	57.9	26.91
	BigBus is better than LittleBus (p<0.01) and LittleCoach (p<0.05)						BigBus is worse than non-drivers (p<0.01)		BigBus is better than German drivers (p<0.001)	
Physical demands	68.8	21.11	64.3	26.81	64.3	21.87	79.6	23.05	57.4	21.72
							BigBus is worse than non-drivers (p<0.01)		BigBus is better than German drivers (p<0.001)	
Senior manager, culture	66.0	24.20	57.4	27.80	49.4	32.75	74.4	24.16	55.5	27.77
							BigBus is worse than non-drivers (p<0.05)		BigBus is better than German drivers (p<0.01)	
Control	62.6	19.09	48.6	24.21	47.2	28.63	83.8	14.87	44.3	21.95
	BigBus is better than LittleBus (p<0.001)						BigBus is worse than non-drivers (p<0.001)			
Promotion	61.6	27.13	44.4	31.68	41.7	30.49	69.4	25.73	39.1	23.67
	BigBus is better than LittleBus and LittleCoach (p<0.01)								BigBus is better than German drivers (p<0.001)	
Pressure, intensity	57.3	27.26	58.1	29.72	57.5	27.70	65.9	20.99	56.1	29.38
							BigBus is worse than non-drivers (p<0.05)			
Income	55.1	27.45	21.7	26.04	29.8	23.72	69.3	21.46	25.5	24.23
	BigBus is better than LittleBus and LittleCoach (p<0.001)						BigBus is worse than non-drivers (p<0.001)		BigBus is better than German drivers (p<0.001)	
Creativity	47.0	22.76	38.7	32.88	54.8	29.54	80.5	26.01	45.3	24.41
	No significant differences found									
Security	43.1	34.74	48.8	40.30	33.3	38.11	40.9	34.17	42.6	38.42
	No significant differences found									

8.3.9 Which dimensions best predict whether a job is considered good, or good for health?

Logistic regression was performed to assess whether any of the 15 dimensions were individually important in predicting answers to the global questions:

- Do you consider your job to be a good job?
- Do you consider your job to be generally good for your health?
- How is your health, in general?

As previously, dichotomised responses were used. Before carrying out regression, tests were carried out to exclude multicollinearity. These were satisfactory with tolerance for all dimensions above the 0.1 lower limit recommended by Pallant (2010), and correlations between dimensions below 0.7. Evidence tables for this are shown in Appendix N.

Two sets of tests were carried out in each case. In the first, all complete data cases were included. In the second, outliers were removed based on a ZResid >3.5. This cut-off point was chosen to get a good fit without excluding too many cases. Pallant (2010) advises that cases with ZResid > 2.5 should be examined and that cases with 'very large' ZResid should be removed. Tabachnick & Fidell (2006) present a worked example which includes an outlier with a Zresid of 3.3, they describe this as 'potentially problematic.'

The results of logistic regression are summarised in Table 8-7. In each case, the results with and without removal of outliers are shown, and the best solution (which predicted the most correct responses) indicated in each case.

Table 8-7 Results of logistic regression to assess the significance of individual dimensions as predictors of perceived good jobs and good health

(the preferred models have been left unshaded)

		n	Omnibus chi square	Cox &Snell R square	Nagelkerke R square	% predicted correctly	Dimensions significantly predicting outcome					
Do you consider your job to be a good job?	With full data set (14 missing)	409	χ^2=74.49, p<0.005	0.167	0.301	86.8% overall 97.7% 'good' 19.3% 'not good'		Wald	p	Odds ratio	95%C.I. lower	upper
							Senior manger	7.417	0.006	1.022	1.006	1.037
							Security	4.499	0.034	0.989	0.979	0.999
							Pay	9.670	0.002	1.021	1.008	1.034
	With outliers (15) removed	394	χ^2 = 106.978, p<0.005	0.238	0.477	91.1% overall 98.0% 'good' 34.9% 'not good'		Wald	p	Odds ratio	95%C.I. lower	upper
							Senior manger	6.455	0.011	1.025	1.006	1.043
							Security	0.814	0.004	0.981	0.968	0.994
							Pay	18.203	<0.0005	1.044	1.024	1.064
Do you consider your job to be generally good for your health?	With full data set (23 missing)	400	χ^2 = 53.321 p<0.005	0.125	0.187	77.5% overall 95.4% 'not good' 20.0% 'good'		Wald	p	Odds ratio	95%C.I. lower	upper
							Pressure, intensity	5.463	0.019	1.015	1.002	1.028
							Physical demands	5.280	0.022	1.017	1.003	1.032
	With outliers (17) removed	383	χ^2 = 106.678 p<0.005	0.243	0.382	82.2% overall 93.4% 'not good' 38.5% 'good'		Wald	p	Odds ratio	95%C.I. lower	upper
							Relationships	7.499	0.006	1.038	1.011	1.065
							Hours	11.024	0.001	1.044	1.018	1.069
							Pressure, intensity	10.308	0.001	1.026	1.010	1.041
							Physical demands	9.752	0.002	1.030	1.011	1.048
How is your health in general (SRH)	With full data set (15 missing)	407	χ^2 = 47.613 p<0005	0.110	0.157	73.5% overall 94.5% 'good' 22% 'not good'	No individual variables were significant predictors of this outcome					
	With outliers (1) removed	406	χ^2 = 50.542 p<0.005	0.117	0.167	73.2%						

Features associated with a 'good' job

A model based on the fifteen dimensions of the DGB-Index was able to correctly predict 91.1% of cases of whether an individual considered his or job to be good or not, and accounted for up to 47.7% of total response variance. However, it was only able to predict 34.9% of the 43 'not good' responses'. *Income* and *Senior manager/culture* were significant positive predictors of individuals considering a job good, and *job security* was a significant negative predictor. The negative result for security may reflect the perception of relatively good job security at LittleBus which co-existed with the work being generally poor in other ways (Figure 8-6), and with relatively few at LittleBus considering their job to be a good one (Table 7-7).

Features associated with a 'good for health' job

With regard to whether a job was seen as being good for health, the logistic regression model predicted 82.2% of responses correctly, but predicted 'good' responses less successfully than 'not good' ones. Overall, the fifteen dimensions accounted for 24% to 38% of the variance in responses to the question regarding whether work was good for health. The dimensions which significantly predicted whether a job was considered good for health were *working hours, physical demands, pressure*, and *colleagues*; all were positively associated with a job being perceived as good for health.

Features associated with self-rated health

The model constructed for self-rated health predicted 73.5% of responses correctly overall, but only 22% of 'not good' cases. It accounted for less than 16% of the variance in self-rated health, suggesting that many other factors were influencing health in this cohort in addition to their perceived work quality.

Summary of logistic regression

Overall, the models successfully predicted whether a job was perceived as good and whether it was perceived as good for health. They also predicted self-rated health, but less successfully. They predicted responses from the larger group more

successfully in each case, which is a function of the large differences between the numbers in each response category.

Dimensions have been identified which best predicted whether a job was seen as good and whether it was considered good for health. The odds ratios associated with these were relatively low. However, the dimensions are assessed on a scale which extends from 0 to 100, therefore the difference between a good job and a bad one on each dimension can be large. For example, for the dimension *income*, an individual at the 75th percentile will have a score 55 points higher than one at the 25th percentile, multiplying the impact on response to the global questions up to results which are of practical significance.

8.4 Discussion

The objective of this study was to evaluate the DGB-Index as a measure of job quality. This discussion will begin by comparing the overall findings from the DGB-Index with those from the qualitative data presented in chapter 7, and the literature. It will then consider the content and structure of the tool in more detail, breaking the data down into its dimensions and again comparing these with the qualitative evidence from the three bus companies. Next the usefulness of the DGB-Index for employers will be considered in terms of the outputs it generates. Finally consideration will be given to the practicalities of using the DGB-Index in the workplace and whether there are any limitations in this respect.

8.4.1 Overall findings

Questionnaires were completed by a large cohort of bus drivers, and produced coherent and logical results. Job quality was identified as being higher at BigBus than at LittleBus and LittleCoach, corresponding to the findings presented in chapter 7, and showing that the tool can distinguish between employers within an industry. In addition, the difference found between the drivers and non-drivers within BigBus illustrates that the DGB-Index can differentiate between jobs of different quality.

The actual scores for the bus drivers showed the work to be of medium quality at BigBus and poor/borderline poor at LittleCoach and LittleBus. These low scores are

consistent with the literature which finds bus driving to be a job with unfavourable working conditions (Jettinghoff & Houtman 2009), which provides low job satisfaction (Rose 2003) and is bad for health (e.g. Tse et al 2006). The higher score for BigBus is similarly plausible, given its reputation as a particularly good employer within the sector: with terms and conditions exceeding those of its competitors, and good training and promotion opportunities. However, even with such high commitment from the employer, job quality for bus drivers was still only of medium quality. The findings also showed parity with the German bus driver data, suggesting that the translated version of the DGB-Index is comparable with the original. The poor scores from Germany were similar to those at LittleBus and LittleCoach, and significantly lower than those at BigBus. This is credible, given that the bus industry in Germany has seen significant changes over the last two decades, with improvements in passenger service being achieved through cutting driver salaries and benefits and increasing working hours (Buehler & Pucher 2011). In this respect, it is unrepresentative of Germany industry as a whole, with its reputation for long term employer-employee relationships, strong trade unions and relatively good levels of workplace safety, pay and security (Hall & Gingerich 2004; Peña-Casas & Pochet 2009).

Those respondents who considered their job to be good overall had higher scores than those who did not, demonstrating that the factors measured by the DGB-Index are closely associated with those which employees use when assessing job quality. Exactly which measures employees use in making this judgement is a matter of much debate in the literature. Rose (2007) has suggested that extrinsic factors such as pay and security are the most critical, yet job content (Clark 2005), relationships (Lowe & Schellenberg 2001) and usefulness to society (Muñoz de Bustillo Llorente et al 2009) have also each been identified as being the most important. Despite the association between DGB-Index scores and perceived overall job quality, the best model that could be constructed using logistic regression still predicted less than half of the variation between those who considered their job to be good and those who did not. This highlights the importance of other elements for perceived job quality. This might include job features or dimensions which are not included in the tool, for example location, responsibility or non-pay benefits. It might also reflect the

influencing factors discussed in chapters 5 and 6 – such as personality, personal situation, expectations, gender and stage of life.

Scores were also higher for those who considered their job to be good for their health than those that did not, but again the DGB-Index predicted only 38% of the variance: indicating that other things influence this relationship, perhaps the same factors mentioned above. In addition, it is difficult to determine the direction of the relationship. Those with poor health may attribute this to their work, a common tendency even where problems are just as likely to relate to non-work activities (Burton et al 2009). DGB-Index responses predicted even less of the variation in self -rated health. It is therefore difficult to draw firm conclusions regarding the DGB-Index and its association with employee health. Longitudinal studies which assess job quality and health across a number of industries would be necessary to further validate the tool in this respect

8.4.2   Structure and content of the DGB-Index

Individual dimensions

As with the overall DGB-Index results, findings for the individual dimensions (Figure 8-6) were plausible, showing good results for usefulness and low scores for creativity and income. The smallest differences between the three companies related to dimensions which are intrinsic to bus driving such as pressure and physical demands. These findings can be matched with the qualitative data which were presented in chapter 7. Table 8-8, which also shows the questions used to assess each dimension in the DGB-Index, summarises both sets of results. It compares the two and consequently identifies a number of limitations in the DGB-Index tool.

Table 8-8 A comparison between data gathered in three bus companies using the DGB-Index tool and qualitative findings from chapter 7

DGB-Index Dimension Contributing questions	DGB-Index findings	Qualitative findings	Comparison between DGB-Index and qualitative data	Implications for DGB-Index
Useful Do you feel that your work is useful for society?	• Good across all companies (and also for non-bus drivers and for German sample)	• Recognition that bus driving is important for society • Some felt that passengers do not value it	• Broad agreement	_
Relationships, colleagues Do your colleagues help and support you when you need it?	• Significantly better at BigBus than LittleBus and LittleCoach • Better for non-drivers than drivers	• Generally relationships were satisfactory • There was limited scope for close friendships, most work time was spent alone • Rest facilities at BigBus were more conducive to socialisation, especially at the two smaller depots • BigBus drivers valued being able to swap shifts with colleagues	• Broad agreement	_
Training and learning Do you get opportunities to undertake useful training? Does your work allow you to develop your knowledge and skills further?	• Better at BigBus than LittleCoach • Better at LittleCoach than LittleBus	• Excellent at BigBus, provision at LittleCoach and LittleBus was limited	• Some mismatch – training provision at LittleCoach appears to be overvalued on the DGB-Index results • This may reflect greater opportunities to apply learning at LittleCoach due to the different nature of the role. For example, knowledge of tachographs is very important here	_
Hours Do you have control over how much overtime you work? Are your working hours reliable and predictable? Are your needs sufficiently considered when planning your working hours?	• BigBus and LittleBus were better than LittleCoach • BigBus was better than LittleBus (not significant) • All scored reasonably highly, particularly BigBus	• Unsociable hours at all companies • At BigBus hours were very varied but highly predictable and there was scope to swap shifts • At LittleBus, working days were long • At LittleCoach there was little advance notice and days could be long	• The DGB-Index reflects the variation between companies • Overall, the scores are higher than would be expected given the unsociable nature of the hours. This may reflect self-selection into the job by those who are tolerant of the unsociable hours	• The questions do not address long or unsociable hours

Table 8.8 continued

DGB-Index Dimension Contributing questions	DGB-Index findings	Qualitative findings	Comparison between DGB-Index and qualitative data	Implications for DGB-Index
Emotional demands Do you need to hide your feelings at work? Do others at work disrespect you or talk down to you?	• Scores at all three companies were similar	• There was variation amongst drivers; some felt disrespected by passengers, some did not	• Broad agreement	–
Information Do you get all the information you need to do your job well? In your work, are there conflicting or contradictory demands?	• BigBus was significantly better than LittleBus or LittleCoach	• BigBus controlled work more rigorously; they maintained high contact with drivers through radios in cabs	• Broad agreement	–
Physical demands Do you have to work physically hard (e.g. heavy lifting, carrying, pushing or pulling)? Is your body under strain when you are working (e.g. through prolonged standing, sitting or uncomfortable positions)? Are you exposed to loud noise in your job?	• Scores in all three companies were similar, and reasonably good. • Scores for non-drivers were better than for drivers	• Very low physical demands; some saw the job as 'easy' but most saw an adverse effect from immobility	• The similarity between the companies (and the difference with non-drivers) indicates that the level of demand is intrinsic to the job • Scores on the DGB-Index are higher than expected given the adverse effect of immobility	• The impact of prolonged immobility needs to be better addressed
Manager Does your supervisor /line manager plan your work well? Does your supervisor/line manager make you feel valued? Does your supervisor/line manager value training and personal development?	• BigBus scored better than LittleBus and LittleCoach, and worse than non-drivers	• There was limited manager activity overall, and good and bad aspects in all companies • The small companies provided greater accessibility to senior managers but there was more inconsistency in decision making, and the company culture was more overtly influenced by the company owner • BigBus had a clearer structure in the roles of its managers	• Broad agreement	–
Senior manager Do you think that your workplace encourages good working relationships? Do you think that your senior managers do their job well?	• BigBus scored better than LittleBus and LittleCoach (not significant) and worse than non-bus drivers		• Broad agreement	–

Table 8.8 continued

DGB-Index Dimension Contributing questions	DGB-Index findings	Qualitative findings	Comparison between DGB-Index and qualitative data	Implications for DGB-Index
Control Can you independently plan and organise your work? Can you influence the amount of work you are asked to do? Can you influence how your work time is organised?	• BigBus scored better than LittleBus and LittleCoach, worse than non-drivers • Scores were medium at BigBus, low at LittleCoach and LittleBus	• Generally limited scope for decision making; some individuals were happy with this, others less so • Greater perception of freedom at LittleBus	• The score for BigBus is higher than expected • The difference might reflect differences in control over working hours rather than what actually happens during those hours (due to interpretation of 'amount' of work)	• Questions may benefit from rewording
Promotion Do you have promotion prospects in your organisation?	• BigBus better than LittleBus and LittleCoach	• Limited scope at LittleBus and LittleCoach, better at BigBus	• Broad agreement	_
Pressure Is your work disturbed by unwanted interruptions? Does your work make you feel rushed or under time pressure? Do you have to reduce the quality of your work to get it finished in time?	• Scores were very similar for all companies (but lower than for non-drivers)	• There were time pressures in all companies, this bothered some individuals more than others. It was more actively managed at BigBus, they also recruited drivers based on personality characteristics	• Broad agreement, this dimension is related to the intrinsic nature of the job.	_
Income Do you think your pay is fair for the work you do? Thinking about the wage you earn in your current job, which one of the following statements is most accurate? Thinking about the pension you will have when you retire, which one of the following statements is most likely?	• BigBus better than LittleBus and LittleCoach, worse than non-drivers	• Poor at LittleCoach and LittleBus, reasonably good at BigBus especially compared to industry standards	• Broad agreement	_
Creativity Do you have opportunities to use your own ideas at work?	• Low in all companies, a little better at LittleCoach	• Some drivers found the job interesting, some didn't, but there was no creativity. There was little difference between companies, although coach drivers may have had more opportunities e.g. when on overseas trips	• Broad agreement, this limited opportunity is intrinsic to the job	_

Table 8.8 continued

DGB-Index Dimension Contributing questions	DGB-Index findings	Qualitative findings	Comparison between DGB-Index and qualitative data	Implications for DGB-Index
Security Are you anxious or worried about the future of your job/work?	• Relatively poor across all companies, but better at LittleBus	• Good and bad aspects in all companies. At BigBus robust management was seen as a limiting factor, at LittleCoach there were uncertainties regarding guaranteed hours	• The slightly higher perceived security at LittleBus may relate to feeling employable elsewhere rather than just at LittleBus	_
Safety	• (this is addressed only in terms of 'noise' under physical demands)	• Risks from passengers and traffic. • Poor attention to safety and welfare management at LittleBus and LittleCoach		• This aspect is inadequately addressed in the DGB-Index

The number of questions included in the DGB-Index about physical hazards has been identified as being relatively low compared to those for psychosocial hazards (Prümper & Richenhagen 2009). In the current study, the tool did not reflect the potential safety risks arising from traffic and passengers, nor did it identify the differences in safety management between the companies. In other industries it would similarly fail to take account of hazards such as chemical exposures, extremes of temperature or dangerous machinery. These factors are extremely important; safety was identified as a core feature of job quality in the model proposed in chapter 6, and this should be reflected in the questionnaire.

The DGB-Index tool asks whether the job involves physical work, and scores this as a detrimental element. Yet there is a recognition that physical work can be a positive factor, with the best health outcomes from work which is moderate in its physical demands (Parkes et al 2005; Straker and Mathiassen 2009). The DGB-Index includes a question about strain and prolonged standing or sitting, but this is insufficient to highlight the truly sedentary nature of the work which is an important risk in bus driving as well as in many office based jobs (Boyce et al 2008; Saris et al 2003), and contributes significantly to increased mortality (Wilmot et al 2012). The questions relating to physical demands would therefore benefit from further development.

An additional area of discrepancy relates to job content. This is assessed in the DGB-Index by asking whether work is creative and useful. These are very narrow questions; the qualitative interviews described in chapters 5 and 6 highlighted that the exact nature of people's work, what they actually did, was more important to their assessment of work quality than specific issues such as whether it was interesting or useful.

Finally, the questions relating to working hours and control show some overlap in terms of control over working hours, yet fail to assess the presence of known risk factors such as shift working or unsociable hours (Costa 2003).

This partly reflects the difficulties of categorising work factors into a small number of dimensions, this was also identified as an issue in the development of the job quality model presented in chapter 6. The questions which relate to these two dimensions would benefit from further refinement.

DGB-Index weighting structure

Prümper and Richenhagen (2009) have criticised the weighting structure of the DGB-Index. Their concern is that the greater number of questions for the partial-index Resources results in each having a lower impact on the final score than questions relating to Income/Security (and to a lesser extent, for Burdens). Fuchs (2010) has defended this on the basis that pay and security are highly relevant for health; the literature also supports this conclusion (Grzywacz & Dooley 2003). In the current study, pay was one of the features which contributed most to whether questionnaire respondents considered their job to be good or not (Table 8-7), and security was a universally important, core feature in the job quality model in chapter 6. This supports the high weighting attached to extrinsic factors. Physical demands and pressure were two of the features most strongly associated in the current study with whether work was seen as good for health. Again, the importance of these features is supported in the literature (NRCP 2006; Stansfeld & Candy 2006): therefore the higher weighting of individual dimensions relating to Burdens over those classed as Resources in the DGB-Index can also be justified. By comparison, some of the features included under Resources were identified in chapter 6 as being of relatively low importance to interviewees, for example whether work was interesting or creative, and whether it was useful for society. Therefore, the relatively low impact these have on the final DGB-Index score is again appropriate.

There are limitations in the index structure. The dimension working hours is classed as a Resource in the DGB-Index, and hence has a relatively low influence on the final score. Given the potential for working hours to influence health (Costa 2003) and also the fact that this feature can be a limiting factor

for some people in job choice, an increase in the impact this element has in the final score would be advantageous.

A formal review of the DGB-Index was published after the current study commenced (Schütte 2011); although it found the tool to be satisfactory in terms of its overall measurements and those of the dimensions, it raised concerns about the factor structure of the DGB-Index, with regard to the allocation of the dimensions to the partial-indices Resources, Burdens and Income. This echoes the concerns of Prümper and Richenhagen (2009) which are outlined above. A revised version of the tool has subsequently been developed in Germany to address these issues (Holler 2014), and is discussed further in the conclusion to this chapter.

The DGB-Index and individual variation

It was observed in the introduction to this chapter that the measurement of job quality is complicated by the existence of personal variation, but that the DGB-Index tool accounts for this. In reality, it does so to a limited degree. For example, an individual who perceived a high level of a resource would score 100 points; one who found a particular resource lacking but was unconcerned by this would score only 50 points. Thus the job would be scored as relatively poor on this dimension, although the employee did not consider it so. This reduces the scope of the DGB-Index to reflect personal preference. For some dimensions the impact is likely to be minimal – for example those which address core features such as safety, security, or fair pay. For others, such as autonomy or promotion, the effect is more marked, as there is a wider variation in the perceived importance of such features. However, even with the current structure and scoring system an employer who ensured a good fit between job and individual would score more highly than one who did not. The scoring system is therefore 'fit for purpose' in this context. It also ensures that employers are encouraged to improve job quality overall as well as improving job-employee match.

Summary regarding DGB-Index structure

Overall there are some limitations in the structure and content of the DGB-Index, and revision of the tool to address these would improve its content and construct validity. Nevertheless it has generated useful data which are coherent and plausible and which broadly correspond to those from other sources.

8.4.3 Usefulness of the DGB-Index for employers

There are two aspects of the DGB-Index which make it particularly useful for employers. The first is the clarity of the outputs which can be produced. These show whether job quality is good or not overall and for each dimension, and can show comparisons with other organisations if the data are available. Secondly, the focus on job-employee match is useful. Raising standards is the ideal way for an employer to address many aspects of job quality such as safety, income or working hours. However, where this is not possible, there is an opportunity to improve perceived job quality by matching employees and jobs more effectively. For example, in an organisation which had little scope for individuals to advance, an employee who had no interest in promotion would score more highly on a question about this (i.e. would consider it a relatively better job) than a colleague who had aspirations.

There are limitations to the DGB-Index data. Had they been used as the sole basis for feedback to the companies in the current study, opportunities would have been lost to highlight the issues regarding manager role at BigBus, the poor hours at LittleBus and the poor training at LittleCoach. This relates in part to the content limitations outlined above, but also reflects the fact that all survey outputs are a blunt tool (Groves et al 2009). Further supporting data are therefore important; for example the HSE recommend that focus groups and discussions with employee representatives should be used to explore problems and develop solutions once headline data have been gathered through a survey such as this one (HSE 2007).

8.4.4 The practicalities of the DGB-Index as a job quality measurement tool

A final aspect to consider with regard to the DGB-Index is its practicality as a tool for measuring job quality across a wide range of industries. As a general principle, written questionnaires are of limited value when respondents may have restricted language or literacy skills (Bryman 2008). Although this does not prohibit their use in job quality assessment, it does require that questions are structured as simply and clearly as possible. Unfortunately the structure of the DGB-Index is complex as a consequence of the two part question structure which in other respects is a key strength of the tool. This resulted in 74% of respondents in the pilot study failing to complete the questionnaire correctly. In the main study the failure rate was reduced substantially by revising the layout and adding clearer written instructions. Additional steps were taken at BigBus including giving verbal instructions to participants (by means of a film clip of the researcher), allocating work time to complete the questionnaire, and having trainers available to assist any who had difficulty. However the failure rate, at 8.5%, was still high. Tse et al (2007), used a simpler question structure with a similar cohort of bus drivers, and discounted only 2% of returned questionnaires due to non-completion.

One potential solution to this would be electronic administration of the questionnaire which would enable question presentation to be simplified. This may pose additional challenges where employees have limited computer access and does not necessarily address the issue of poor literacy, but it is achievable for a well-motivated employer (Broughton et al 2009). Automated systems e.g. Audio Computer-Assisted Self-interviewing (Axinn & Pearce 2006) may be one option. An alternative solution would be to administer the questionnaire as part of an interview, either face to face or by telephone. This could be successful if data were gathered at a population level perhaps as part of existing data collection exercises such as the European Conditions Working Survey or the British Household Panel Survey. However, collecting data in this way at an organisational level is unlikely to be practical: thus, in

its current form, the tool is best suited to use with populations who have a good level of motivation and literacy.

8.5   Strengths and limitations of the study

A particular strength of this study was the opportunity to compare DGB-Index outputs with qualitative data gathered in the same companies at the same time. The similarities between the two sets of conclusions demonstrate the overall content and construct validity of the English language version of the tool. At the same time the study design has made it possible to identify areas for possible improvement and development.

A further strength of the study was the sample size and response rate from BigBus. Incorporating the questionnaire into mandatory training provided a large, representative sample with a high response rate (100%). This compares to typical response rates of 20% - 50% in similar studies (Tse et al 2007). However, response rates from the two smaller companies were lower (around 25% once incomplete questionnaires were removed). It was not possible to draw conclusions regarding the representativeness of these samples as comparator personnel data were not available. The sample may therefore be comprised of those who were particularly unhappy in their work and welcomed an opportunity to share this with the researcher; this would be an alternative explanation for the poor scores of LittleBus and LittleCoach compared with those at BigBus. The correspondence between questionnaire findings and interview data (from chapter 7) provides some reassurance regarding reliability, but interviewees were similarly not a random sample. Furthermore it is likely that there is an overlap between interviewees and questionnaire respondents at LittleBus and LittleCoach which further limits confidence that the findings necessarily reflect the views of the whole workforce.

The high level of missing data (i.e. incomplete questionnaires) was a further limitation. It is likely that the removed questionnaires disproportionately represented those employees who had poor literacy or language skills; this

was an issue for the sample at BigBus as well as at the two smaller companies. The likely effect would be to lower DGB-Index scores, through the removal of respondents with fewer job choices and potentially lower expectations who might see the job more favourably.

The fact that data were only gathered within the bus industry limits the external validity of this study and thus the extent to which the conclusions from this study can be generalised more widely (Bryman 2008). Further testing would be required with a more varied sample to improve confidence that the tool can consistently and reliably distinguish between good and bad jobs and industries. If such data were gathered longitudinally it might also demonstrate that a better job as measured by the DGB-Index predicts improved health. Currently this can only be hypothesised based on the literature which demonstrates the health effects of the features measured by the tool.

The tool used in this study was designed for use in Germany. This was predominantly a strength, as it provided an opportunity to test the tool in a different language and employment culture, and thus extend its scope. Careful translation and pilot testing ensured that the revised tool was as close to the original as possible but was also intelligible and idiomatically correct for an English speaking workforce, maximising face validity (Rick et al 2001). Translation of response scales was particularly challenging, so that the final questionnaire was less linguistically attractive than it might have been had it been designed from first principles. The methodology used for the translation process was not a validated one, so there may be significant differences between the versions. The main consequence of this is to limit the comparability between German and English data sets and improved reconciliation would be required if the tool were to be used more widely in this respect. An additional example of this relates to data analysis. There were some inconsistencies relating to treatment of missing data between the guidance given by the German team and the evidence from their analysed data set, leading to a concern that their methodology in this area was flawed.

A decision was made in the current research to use a different process to handle incomplete questionnaires. The difference between the two methods affected DGB-Index scores by around 2%.

One final disadvantage arising from the decision to use a non-English survey tool was the limited access to published literature. This has made it more difficult to engage with the academic debate regarding the use of the tool. To minimise the impact of this, key texts have been translated, including the critical paper by Prümper and Richenhagen (2009) and the subsequent defence by Fuchs (2010). In addition close links have been established with the tool's owners, to ensure that this study reflects current developments despite limited access to the published literature.

8.6   Conclusions and future work

This study was designed to evaluate the DGB-Index tool, and specifically to answer the following questions:

- o Can the DGB-Index be used for measuring job quality in the United Kingdom?
- o Can it differentiate effectively between jobs and employers of different quality?
- o Does the DGB-Index generate data which would be useful for employers who wish to improve job quality?

The findings of the study were coherent, with the tool differentiating between jobs and between companies within the bus industry. Findings were similar to those from qualitative research undertaken in the same companies. The pattern of results was also similar to those from bus drivers in Germany. This shows that the process of translation into English has been successful, producing a tool with reasonable validity. The tool also generated data which were useful for employer feedback.

The tool has therefore been shown to be useful for job quality assessment, having a broader subject base than other available tools and being better

able to take account of individual variation. A particularly useful output from this study has been the evidence that the tool can distinguish between companies within an industry. The majority of the data previously available from Germany were drawn from national samples and thus not able to assess this. Although the DGB-Index has more recently been used in Germany with individual organisations and within industries (Lindner 2012), the focus has been on supporting the companies to make changes rather than identifying the learning points between them.

A number of limitations to the tool have been identified including some job features which are inadequately covered such as safety and working hours; and the difficulties of using the tool with respondents with limited literacy. Further work is required to address these. Review of the tool has been on-going in Germany (DGB 2013), running in parallel with the current study, and has identified many of the same limitations. A revised tool produced as a result includes additional questions about working hours. It also has response scales which are based on frequency rather than intensity which resolves the difficulties experienced in the current study of finding meaningful translations for the response categories. Respondents who have participated in data gathering in Germany based on this revised version have done so using Computerised Telephone Interviewing, which addresses the concerns raised in the current study regarding the complexity of the tool, and its applicability to those with limited literacy. However, this format is still likely to be of limited use for individual organisations, being better suited to national surveys.

Further details regarding the updated version of the DGB-Index are scheduled for publication in early 2014 (Holler 2014).The forthcoming report includes detailed evidence of psychometric properties which were unreported in earlier papers. It also explains changes to the factor structure (e.g. a reduction from fifteen dimensions to eleven), as revisions have been made to address the concerns raised by Schütte (2011) regarding the DGB-Index's validity in this respect. It would be relatively straightforward to translate the

revised version of the tool as the study reported in this chapter has demonstrated its transferability in principle. Further work could then be undertaken to validate the English version more widely by assessing differences between industries and between companies within those industries. This would also extend the comparator data set and increase opportunities for organisations to learn from exemplars of best practice. Longitudinal studies would be particularly useful to confirm the validity of the tool in relation to associations with health.

The demonstrated comparability between the English and German versions of the tool also opens up the possibility for wider international use. There is widespread interest in comparison between countries, particularly within Europe. For example, substantial data are gathered every 5 years through the European Working Conditions Survey, which enable evaluations regarding individual job features. This has shown, for example, improvements in many respects by the Eastern European nations in recent years and deterioration in the Scandinavian countries (Peña-Casas & Pochet 2009). However, there is currently no process for building these into an overall indicator of job quality with which to 'measure, compare and monitor job quality' in the different states of the European union (Muñoz de Bustillo Llorente et al 2009) or more widely.

This study has confirmed the potential for job quality measurement to take into account individual variation, whilst still producing results which are useful at an organisational or societal level. It has identified that the DGB-Index has some flaws and limitations but nevertheless provides an effective way of measuring job quality which could inform improvement at company, industry and national levels.

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Chapter Nine   Discussion and conclusions

9.1   Overview

The aim of this research was to define and describe a 'good' job, taking into account the importance of individual preferences and the impact of work on health. Based on a review of the relevant literature and interviews with a wide range of respondents, a theoretical model has been presented which summarises this construct. The model was then used in a study of three companies in the bus industry, where its application had utility in identifying the similarities and differences between the organisations in terms of the quality of jobs they offered. A questionnaire study of the same three companies using the DGB-Index found similar results, highlighting the usefulness of this survey tool.

The findings of the research are summarised in Table 9-1. This chapter will proceed by presenting these in the context of the four objectives of this thesis. It will then consider the implications for job quality focusing on the associated factors and challenges which were identified in the introduction: namely the identification of the relevant features to include, the importance of individual variation, how job quality should be measured, the outcomes of a good job, and the potential for improving job quality.

The adequacy of the research design for addressing the aims and objectives will then be reviewed, and its addition to knowledge summarised. Finally, the possible directions for further research will be discussed.

Table 9-1 A summary of the key findings from the studies conducted in this research

Study	Study questions	Key findings
Chapter 4: Repertory grid study	o How do employees think about jobs, how do they distinguish and differentiate between jobs, and how does this compare with the literature? o How do employees vary in the ways they think about jobs and in their preferences? o What is the relationship between the factors which employees consider important or desirable (i.e. those which make a job good) and those which they consider are good for their health?	o The themes interviewees used when discussing jobs were broadly similar to those found in the literature including the content of the job itself, relationships and pay; although they also differentiated between jobs in terms of the level of skills required and the extent to which jobs were 'chosen' or merely tolerated o Job content was a key area of discussion and was prioritised above pay by some; there was a particular anxiety about having a 'boring' job o For others, compromises were made in job choice so that pay levels or working hours sometimes took priority over job content o Interviewees varied in the features they sought from and valued in their jobs, with particular variation in relation to the importance of pay, the impact of particular working patterns and the perceived importance of working relationships o The features which influenced whether a job was considered to be good for health included low stress and being physically active; these were different from those identified as contributing to a good job, which related more to the nature of the job itself and relationships with others

Table 9-1 continued

		o Safety, security and colleague relationships were important to most interviewees
Chapter 5: **ManCo** **and** **CleanCo** **study**	o What features do those in low-skilled jobs associate with good jobs and with work which is good for health? o What influences the decisions they make when choosing their jobs? o What influences the variation between individuals with regard to their preferences for jobs and job features?	o Autonomy, promotion, learning, usefulness and interesting work were important to only a few o However, overall job content was an important factor which influenced perceived job quality, particularly at CleanCo o The perceived importance of the manager and of time factors varied between those in the two companies; this appeared to relate to the differences in manager role and the level of work demands between the jobs. Other variations related more to personal factors including family commitments, stage of life, health and personal circumstances o Interviewees often compromised when choosing jobs: practical factors such as hours and location generally took priority over job content o Whether work was considered good for health was influenced by safety factors such as the presence of particular hazards; and the presence of either (too) low or (too) high physical demands. Other than this, whether work was considered to be good for health appeared unrelated to whether a job was considered to be good, although a small number of interviewees identified that being in work was generally better for their health than not being in work o Jobs at ManCo were judged to be good on the basis of employee and manager interviews o Jobs at CleanCo were judged to be good in most respects on the basis of interviews and observation: although they involved high physical demands/work intensity, and job content which was unsatisfactory for some

Table 9-1 continued

Chapter 6: **First Bus** **driver** **study**	o What features do bus drivers from three companies consider are important for a job to be a 'good' job and to be good for health? o What is the extent of variation between individuals? o Does this influence job choice? o How does this compare with the findings from the study described in chapter 5?	o Safety and job security were important to most interviewees, and time factors and pay were the next most important. Colleagues were considered less important than they had been for interviewees in chapter 5 o Whether work was interesting or useful, level of control and opportunities for promotion were of low importance to most, as they had been in chapter 5 o Many drivers expressed concerns regarding the adverse impact on their health of the low physical demands which were intrinsic to the job o The factors which influenced individual job preferences were similar to those identified in chapter 5 and included life stage, personality, personal health and past experience o The extent of variation between drivers extended to preferences regarding the job content: for many, passengers were their priority and gave them satisfaction, but others considered them to be the worst part of the job o Jobs were most commonly chosen due to availability or based on recommendation from family or friends

Table 9-1 continued

Chapter 7: Second Bus driver study	o Is bus driving a good job in the three companies studied? o What are the barriers to it being a good job/a better job? o Is the proposed job quality model satisfactory?	o Job quality was judged to be moderately good at BigBus, on the basis of interviews with employees and managers and observational data. It was judged to be worse at LittleBus and LittleCoach o Low physical activity, unsociable and irregular working hours, and low autonomy were found in all companies. Improvements in these were limited by the intrinsic nature of the job, and would be best addressed by ensuring good fit between jobs and employees o Low pay, poor health and safety management and limited learning opportunities were identified as additional issues at LittleCoach and LittleBus. The barriers to improvements in these were considered to both financial and cultural o Drivers at BigBus were more likely than at the other companies to consider their job to be good, the difference was significant in relation to LittleBus o Drivers at BigBus and LittleCoach had better self-rated health than those at LittleBus, the difference between BigBus and LittleBus was significant. SRH for drivers overall was worse than that for a comparator sample drawn from a study conducted by Health Survey England o The job quality model had value in highlighting key differences in job quality between the three companies. Following further validation and development it could be used to underpin assessment tools to assess job quality in companies and industries

Table 9-1 continued

Chapter 8: Third Bus driver study	o Can the DGB-Index be used for measuring job quality in the United Kingdom? o Can it differentiate effectively between jobs and employers of different quality? o Does the DGB-Index generate data which would be useful for employers who wish to improve job quality?	o Data gathered using the DGB-Index tool showed job quality for drivers at BigBus to be lower than that for employees at BigBus who were not bus drivers o Job quality at BigBus was found to be of 'medium' quality according to the DGB-Index criteria. Job quality at LittleBus and LittleCoach was of 'poor' or borderline poor quality. Job quality at LittleBus and LittleCoach was similar to that for German bus drivers assessed with the German version of the tool o Job quality at BigBus was better particularly in terms of training, income, communication, managers and promotion. Job quality was similar at all three companies in terms of usefulness, pressure, physical demands and emotional demands. These findings were broadly in line with the qualitative data gathered in chapter 7 o The features most strongly associated with whether bus driving was considered to be a good job were senior managers, pay and security o The features most strongly associated with whether driving was considered to be good for health were hours, physical demands, pressure and colleagues o The data from the tool were found to be useful for providing employer feedback. They were incorporated into management reports leading to commitments to make changes in one of the companies o The DGB-Index tool was found to be useful but limitations were identified in some aspects of its content; there are also difficulties in terms of its complexity which limits its use in those with poor literacy

9.2   Summary of findings

9.2.1 **Objective one**

- to assess;
  - a) how a range of individuals conceptualise a 'good' job and the features they consider important, and
  - b) how the same individuals conceptualise a job which is good for health

Which features are important in job quality?

The study described in chapter 4 used repertory grid interviews to explore how individuals from a range of backgrounds thought about jobs and how they differentiated between them. It found variation between interviewees in their priorities and preferences, reflecting the diversity of participants. However there were some core themes, particularly the importance which interviewees attached to job content and what they actually did in their work. This was tempered by the need to compromise on occasion in order to satisfy priority needs such as sufficient income. Overall, the features which were identified by interviewees were similar to those commonly used in the literature to define and assess jobs.

Semi-structured interviews were then conducted with cleaners, manufacturing employees and bus drivers, seeking to identify the features which they associated with good jobs. Job security and safety were found to be important to most interviewees. Whether a job was interesting, useful and provided opportunities for autonomy and promotion was of relatively low importance to most. There were differences between the industries studied, so that colleague relationships were of lower importance to those working as bus drivers than others, and interviewees employed in manufacturing identified managers and time factors as relatively low priorities. Finally, as in the repertory grid study, there was evidence that interviewees made

compromises when choosing jobs, with practical features such as pay, working hours and location taking priority over job content.

There was some divergence between the findings from the two different types of interview. The repertory grid process led interviewees to focus on the intrinsic aspects of their work, the nature of the job itself; there was less discussion around extrinsic factors such as job security and safety. In contrast, the semi-structured interviews addressed these factors specifically and found them to be very important features of a good job for many. At the same time, these interviews had a lower emphasis on job content as the topic was addressed obliquely, asking individuals what they considered to be good in their job, with more specific questions only about usefulness and the importance of work being interesting. The different findings may therefore relate to the variation in interview method. Alternatively they may reflect the intentionally diverse interview sample selected for the repertory grid research; the subsequent studies, by comparison, intentionally focussed on those doing jobs which had relatively low skill requirements. Either of these explanations could account for the differences between the study findings, and it is likely that both made a contribution.

The relationship between work and health

This theme was addressed in the interview studies described above; it was found that whether work was 'good' and whether it was 'good for health' were two different concepts, influenced by different features. There were overlaps between the two; good safety management and not having excessive physical demands were identified as being important in both cases. However, low physical demands were acknowledged to be bad for health but did not appear to influence whether work was considered to be good or not. In addition, questionnaire respondents in chapter 7 were asked whether they considered their work to be good and whether it was good for their health. Many identified their job as 'good' even though they also considered it to be bad for their health, further supporting the finding that they are two distinct concepts.

9.2.2 **Objective two**

- to produce a theoretical model of job quality which reflects the features which make a job good and those which make it good for health, and which accounts for individual variation

Variation in preferred features

The research described in chapters 4, 5 and 6 found that individuals had a range of views regarding what constituted a good job. Differences between them were influenced by factors such as health, stage of life, personal preference and demands outside work such as family commitments. Job choice for some was influenced by the practical or extrinsic features such as working hours or location. However there were also differences in preferred job content, so that some greatly enjoyed their work, even though they did jobs which others considered to be undesirable or unsatisfactory.

A model of job quality

Based on the above studies and the associated literature, a theoretical model of job quality was constructed (Figure 6-2). This distinguished between features which were important to most employees and thus were core elements of job quality which should be provided for all; and those which showed more variation in their perceived significance. Job quality in relation to these features would be maximised by a close fit between job and individual. The model also showed that many features were found to consist of both core and job-fit aspects. Finally, the model accounted for both perceived job quality and the impact of work on health – thus, the importance of physical activity was included as a core feature in view of its strong association with health effects, even though interviewees did not identify it as relevant when considering whether or not a job was good.

The findings from the semi structured interviews covered the scope of job quality more completely than the repertory grid interviews, as there was more discussion on the extrinsic and practical factors around jobs and less focus

on the nature of the job itself. In addition, the semi structured interviews produced data which could be pooled for analysis, whereas the nature of repertory grid interviews made this more difficult. The findings from the semi structured interviews were therefore given greater emphasis when constructing the model. As a result of this, the model was substantially based on interviews within a narrow range of industries. The consequences for its generalisability will be discussed later.

9.2.3 Objective three

- Objective three – to evaluate this model by applying it to different companies within an industry

Evaluating the job quality model

The job quality model was successfully used to assess job quality in three different bus driving companies, identifying similarities and differences between them, and thus informing understanding about the nature of the job and the potential for improvements in job quality in the industry. The importance of individual variation, a key feature of the model was supported by the evaluation. This was particularly apparent in terms of job content, with some drivers considering passengers to be a positive aspect of their work, and others seeing them as a barrier to job quality. There was also variation regarding the impact of other features such as varied or unsociable working hours, low autonomy and the importance ascribed to pay.

The nature of the bus industry made it difficult to thoroughly evaluate some aspects of the model, particularly in terms of the importance of managers and opportunities for learning, and further evaluation based on a wider range of industries is recommended. The model could then be used to underpin tools for the assessment and improvement of job quality.

9.2.4 **Objective four**

- to identify and evaluate a suitable tool to measure job quality

Evaluation of the DGB-Index job quality measurement tool

The DGB-Index, a tool for measuring job quality which had previously been used only in Germany was translated and piloted before being distributed in the same three bus companies studied in chapters 6 and 7. It demonstrated differences between the companies in terms of job quality overall as well as for individual features and it enabled effective feedback to employers on areas where change might be considered. It also showed job quality for bus drivers to be worse than that for non-drivers in one organisation. The study found the tool to be satisfactory overall but identified some limitations in its content and structure. Finally, it demonstrated that the extent of variation between individuals was not a barrier to the measurement of job quality.

Assessing job quality in the bus and coach industry

In addition to fulfilling objectives three and four, the studies described in Chapters 7 and 8 also assessed job quality for bus drivers working in three companies. Using qualitative and quantitative methods respectively, the two studies reached similar conclusions regarding the relatively poor quality of jobs in the industry. There were particular challenges which related to working hours, time factors and low physical demands which affected all three companies and were integral to the nature of bus driving: these would be difficult to eliminate. For other job features such as pay, availability of training and the quality of management and information provision there was variation between the three companies and therefore possible scope for improvement in the companies which provided lower quality jobs. In addition, both studies found wide differences in perceived job quality between individuals, and highlighted that the fit between job and employee was much better for some drivers than others.

9.3 Discussion – the challenges of job quality

9.3.1 How can we describe a good job?

A theoretical model of job quality was produced as a key output of the research summarised above. This model has a different, often wider perspective than many of the interpretations of job quality in the literature, such as the early ergonomics focus on job design for improved performance (Singleton 1972), or the focus on psychosocial aspects in the psychology literature (Warr 2007b). However, it is important to recognise that this broader representation of job quality is itself just one part of a complex and dynamic system. The model illustrates, for example, that individual preferences and interpretations of job quality are influenced by family commitments, personal preferences and past experience. However job quality is also affected by many factors outside the immediate context of employment, and beyond the control of the employer or the employee – so bus driver pay and job security were influenced by competition between companies, by economic recession and perhaps by the extent to which their role was 'valued' in society; job content at ManCo had changed as technology advanced, reducing the manual handling demands and increasing the complexity of the job.

Figure 9-1 sets job quality in this wider context, illustrating some of the factors which bear upon it including the economic climate, legislative processes and the culture and values of the society in which the work is done. It was identified in chapter 1 that a systems approach is one which recognises the interactions between the different components within an environment or situation (Wilson 2014), and that this is highly applicable to the field of job quality. In fact, as Figure 9-1 shows, there are so many influences that job quality can be considered to be part of an open system (Emery & Trist 1965; Eason 2014) or of a system of systems (Siemieniuch 2014). This highlights the independence of many elements shown in Figure 9-1 and the fact that they are largely outside the control of an employer. This research has focussed predominantly on the central part of Figure 9-1 but it
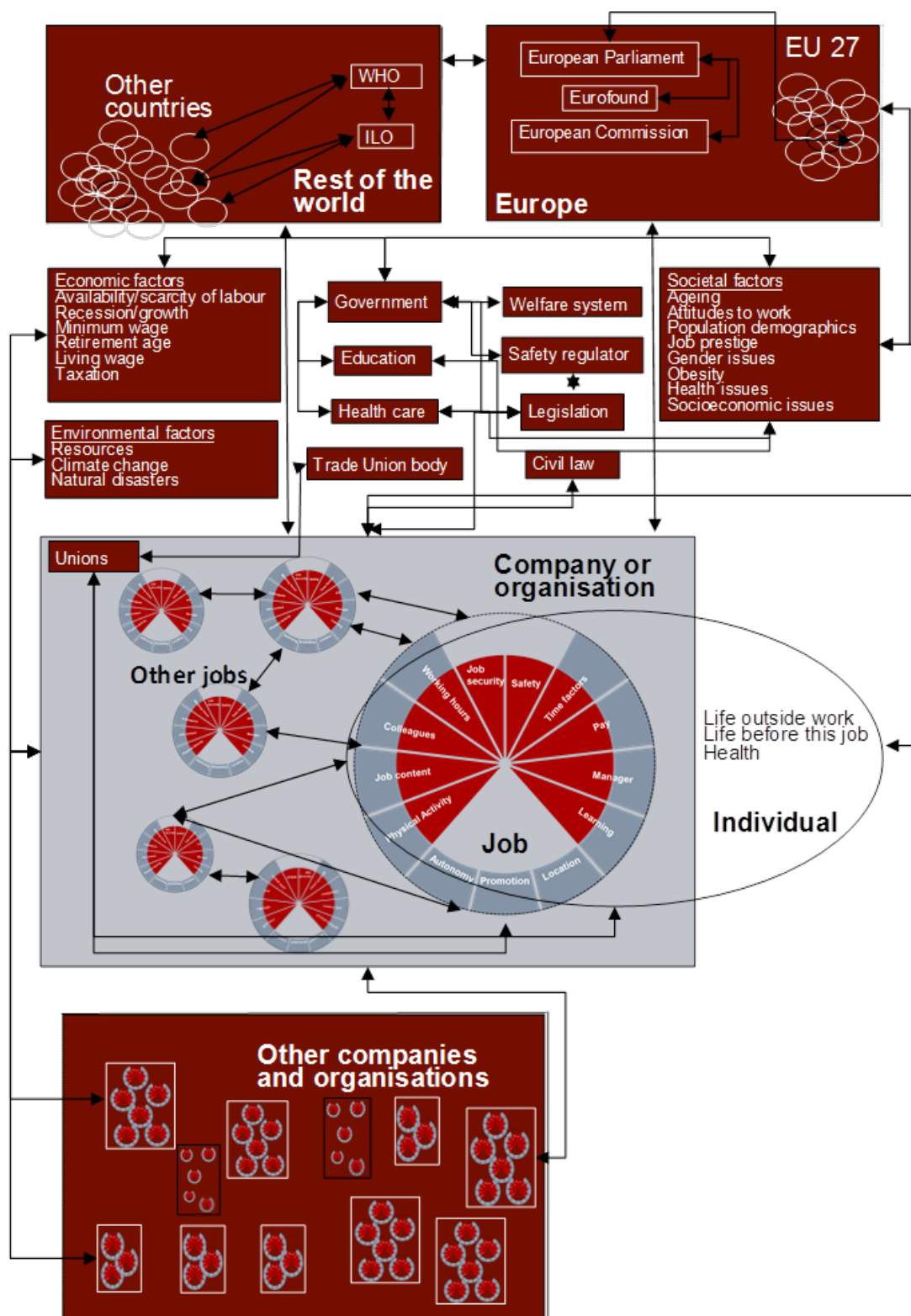
Figure 9-1 Some of the factors which influence job quality and its perception in a wider context

is important to acknowledge the wider picture; factors such as migration, globalisation and welfare systems all impact on job quality and how it is perceived, even though their detailed discussion is beyond the scope of this thesis. Similarly, issues such as the effect of competition on organisational function, and the impact of societal values and job prestige on wage rates have been addressed here only very briefly, but clearly have an influence on job quality and its perception.

9.3.2 The importance of individual variation

It was discussed in Section 9.2.2 that individuals vary in their work preferences, and this is also commonly reported in the literature (Edwards & Cooper 1990; Burgess & Connell 2008). Consequently, good quality jobs depend not just on core requirements such as safety, security and fair pay but also require a fit between the job and the individual. In practice many individuals compromise between conflicting demands and thus take jobs which fit poorly in one or more ways - some interviewees in this research were influenced by practical factors such as the need for particular working hours, or to earn adequate wages and this often took priority over preferred job content. Others disliked the low autonomy of bus driving but tolerated it due to limited opportunities elsewhere.

Kalleberg (2008) has described such mismatches as having negative consequences for individuals and organisations; not only is this difficult to quantify, it is also challenging to address. For example, there is a legal requirement on employees and the self-employed in the United Kingdom to take care of their personal health and safety at work (HSE 1974) – individuals are not permitted to undertake work which involves unmanaged risk. However it is acknowledged that individuals may do shift work because it suits their personal or family needs (Nabe-Nielsen 2013) or is required by their employer, even if it has a negative impact on their health. Similarly it is accepted (in the UK at least), that individuals can choose to work longer hours to increase their earnings, even if this too may have adverse effects – such effects being considered less unsatisfactory than the alternatives. Thus

some interviewees in the current research were resigned to the fact that some aspects of their work did not suit them and had low expectations of having a job which would satisfy all of their needs.

Job-worker fit might be improved through better selection processes at recruitment. BigBus in the current study had introduced psychometric testing and believed this to be successful, but this is more commonly used for senior jobs (Rankin 2009), and is likely to be beyond the resources of many organisations. In addition, whilst such complex assessment may be justified on business grounds (to get the best person for the job) or safety grounds (to reduce the risk of injury or accident) it tends towards paternalism beyond this. For example there were drivers in both LittleBus and BigBus who were clearly unsuited to their work given their dislike of passengers, but they had self-selected the job due to limited options. It would be unwise to conclude that such a mismatched job was worse for individual wellbeing than one which might be worse in other aspects, or to consider it worse than no job at all (Layard 2004).

Job-worker fit might also be improved by developing employee skills so that they are either better suited to their current role or become more employable and thus able to self-select into jobs which suit them better. For example some of the bus drivers in the current research had been given training on how to manage difficult passengers without conflict; some cleaners were capable of higher level jobs but were held back by their limited English. It has been suggested that personal development is essential for employees in the modern workplace to ensure they have the skills and coping mechanisms to respond to constant change (Zink 2011; 2014). However there may be limited opportunities for this, particularly in smaller, less profitable organisations. Tangian (2007) has suggested that training is poor in many parts of Europe including the UK, and this was found to be true for some in this research, despite a specific legal obligation on bus drivers in this respect. In addition there were those in the current study who professed a lack of desire to learn or develop new skills. Docherty (2009) has suggested that it is a human right

for employees to be able to 'develop as a person' through their work; to impose this on those who do not wish it again tends towards paternalism.

Finally, improving the overall quality of jobs would allow prospective employees greater choice when self-selecting into jobs and thus might improve job fit. Core job quality in terms of pay, security and other key features remains poor in many industries; improvements would reduce the pressure on individuals to take unsuitable jobs purely to meet their extrinsic needs. In addition, improved flexibility and skilled management within organisations would enable employees to move between roles and working patterns as their needs changed. There was evidence in the current study of individuals who had been supported to make changes in response to health problems or to take advantage of promotion and development opportunities; there were others where such opportunities were desired but not offered.

In summary, the fact that individuals seek different things from their work has both positive and negative aspects. At its best it enables a wide range of jobs to be undertaken by a wide range of individuals. However, there may be some jobs which need to be done in society which appeal to a relatively small number of individuals. In addition the matching process is imperfect and this commonly disadvantages those from lower socioeconomic backgrounds (such as many of the cleaners and bus drivers in this study) who have fewer job choices (Siegrist 2009) for reasons similar to those mentioned by interviewees – lack of opportunities due to limited skills, or the need to balance work with other commitments. Improving job-worker fit is important as one element of improving job quality but it is an incomplete solution to the need to improve job quality overall.

9.3.3 How can we measure job quality?

This research has focused on the use of subjective measurement in job quality through the use of interviews and questionnaires; these reflect the work environment 'as experienced by a person' (Warr 2007b, p215). There are advantages to such an approach as responses reflect the personal

standard that an individual holds (Sengupta et al 2009) and also demonstrate differences between employees (Gallie 2000; Warr 2007b). The correlations between assessments of work quality and outcome measures such as health or happiness are stronger when subjective measurements are used (Stansfeld et al 1995; Doef & Maes 1999). The disadvantages of such methods are illustrated by the literature which considers job satisfaction as a proxy for job quality. Given that subjective assessment relates to personal standards, it will be influenced by low expectations or by job options which are highly constrained by circumstance. These are more common amongst those who have low socioeconomic status and who typically have worse jobs: this may result in the adverse characteristics of a job being underestimated. There was some evidence of this in the current research – the majority of bus drivers described their job as being good overall, even though job quality was found to be poor in many ways. Assessment of individual features of job quality using the DGB-Index was more discriminatory, supporting the use of subjective measures in the assessment of individual factors even though they may have limited validity in global assessments.

The advantages of subjective measurement are largely limited to psychosocial risk factors in job quality such as autonomy, job demands and social support. For example, the impact of chemical hazards or excess physical load handling is not reduced by low expectation on the part of the employee, nor by their willingness to tolerate such a situation. Some work characteristics therefore may be better suited to objective or independent assessment – this might include safety, inactivity, whether pay is commensurate with work demands and provides a living wage. These assessments could be combined with subjective measurement (using a tool such as the DGB-Index) for those features where individual preference is the most important determinant of wellbeing.

9.3.4   What are the outcomes of a good job?

The findings summarised in section 9.2 showed that a good job is a different concept from whether a job is good for health. There were some overlaps

between the two but there was limited evidence that interviewees expected their work to be good for them, or that they sought work which might be. This contrasts with the view that work is generally good for health, as presented in the literature (Waddell & Burton 2006) and adopted by the UK government (Department for Work and Pensions / Department of Health 2008). There are a number of possible explanations for this discrepancy:

a) The literature which considers work to contribute positively to health may overstate the relationship. For example the research which compares employment and unemployment (Beiser et al 1993; Waddell & Burton 2006) may be demonstrating the adverse impact of unemployment rather than the benefits of employment.

b) The literature may take insufficient account of the differences between jobs. For example studies which assess the health impact of retiring from work and find it to be disadvantageous (e.g. Sahlgren 2013) consider the population as a whole, and thus discount the adverse impact of low quality jobs on health and the associated benefit of retiring from these.

c) Some individuals do not desire positive health effects from their work, they seek only to get paid. Those who are able to satisfy any other needs elsewhere (for example relating to social or physical activities) may have less to gain from employment.

d) Some individuals may underestimate the benefits which accrue from their work.

This difference in perception is of particular relevance in view of changes to the state retirement age, which is increasing in the UK from 65 (60 for women) to a projected 67 years or older. From a government perspective, the 'good for health' argument supports this policy change, and also the interventions to reduce welfare benefits for those with health problems and disabilities and thus motivate them to return to work. However, those who hold a 'work is not good for health' belief will probably respond negatively to the prospect of working for those additional years. A reduction in the gap between the two

views is unlikely without improvement in the quality of those jobs which do have adverse impacts. In addition, plausible research regarding the true relationship between work and health would be required, together with measures to disseminate more widely any evidence that work carries health benefits.

9.3.5 Can we improve job quality?

Is job quality improvement necessary?

It was found in chapters 7 and 8 that the quality of some jobs in bus driving was poor in many ways including low pay and poorly managed safety, and it has been suggested that such job features are as prevalent now as they were several decades ago (Osterman 2010), and extend beyond the bus industry. For example job security, which was identified as very important by interviewees in chapters 5 and 6, is threatened by increases in contingent employment (Burgess & Connell 2008; ONS 2013), jobs which are casual or temporary to enable employers to be more flexible and cost effective in their business operations. There are similar problems in terms of pay which meets the needs of employees; real wages in the UK have fallen more in the last five years than in any other five year period (Blundell et al 2013), and 25% of the workforce are paid an hourly rate below that required to meet basic standards for living and participating in society (ASHE 2012; Davis et al 2012). Work demands have similarly failed to improve substantially. Physical work demands have fallen little over recent years in Europe, and there have been increased exposures to psychosocial hazards such as rotating shifts and high intensity work (Peña-Casas & Pochet 2009; Kistler et al 2011).

Unfortunately, aspects of low job quality such as these often cluster together, so that jobs which are bad in one respect are often also bad in others (Grzywacz & Dooley 2003; Muñoz de Bustillo et al 2011a; Muñoz de Bustillo et al 2011b). Thus the current research conducted with bus drivers found it to be a poor job in multiple ways - in terms of high time pressures, unmanaged safety risks and long, unsociable working hours, often coupled with poor

wages. This was particularly the case in the smaller companies studied where the lower pay co-existed with longer working hours, worse safety, and fewer promotion or learning opportunities compared to BigBus.

Other jobs are poor in terms of job content. For example, there are jobs in society which are highly monotonous, and others which are considered 'dirty' or unpleasant (Ashforth & Kreiner 1999). Their existence is a consequence of the culture of 'specialisation' (Rose 1985) which underpins the modern workplace: thus an individual who works on a production line may do so as their entire job. Job rotation between different tasks may help to minimise the risks of musculoskeletal disorders from repetitive movements but is unlikely to resolve the monotony of the work; job enrichment to alternate between different tasks and roles may be successful in some situations but can be difficult to introduce where there is an ingrained culture of job demarcation (Trevelyan & Haslam 2001). There may be some individuals who find roles which are generally considered undesirable to be a good fit for them: those who prefer a job which makes few mental demands, or who gain satisfaction from roles which others would view with disdain (Ashforth & Kreiner 1999). However, if too few individuals choose to undertake such roles, they become poor quality jobs for those who have few other options. Again, there is evidence of a confluence of multiple aspects of poor work, so that jobs commonly considered to be of low quality in terms of content are also those which pay low wages or are poor in other ways (Jencks et al 1988). In conclusion, there is evidence that poor job quality persists in some workplaces and industries at least, warranting intervention to improve it.

What will happen to jobs and job quality in the future?
As Figure 9-1 shows, there are many external influences on job quality which have the potential to change the world of work over the coming years. Detailed review of these is beyond the scope of this discussion, but factors such as globalisation, developing technology and a sustainability agenda might all have an impact. There is some dispute regarding the skill levels required for future work. For example, it has been suggested that the need

for skilled workers in the United Kingdom will increase with the move from manufacturing to service work, and enhanced technology (Brown 2006; Drury 2008; Boos et al 2013). However an opposing view observes that unskilled roles in sales, cleaning and caring are actually increasing rather than decreasing (Lloyd & Mayhew 2010).

Certainly in the research presented here, the jobs of the cleaners and bus drivers had not changed substantially over many years, except in increasing intensity, nor were they likely to. Only the roles of those at ManCo had altered markedly, with a reduction in the need for physical labour and increased cognitive demands. Regardless of change to job content and skill, it is unlikely that pay and security will improve for many. In fact, there is a drive within Europe for flexicurity; security is expected to fall within discrete jobs, so that individuals need to become more employable (for example through increased training), more mobile and more flexible (Bredgaard et al 2005; Tangian 2009).

Influencing job quality by working with employers

One approach to improving job quality is to work with individual employers, helping organisations to be sustainable and to use their human resources sustainably (Haslam & Waterson 2013). Ergonomics has traditionally been active and effective in this field and has a key role in helping companies to balance social, ecological and economic goals (Zink 2014). Taking this sustainability perspective highlights the need to focus on employee health as an output of job design, particularly in the light of the changing retirement age as discussed above. Work should be designed and career paths planned to ensure that employees are not 'used up' whilst young and then unable to work in their fifties and sixties (Volkoff 2001).

Intervention to improve job quality within individual companies needs to take account of the wider context, as highlighted by Figure 9-1. For example, measures to reduce load handling will be unsuccessful if they adversely affect work speed, particularly if employees have stringent targets or are paid

piece rates. Measures which increase direct costs, even if they have long term benefits, are unlikely to be adopted by an organisation which is threatened by cheap global imports. And planned workforce training must take account of the cultural and language variations of an international workforce. It was highlighted in section 9.3.5 that multiple aspects of poor job quality tend to co-exist within jobs. Based on this cluster effect, the best scope for ergonomists to improve job quality and enhance the sustainability of the workforce is by focussing on the worst jobs which create the greatest threat. Working with industries and companies where employees are expected to tolerate poor job quality in terms of the features identified as core in the theoretical model presented in Figure 6-2 provides the most scope for gains in job quality. Given the associations between low quality jobs, low socioeconomic status and poor health (Marmot 2004), this also provides an opportunity to have an impact on those people who are at most risk.

Influencing job quality in other ways

It was clear from the investigation of bus drivers described in chapters 7 and 8 that not all aspects of poor job quality can be resolved locally. For example, there may have been potential for buying better buses, revising shift systems or improving employee consultation in the study companies, but job quality was also influenced by intrinsic aspects of the job, the core requirements of a bus driver in modern society; and the influences of that society, its expectation and its values. Hence intervention is required more globally.

Ergonomics has experience of engagement beyond individual organisations. For example, it has involved itself in discussions about obesity (Buckle & Buckle 2011) and the role that work should play in addressing low physical activity (Straker & Mathiassen 2009). It has advised on the measures necessary to support an ageing population to continue effectively at work (Haslam et al 2013). It has influenced government policy on the health of the working age population (Waddell & Burton 2006). However there is limited evidence thus far of ergonomics involvement in the assessment of job quality overall; the lead is more commonly taken by economists (Clark 2005; Muñoz

de Bustillo Llorente et al 2009), and sometimes by work psychologists (Warr 2007b).

One opportunity on the horizon is the forthcoming International Standard on the Human Centred Organisation, which will set out basic principles for businesses to maximise employee wellbeing and achieve business benefits as a result, and which is being led by ergonomists (Stewart & Berns 2013). This is a good opportunity for engagement and perhaps to build the case regarding the cost effectiveness of good quality work. Gathering such evidence and using it to influence governments will be important if there is to be real support for a 'good jobs' agenda. The current climate of austerity has allowed a view that improved job quality is a threat to organisational success (Toynbee 2003; Burchell et al 2013). There is evidence of this perspective within the United Kingdom Government, with a commitment to reduce unemployment through revision of benefit and welfare processes (Grayling 2011) whilst measures to improve job quality such as NHS Plus and the proposed National Centre for Working Age Health (Department for Work and Pensions / Department of Health 2008) have been discontinued. Similarly in Europe, the strategy of the European Union in 2000 to create '*more and better jobs'* (European Union 2001; European Commission 2010) was revised to '*more jobs and better lives'*, (European Commission 2010): illustrating an ambiguity at that level regarding the importance of the quality of work (Davoine et al 2008) and a focus on quantitative measures of employment.

9.4   Review and critique of study design

9.4.1 Overall methodology and study design

As explained in chapter 3, this research was conducted from a realist perspective to allow for the fact that job quality is influenced by both material factors such as safety and pay rates and by the perspectives and preferences of individuals. Such an approach has been advocated by Dekker

et al (2013) who have raised concerns that ergonomics is often constrained by its positivist approach; and Hignett (2005) has also identified realism as being appropriate for ergonomics research. A particular benefit of a realist approach is its suitability for integrating qualitative and quantitative data when undertaking real world research (Robson 2011), and this was the approach taken in this thesis. It was therefore possible to compare the qualitative findings regarding bus drivers' jobs, gathered through interview and observation, with the findings of a larger sample assessed quantitatively using the DGB-Index questionnaire. This triangulation, one of the key benefits of mixed methods research (Bryman 2008) improved confidence that the conclusions reached regarding the quality of bus drivers' jobs were valid; the combination of the two types of data was particularly useful for giving clear and detailed feedback to employers. At the same time, it enabled the evaluation of the DGB-Index job measurement tool by exploring areas where the two data sets were incomplete or incongruent.

9.4.2 **The influence of the researcher**

A particular risk in real world research is the influence of the researcher which may affect the views which are shared by interviewees (Robson 2011) and the way the data are interpreted (Braun & Clarke 2006). Table 3-3 outlined the measures in place in this research to ensure that interview data were valid representations of interviewees' beliefs. Steps taken included building rapport to encourage honesty and providing reassurances regarding anonymised reporting of findings. However, a risk remains that the personal perspective and behaviour of the researcher may have influenced the extent to which particular issues were discussed during interviews. There was also a potential for researcher influence during observation - for example the personal experience of fatigue when working as a cleaner, and the impact of this on judgements about work intensity. The mechanisms in place to minimise these impacts were a reflexive approach, triangulation with other data such as manager interviews, and a review of samples of interview coding by a second researcher.

The conclusions drawn regarding the quality of work in each of the three companies were based on researcher interpretation of interview and observation data. Assessment and analysis may have been influenced by the personalities and perceived credibility of key individuals in the three companies; and the personal view that the welfare arrangements in the smaller companies were unacceptable. This may have prejudiced the judgments made when comparing the organisations and deciding whether job quality was good or poor. To compensate for personal bias in this, care has been taken to detail the key findings and to demonstrate how these were used to underpin the judgements regarding job quality. This transparency enables the reader to draw their own conclusions based on the evidence. The fact that the findings are similar to those from the quantitative study which followed improves confidence that the conclusions drawn are reasonable.

9.4.3   **Contamination between studies**

One potential limitation to the study design is a degree of circularity in the data gathered. The DGB-Index was included in the literature review and specifically in Table 2-1 which was used to identify the key features of job quality. These features then underpinned the design of the semi structured interviews and as a result are prominent in the theoretical model. This might contribute to the similarities between the findings of the qualitative and quantitative studies of job quality in the three bus companies. However, the themes which were discussed in the interviews were those which are common in most discussions of job quality in the literature, not just that relating to the DGB-Index. Also, similar themes were identified spontaneously by interviewees in the repertory grid study described in chapter 4. In addition, the qualitative data which were used to assess job quality included observational data and artefacts in addition to the interviews carried out. The evidence is therefore sufficiently robust to support the conclusion that the DGB-Index has merit for assessing job quality in organisations. However, it limits the extent to which the DGB-Index can be used to validate the theoretical model of job quality.

9.4.4 **Sampling issues**

A key limitation of all the studies in this thesis relates to sampling; this has been discussed in each of the study chapters. There are two issues – firstly a relatively small number of individuals were interviewed in most of the organisations and they may not have been representative of the respective workforces. In addition, there was limited scope in terms of companies and industries studied. Additional data gathered from observation and interviews with managers helps to compensate for the limitations in interview samples, as the correspondence between the findings increases confidence in the conclusions. The main reason for limited scope in terms of organisations was the decision to concentrate on companies which employed relatively unskilled workers. This narrowed the focus of study by reducing some of the variables which might have been present with a more varied sample, and thus made it easier to identify patterns in the data. Company choice was also limited by the need to find study organisations which were accessible and willing; this was a particular factor in the recruitment of ManCo and CleanCo. The limited breadth of organisations and therefore of employees thus limits the generalisability of the conclusions of this research. In particular the model of job quality, whilst it might have some transferability to other unskilled jobs, would require review before being applied more widely. This should include assessment of whether it applies to those who are not employees, for example the self - employed and those who work as contractors, as the current study did not investigate these groups. Similarly, the DGB-Index requires further testing in other industries to assess its validity more widely.

9.4.5 **Simplification**

Job quality is a highly complex subject – comparison between the wide perspective of job quality shown in Figure 9-1 and the narrower view presented in the job quality model in Figure 6-2 highlights this and illustrates the extent to which the construct has been simplified for the purposes of this research. As identified in section 9.3.1 many factors which influence and impact on job quality remain undiscussed in this thesis. There is simplification also with regard to the outcomes of job quality. The theoretical model in

Figure 6-2 identifies that the outcome of a good job is either that it is good for health or that it is not bad for health. It does not address the true complexity of this issue, for example the potential that some individual job features may have a positive effect on health whilst others have either a negative effect or no effect (Wadsworth et al 2010a); or that some features are curvilinear, having a positive effect at lower levels but becoming disadvantageous at higher levels (Warr 2007b; Karanika-Murray et al 2009).

Weick (1979) identifies the need to choose between accuracy, generalisability and simplicity when constructing theories, as only two of the three can be addressed. The consequences of sacrificing accuracy, according to Weick are an increased risk of error, but a reduced risk of obscurity. Thus the decision to favour simplicity in this research was taken not only to facilitate its conduct but also because any attempt to improve job quality needs to be practical and comprehensible. Whether the model presented is an oversimplification, and has excluded themes or job features which are critical, will only become apparent with further application and evaluation. If tools based on the model are able to drive improvement, and to show an association between job quality and health, it is fit for purpose despite its simplicity.

9.5   Contribution to knowledge

This research has added to knowledge in three main ways. Firstly, it has produced a theoretical model of job quality which takes into account the extent of variation between individuals. Generally the literature considers individual preference when addressing specific facets of job quality, but not when assessing it as an overall concept. Therefore this model is a useful starting point for further exploration of how job quality can be assessed and improved whilst taking into account the importance of personal preference and circumstance.

Secondly, the model has been used to support an assessment of the quality of bus driving jobs. There is a wide literature on the problems of bus driving

including the health risks associated with sedentariness and obesity (French et al 2010) and the psychosocial risks (Tse et al 2007; Biggs et al 2009). However, the current study considers the job as a composite of all these issues and has also explored the potential for improvement and the barriers to this. In particular it has highlighted those areas where improvement in job quality might be possible with sufficient motivation from employers and those where it would be more realistic to recruit employees who are temperamentally suited to the demands of the job.

Finally the DGB-Index has been assessed as a tool for measuring job quality. It had not previously been used outside of Germany and thus this research extends its scope. Although there are limitations to the tool and further development is recommended, its basic design was found to be satisfactory and would benefit from wider dissemination and discussion in the English language academic literature.

9.6   Further research

There are four areas for future research which follow from this work. The first relates to the model of job quality which has been presented, as this is limited by its focus on those in jobs which require minimal education. Further study with a wider range of employees would enable the model to be more robustly evaluated. This could then confirm whether the conclusions drawn are applicable to employees working in other industries, particularly in relation to the distinction between core and job fit features. It has been shown that individuals' decisions are influenced by limiting factors such as pay, working hours and location – further exploration of this would be helpful, to assess the ways in which workers weight the different features and how widely this varies, and what the implications of this are for health and wellbeing. Further development would also enable greater detail to be added to the model. It might then be used to underpin assessment tools, which could include an employee questionnaire in combination with objective measures to assess safety and the adequacy of pay rates.

Further development of the DGB-Index could address the need for an instrument to assess job quality. It has been shown in principle that it has utility outside of Germany, and it takes into account the individual variation which this thesis has shown to be important. It does have some limitations, and requires further development, but it holds the advantage of potentially supporting comparisons between countries. It would be of particular value if it was made available in a format which was accessible by those with poor literacy, for example using a computer programme with an auditory interface. Development of a useable, widely recognised measure of job quality would contribute to longitudinal research to draw clear conclusions regarding the relationships between work and health, both overall and in terms of particular aspects.

This thesis has focused predominantly on the modelling and measurement of job quality. It was suggested in chapter 1 that a key reason for defining job quality is to enable comparison between jobs and thus to drive improvements. The final two areas for further study therefore relate to improvement in job quality. Firstly, there is a need for further investigation into the main barriers to job quality in practice. This is especially important with regard to smaller companies such as LittleCoach and LittleBus, where there may be limited flexibility and little scope to take decisions which have a long payback period. Most high profile work on improving jobs and employee health is funded by and based in larger organisations – for example Business in the Community aims to increase the responsibility that businesses take with regard to the environments they work in and their own workforces. Work quality and employee wellness is one of their key themes (BITC 2011); their case studies, however, focus exclusively on very large (often multinational) organisations. Within the UK, almost half of the workforce are in organisations which employ less than 250 people (Business Innovation and Skills 2013) so addressing the particular challenges they face and especially the cost-benefit issues in job quality would have the potential for high impact. Identifying the non-financial reasons why employers provide poor quality jobs would also be a useful contribution. Research with small companies is unlikely to be funded

by the organisations themselves, so the development of this agenda would be dependent on funding from national and international bodies, again highlighting the need for ergonomists to engage in these areas and help to drive the research agenda.

Finally there is potential for further work to address the issue of poor job content and to identify ways to mitigate the impact of this if it cannot be changed. One fruitful area of study might relate to a reduction in job specialisation – to consider combining different roles within one job so that any adverse impacts are minimised. At its simplest this is achieved by job enrichment, to increase the variety of skills which are required for and are used in a job as well as ensuring that the employee is involved in the whole of a task rather than one small part of it (Hackman & Oldham 1976). However, more adventurous examples could be explored. For example bus drivers, who are essentially sedentary, would benefit from alternating with more active roles such as that of inspector; they might benefit even more from spending half of their work time in a physically demanding role such as grounds maintenance or waste management. Jobs which were split between cleaning work and call centre duties would be an alternative example. Clearly there are major challenges to overcome here in terms of the different skills and capabilities required in each case, the different societal values and wage rates of the contrasting roles, the challenge of finding individuals who are well matched to two different jobs, and the social impact of working across different teams. There are also practical issues in that few employers offer jobs in such disparate areas. However, the benefits in terms of ensuring moderate physical demands for a greater proportion of the workforce, at the same time as reducing the number who undertake 'poor' work for the whole of their work time, merit further investigation.

9.7 Final conclusions

This research has explored the concept of 'good' work through a range of methods including a review of the literature, interviews, observation and the use of a survey tool. It has drawn conclusions based on a substantial data set including:

- Repertory grid interviews with 18 employees in a wide range of jobs. Such interviews are able to explore a topic in depth from the perspective of the interviewee with minimal interviewer interference
- Semi-structured interviews with 80 employees from five organisations in three industries
- Interviews with a range of managers (n=18) from the same organisations
- Observational data gathered whilst undertaking interviews, including copies of company policies, work rotas and other artefacts and informal conversations with a further 48 employees; in addition to 20 hours participant observation of cleaning staff
- Questionnaires completed by 423 bus drivers and a comparator set from 42 non-drivers.

Key findings included the following:

a) features identified spontaneously by interviewees as contributing to job quality were broadly similar to those used in the literature;
b) there was variation between individuals in their preferences: for example job security and safety were widely agreed by interviewees to be important, but there was considerably more variation with regard to the perceived value of job features such as autonomy, potential for promotion and opportunities for close friendships;
c) job content was seen by many as influencing job quality, and was very important for some; however, it was also the aspect of work which was most likely to be compromised in order to meet other, more practical needs such as those relating to financial demands and working hours;

d) a 'good' job and a job which is good for health were found to be different constructs. Many interviewees did not expect their work to contribute positively to their health and in fact could hold a view that their work was 'good' whilst also considering that it was bad for their health;

e) this was particularly relevant in relation to physical activity: sedentary jobs were recognised as being bad for health, but not as influencing whether a job was good or not.

A theoretical model of job quality was constructed, taking into account the above findings and review of the literature. This model was evaluated by using it to compare three companies within the bus industry: it illustrated differences and similarities between the organisations, and highlighted where there was the most potential to improve job quality. The DGBI-Index was used to measure job quality in the same three companies. The findings broadly corresponded to those from the qualitative data, confirming that job quality can be usefully measured, despite the wide variation between individuals in their preferences and priorities. The study also demonstrated that the DGB-Index has utility outside of Germany where it has previously been used and evaluated, and that it can differentiate between good and bad companies within an industry. Finally, it identified some of the limitations of the DGB-Index and recommendations were made for its further development.

Conclusions were drawn regarding the quality of jobs within the bus industry. It was demonstrated that job quality was limited by the sedentary nature of the work but was also influenced by the degree of fit between job and employee. This was particularly evident in terms of individual tolerance to variable working patterns, pragmatism in the face of timetabling difficulties, and the value placed on relationships with passengers. Decisions made by employers (for example with regards to pay levels or health and safety management) affected job quality. However, there were also wider influences such as societal values and political and economic factors. It is reasonable to assume that these influences operate in other industries.

Suggestions have been made for further work to develop the themes explored in this research. A limitation of the job quality model presented here is that it is based largely on data gathered within a small number of industries which predominantly recruit employees with low levels of formal education. Therefore, further research to test the model more widely is recommended followed by development of tools to assess job quality based on this framework. This could include further use of the DGB-Index once it has been revised to take into account the findings of this research with regard to its limitations. Research on job quality more widely could consider the possible reasons for persisting low job quality in some industries and explore imaginative solutions to address these, particularly in those areas where there is a strong link between low job quality and poor health.

Ramazzini, writing about the adverse impacts of a whole range of jobs on the health of those who did them observed that his treatise on the topic was 'something of a novelty'. He was also pragmatic about how his work might be received, suggesting that it might be discarded quickly by readers and used 'to wrap up something greasy'. In the 300 years since the publication of De Morbis Artificum we have amassed a significant amount of evidence to support Ramazzini's assertions regarding the potential for work to cause harm. There is also a body of evidence showing that work can have positive impacts on wellbeing as well as negative ones (Waddell & Burton 2006; Warr 2007b). The association between work and health therefore cannot be dismissed as the novelty it was for Ramazzini's compatriots, and there are ethical, practical and financial justifications for driving forward the job quality agenda. We may not yet know for certain what is required to make all jobs good, but we certainly know enough to know that we should; this research is hopefully a modest step in this direction.

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References

Ahola, K. & Hakanen, J., 2007. Job strain, burnout, and depressive symptoms: A prospective study among dentists. *Journal of affective disorders,* vol. 104, no. 1-3, pp. 103-110.

Allread, W.G., 2006. The Role Personality in Ergonomics in *Fundamentals and Assessment Tools for Occupational Ergonomics.* eds. Marras, W.S. & Karwowski, W., 2nd edn, Boca Raton Taylor and Francis, pp. 25.1-25.13.

Andrea, H., Bültmann, U., Van Amelsvoort, L.G.P.M. & Kant, Y., 2009. The incidence of anxiety and depression among employees - The role of psychosocial work characteristics. *Depression and anxiety,* vol. 26, no. 11, pp. 1040-1048.

Armon, G., Shirom, A., Shapira, I. & Melamed, S., 2008. On the nature of burnout–insomnia relationships: A prospective study of employed adults. *Journal of psychosomatic research,* vol. 65, no. 1, pp. 5-12.

Arnold, K.A., Turner, N., Barling, J., Kelloway, E.K. & McKee, M.C., 2007. Transformational leadership and psychological well-being: The mediating role of meaningful work. *Journal of occupational health psychology,* vol. 12, no. 3, pp. 193-203.

ASHE 2012, February 24-last update*, Highest and lowest paid occupations (Tables accompanying patterns of pay:1997 - 2011 Annual Survey of Hours and Earnings results. Table 9)* [Homepage of Office for National Statistics], [Online] [viewed 2012, October 4]. Available: http://www.ons.gov.uk/ons/datasets-and-tables/index.html?pageSize=50&sortBy=none&sortDirection=none&newquery=pay+rate+SOC.

Ashford, S.J., George, E. & Blatt, R., 2007. 2. Old Assumptions, New Work: The Opportunities and Challenges of Research on Nonstandard Employment. *Academy of Management Annals,* vol. 1, no. 1, pp. 65-117.

Ashforth, B., 1994. Petty Tyranny in Organizations. *Human Relations,* vol. 47, no. 7, pp. 755-778.

Ashforth, B.E. & Kreiner, G.E., "How Can You Do It?": Dirty Work and the Challenge of Constructing a Positive Identity. *The Academy of Management Review,* vol. 24, no. 3, pp. 413-434.

Ashmos, D.P. & Duchon, D., 2000. Spirituality at Work. *Journal of Management Inquiry,* vol. 9, no. 2, pp. 134-145.

Aust, B., Peter, R. & Siegrist, J., 1997. Stress Management in Bus Drivers: A Pilot Study Based on the Model of Effort–Reward Imbalance. *International Journal of Stress Management,* vol. 4, no. 4, pp. 297-305.

Avery, R.E. & Haskins, W.C., 1913. *America's triumph at Panama; panorama and story of the construction and operation of the world's giant waterway from ocean to ocean.* Chicago: L.W.Walter company.

Avolio, B.J., Bass, B.M. & Jung, D.I., 1999. Re-examining the components of transformational and transactional leadership using the Multifactor Leadership. *Journal of Occupational and Organizational Psychology,* vol. 72, no. 4, pp. 441-462.

Axinn, W.G. & Pearce, L.D., 2006. *Mixed method data collection strategies.* New York; Cambridge: Cambridge University Press.

Bakker, A.B., van Veldhoven, M. & Xanthopoulou, D., 2010. Beyond the demand-control model: Thriving on high job demands and resources. *Journal of Personnel Psychology,* vol. 9, no. 1, pp. 3-16.

Bamberry, L., 2011. 'As Disposable as the Next Tissue Out of the Box . . .': Casual Teaching and Job Quality in New South Wales Public School Education. *Journal of Industrial Relations,* vol. 53, no. 1, pp. 49-64.

Baptiste, N.R., 2009. Fun and well-being: insights from senior managers in a local authority. Employee Relations, vol. 31, no. 6, pp. 600-612.

BBC, 2006. February 14-last update*, Man jailed over bus depot fires* [Homepage of BBC News Channel], [Online] [viewed 2013, October 28]. Available: http://news.bbc.co.uk/1/hi/scotland/4713656.stm.

Behrend, H., 1957. The Effort Bargain. *Industrial and Labor Relations Review,* vol. 10, no. 4, pp. 503-515.

Beiser, M., Johnson, P.J. & Turner, R.J., 1993. Unemployment, underemployment and depressive affect among Southeast Asian refugees. *Psychological medicine,* vol. 23, no. 3, pp. 731-743.

Belkic, K.L., Landsbergis, P.A., Schnall, P.L. & Baker, D., 2004. Is job strain a major source of cardiovascular disease risk? *Scandinavian journal of work, environment & health,* vol. 30, no. 2, pp. 85-128.

Bernhard-Oettel, C., Sverke, M. & De Witte, H., 2005. Comparing three alternative types of employment with permanent full-time work: How do employment contract and perceived job conditions relate to health complaints? *Work & Stress,* vol. 19, no. 4, pp. 301-318.

Bernstrøm, V.H., 2013. The Relationship between Three Stages of Job Change and Long-Term Sickness Absence. *Social science & medicine,* vol. 98, pp. 239-246.

Bhaskar, R., 1975. *Realist theory of science.* York: Alma.

Biggs, H., Dingsdag, D. & Stenson, N., 2009. Fatigue factors affecting metropolitan bus drivers: A qualitative investigation. *Work,* vol. 32, no. 1, pp. 5-10.

Birdi, K., Warr, P.B. & Oswald, A., 1995. Age Differences in Three Components of Employee Well-being. *Applied Psychology,* vol. 44, no. 4, pp. 345-373.

BITC, 2011. *BITC public reporting Guidelines: Employee Wellness and Engagement [online]* [Homepage of Business in the Community], [Online] [viewed 2011, July 28]. Available: http://www.bitc.org.uk/resources/publications/reporting_guidelines.html.

Black, C., 2008. *Working for a healthier tomorrow.*TSO.

Blundell, R., Crawford, C. & Jin, W., 2013. June 12-last update*, Workers kept their jobs but one third faced nominal wage freezes or cuts* [Homepage of Institute for Fiscal studies], [Online] [viewed 2013, December 6]. Available: http://www.ifs.org.uk/pr/fs_june2013_launch_pr.pdf.

Bogg, J. & Cooper, C., 1995. Job Satisfaction, Mental Health, and Occupational Stress Among Senior Civil Servants. *Human Relations,* vol. 48, no. 3, pp. 327-341.

Bongers, P.M., Ijmker, S., Van, d.H. & Blatter, B.M., 2006. Epidemiology of work-related neck and upper limb problems: Psychosocial and personal risk factors (Part I) and effective interventions from a bio behavioural perspective (Part II). *Journal of Occupational Rehabilitation,* vol. 16, no. 3, pp. 272-302.

Bonnet, F., Figueiredo, J.B. & Standing, G., 2003. A family of decent work indexes. *International Labour Review,* vol. 142, no. 2, pp. 213-238.

Boos, D., Guenter, H., Grote, G. & Kinder, K., 2013. Controllable accountabilities: the Internet of Things and its challenges for organisations. *Behaviour & Information Technology,* vol. 32, no. 5, pp. 449-467.

Bosma, H., Marmot, M.G., Hemingway, H., Nicholson, A.C., Brunner, E. & Stansfeld, S.A., 1997. Low job control and risk of coronary heart disease in Whitehall II (prospective cohort) study. *BMJ (Clinical research ed.),* vol. 314, no. 7080, pp. 558-565.

Bosma, H., Van Jaarsveld, C.H.M., Tuinstra, J., Sanderman, R., Ranchor, A.V., Van Eijk, J.T.M. & Kempen, G.I.J.M., 2005. Low control beliefs, classical coronary risk factors, and socio-economic differences in heart disease in older persons. *Social science & medicine,* vol. 60, no. 4, pp. 737-745.

Bowden, S. & Tweedale, G., 2003. Mondays without Dread: The Trade Union Response to Byssinosis in the Lancashire Cotton Industry in the Twentieth Century. *Social History of Medicine,* vol. 16, no. 1, pp. 79-95.

Boyce, R.W., Boone, E.L., Cioci, B.W. & Lee, A.H., 2008. Physical activity, weight gain and occupational health among call centre employees. *Occupational medicine (Oxford, England),* vol. 58, no. 4, pp. 238-244.

Brace, N., Kemp, R. & Snelgar, R., 2009. *SPSS for psychologists.* Basingstoke: Palgrave Macmillan.

Brahmasrene, T. & Smith, S.S., 2009. The Influence of Training, Safety Audits, and Disciplinary Action on Safety Management. *Journal of Organizational Culture, Communications & Conflict,* vol. 13, no. 1, pp. 9-19.

Braun, V. & Clarke, V., 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology,* vol. 3, no. 2, pp. 77-101.

Bredgaard, T., Larsen, F. & Madsen, P.K., 2005. *The flexible Danish labour market– a review.* Aalborg, Denmark: CARMA.

Brenner, M.H. & Mooney, A., 1983. Unemployment and health in the context of economic change. *Social science & medicine,* vol. 17, no. 16, pp. 1125-1138.

Bridger, R.S., Brasher, K. & Bennett, A., 2013. Sustaining person-environment fit with a changing workforce. *Ergonomics,* vol. 56, no. 3, pp. 565-577.

Broughton, A., Tyers, C., Denvir, A., Wilson, S. & O'Regan, S., 2009. *Managing stress and sickness absence Progress of the Sector Implementation Plan – Phase 2.* Health and Safety Executive.

Brown, A., Charlwood, A., Forde, C. & Spencer, D., 2007. Job quality and the economics of New Labour: a critical appraisal using subjective survey data. *Cambridge Journal of Economics,* vol. 31, no. 6, pp. 941-971.

Brown, A., Charlwood, A. & Spencer, D.A., 2012. Not all that it might seem: why job satisfaction is worth studying despite it being a poor summary measure of job quality. *Work, Employment & Society,* vol. 26, no. 6, pp. 1007-1018.

Brown, G., 2006. *Budget speech, 2006* [viewed 2013, December 11]. Available: http://www.theguardian.com/uk/2006/mar/22/budget2006.budget.

Brown, H. & Roberts, J., 2011. Exercising choice: The economic determinants of physical activity behaviour of an employed population. *Social science & medicine,* vol. 73, no. 3, pp. 383-390.

Brown, S.M., 1992. Cognitive Mapping and Repertory Grids for Qualitative Survey Research: some Comparative Observations. *Journal of Management Studies,* vol. 29, no. 3, pp. 287-307.

Brunoro, C., Sznelwar, L.I., Bolis, I. & Abrahao, J., 2012. Contributions of ergonomics to the construction of bus drivers health and excellence in public transport and at work. *Work: A Journal of Prevention, Assessment and Rehabilitation,* vol. 41, no. 0, pp. 30-35.

Bryman, A., 2008. *Social research methods.* 3rd edn, Oxford: Oxford University Press.

Bryson, A. & MacKerron, G., 2013. *Are You Happy While You Work?* Centre for Economic Performance, LSE.

Buckingham, M. & Coffman, C., 2005. *First, break the rules.* Pocket Books.

Buckle, P. & Buckle, J., 2011. Obesity, ergonomics and public health. *Perspectives in Public Health,* vol. 131, no. 4, pp. 170-176.

Buckley, P., 2013. February-last update*, Violence at Work Findings from the Crime Survey for England and Wales 2011/12*

 [Homepage of Health and Safety Executive], [Online] [viewed 2013, October 28]. Available: http://www.hse.gov.uk/statistics/causinj/violence/violence-at-work.pdf.

Buehler, R. & Pucher, J., 2011. Making public transport financially sustainable. *Transport Policy,* vol. 18, no. 1, pp. 126-138.

Bullinger, M., Alonso, J., Apolone, G., Leplège, A., Sullivan, M., Wood-Dauphinee, S., Gandek, B., Wagner, A., Aaronson, N., Bech, P., Fukuhara, S., Kaasa, S. & Ware Jr., J.E., 1998. Translating Health Status Questionnaires and Evaluating Their Quality: The IQOLA Project Approach. *Journal of clinical epidemiology,* vol. 51, no. 11, pp. 913-923.

Bültmann, U., Kant, I., Van den Brandt, P.A. & Kasl, S.V., 2002. Psychosocial work characteristics as risk factors for the onset of fatigue and psychological distress: prospective results from the Maastricht Cohort Study. *Psychological medicine,* vol. 32, no. 2, pp. 333-345.

Burchell, B., Sehnbruch, K., Piasna, A. & Agloni, N., 2013. The quality of employment and decent work: definitions, methodologies, and ongoing debates. *Cambridge Journal of Economics.*

Burgess, J. & Connell, J., 2008. HRM and job quality: An overview. *International Journal of Human Resource Management,* vol. 19, no. 3, pp. 407-418.

Burton, A.K., Kendall, N.A.S., Pearce, B.G., Birrell, L.N. & Bainbridge, L.C., 2009. Management of work-relevant upper limb disorders: a review. *Occupational Medicine,* vol. 59, no. 1, pp. 44-52.

Business Innovation and Skills, 2013. October 23-last update*, Business population estimates for the UK and regions 2013* [Homepage of Department for Business innovation and skills], [Online] [viewed 2013, December 13]. Available:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/254552/13-92-business-population-estimates-2013-stats-release-4.pdf.

Carless, S.A., 2009. Psychological testing for selection purposes: a guide to evidence-based practice for human resource professionals. *International Journal of Human Resource Management,* vol. 20, no. 12, pp. 2517-2532.

Caron, J. & Liu, A., 2010. A descriptive study of the prevalence of psychological distress and mental disorders in the canadian population: Comparison between low-income and non-low-income populations. *Chronic diseases in Canada,* vol. 30, no. 3, pp. 84-94.

Chalofsky, N., 2003. An emerging construct for meaningful work. *Human Resource Development International,* vol. 6, no. 1, pp. 69.

Chandola, T., Britton, A., Brunner, E., Hemingway, H., Malik, M., Kumari, M., Badrick, E., Kivimäki, M. & Marmot, M., 2008. Work stress and coronary heart disease: what are the mechanisms? *European heart journal,* vol. 29, no. 5, pp. 640-648.

Chatani, K., 2008. *From corporate-centred security to flexicurity in Japan Employment Working Paper N° 17* [Homepage of ILO], [Online] [viewed 2014, February 7]. Available: http://www.ilo.org/public/english/employment/download/wpaper/wp17.pdf.

Chen, S.W., Wang, P.C., Hsin, P.L., Oates, A., Sun, I.W. & Liu, S.I., 2011. Job stress models, depressive disorders and work performance of engineers in microelectronics industry. *International archives of occupational and environmental health,* vol. 84, no. 1, pp. 91-103.

Choi, B., Östergren, P., Canivet, C., Moghadassi, M., Lindeberg, S., Karasek, R. & Isacsson, S., 2011. Synergistic interaction effect between job control and social support at work on general psychological distress. *International archives of occupational and environmental health,* vol. 84, no. 1, pp. 77-89.

Choi, B.K., Clays, E., De Bacquer, D. & Karasek, R., 2008. Socioeconomic status, job strain and common mental disorders - An ecological (occupational) approach. *Scandinavian Journal of Work, Environment and Health, Supplement,* no. 6, pp. 22-32.

Christie, A.M. & Barling, J., 2009. Disentangling the indirect links between socioeconomic status and health: The dynamic roles of work stressors and personal control. *Journal of Applied Psychology,* vol. 94, no. 6, pp. 1466-1478.

Chung, Y. & Wong, J., 2011. Developing effective professional bus driver health programs: An investigation of self-rated health. *Accident Analysis & Prevention,* vol. 43, no. 6, pp. 2093-2103.

Clark, A.E., 2005. Your Money or Your Life: Changing Job Quality in OECD Countries. *British Journal of Industrial Relations,* vol. 43, no. 3, pp. 377-400.

Clark, A.E., 2011. Worker wellbeing in booms and busts. in *The Labour Market in Winter: The state of working Britain.* eds. Gregg, P. & Wadsworth, J. Oxford: Oxford University Press, pp. 128-143.

Clark, A.M., MacIntyre, P.D. & Cruickshank, J., 2007. A critical realist approach to understanding and evaluating heart health programmes. *Health,* vol. 11, no. 4, pp. 513-539.

Clark, A.E., 2003. Unemployment as a Social Norm: Psychological Evidence from Panel Data. *Journal of Labor Economics,* vol. 21, no. 2, pp. 323.

Clark, A.E., 1996. Job Satisfaction in Britain. *British Journal of Industrial Relations,* vol. 34, no. 2, pp. 189-217.

Clark, A.E., Frijters, P. & Shields, M.A., 2008. Relative Income, Happiness, and Utility: An Explanation for the Easterlin Paradox and Other Puzzles. *Journal of Economic Literature,* vol. 46, no. 1, pp. 95-144.

Clark, A.E. & Oswald, A.J., 1996. Satisfaction and comparison income. *Journal of Public Economics,* vol. 61, no. 3, pp. 359-381.

Clark, A.E.E., 2001. What really matters in a job? Hedonic measurement using quit data. *Labour economics,* vol. 8, no. 2, pp. 223-42.

Clays, E., De Bacquer, D., Janssens, H., De Clercq, B., Casini, A., Braeckman, L., Kittel, F., De Backer, G. & Holtermann, A., 2013. The association between leisure time physical activity and coronary heart disease among men with different physical work demands: A prospective cohort study. *European journal of epidemiology,* vol. 28, no. 3, pp. 241-247.

Coats, D. & Lekhi, R., 2008. *Good Work: Job Quality in a changing economy* [Homepage of The Work Foundation], [Online] [viewed 2011, October 7]. Available:
http://www.theworkfoundation.com/Assets/Docs/good_work_final3.pdf.

Cohen, A., 1977. Factors in successful occupational safety programs. *Journal of Safety Research,* vol. 9, no. 4, pp. 168-178.

Cohen, S. & Wills, T.A., 1985. Stress, social support, and the buffering hypothesis. *Psychological bulletin,* vol. 98, no. 2, pp. 310-357.

Colquitt, J.A., Scott, B.A., Rodell, J.B., Long, D.M., Zapata, C.P., Conlon, D.E. & Wesson, M.J., 2013. Justice at the millennium, a decade later: a meta-analytic test of social exchange and affect-based perspectives. *The Journal of applied psychology,* vol. 98, no. 2, pp. 199-236.

Colquitt, J.A., Conlon, D.E., Wesson, M.J., Porter, C.O.L.H. & Ng, K.Y., 2001. Justice at the millennium: A meta-analytic review of 25 years of organizational justice research. *Journal of Applied Psychology,* vol. 86, no. 3, pp. 425-445.

Commissaris, D.A.C.M., Douwes, M., Schoenmaker, N. & de Korte, E.M., 2006. Recommendations for sufficient physical activity at work, *Meeting diversity in ergonomics. Proceedings of the International Ergonomics Association Conference.* Elsevier, July 10-14.

Constable, S., Coats, D., Bevan, S. & Mahdon, M., 2009. *Good Jobs: RR713* [Homepage of HSE], [Online] [viewed 2010, October 18]. Available:
http://www.hse.gov.uk/research/rrhtm/rr713.htm.

Cooke, G.B., Donaghey, J. & Zeytinoglu, I.U., 2013. The nuanced nature of work quality: Evidence from rural Newfoundland and Ireland. *Human Relations,* vol. 66, no. 4, pp. 503-527.

Coote, A., Franklin, J. & and Simms, A., 2010. *21 Hours Why a shorter working week can help us all to flourish in the 21st century* [Homepage of new economics foundation], [Online] [viewed 2014, February 7]. Available: http://www.neweconomics.org/publications/entry/21-hours.

Costa, G., 2003. Factors influencing health of workers and tolerance to shift work. *Theoretical Issues in Ergonomics Science,* vol. 4, no. 3, pp. 263-288.

Cousins, R., MacKay, C.J., Clarke, S.D., Kelly, C., Kelly, P.J. & McCaig, R.H., 2004. 'Management Standards' work-related stress in the UK: Practical development. *Work & Stress,* vol. 18, no. 2, pp. 113-136.

Cowie, J., 2002. Acquisition, efficiency and scale economies: An analysis of the British bus industry. *Transport Reviews,* vol. 22, no. 2, pp. 147-157.

Cox, T. & Griffiths, A., 2005. The nature and measurement of work-related stress: theory and practice in *Evaluation of human work.* eds. Wilson, J.R. & Corlett, N. 3rd edn, Boca Raton, FL Taylor and Francis, pp. 553-571.

Cox, T., Griffiths, A. & Rial-Gonzalez, E., 2000. *Research on work-related stress*, Luxembourg European Agency for Safety and Health at Work.

Cox, T. & Haslam, R.A., 1985. *Occupational Stress in train drivers (Unpublished).*

Cropanzano, R., Byrne, Z.S., Bobocel, D.R. & Rupp, D.E., 2001. Moral Virtues, Fairness Heuristics, Social Entities, and Other Denizens of Organizational Justice. *Journal of vocational behavior,* vol. 58, no. 2, pp. 164-209.

CSDH, 2008. *Closing the gap in a generation: health equity through action on the socialdeterminants of health. Final Report of the Commission on Social Determinants of Health* [Homepage of World Health Organization], [Online] [viewed 2011, August 2]. Available: http://whqlibdoc.who.int/publications/2008/9789241563703_eng.pdf.

Daniels, K., Jones, D., Fergusson, E., Perryman, S. & Rick, J. 2004. *Cognitive factors' influence on the expression and reporting of work-related stress:RR170* [Homepage of Health and Safety Executive], [Online] [viewed 2011, March 11]. Available: http://www.hse.gov.uk/research/rrpdf/rr170.pdf.

Davis, A., Hirsch, D., Smith, N., Beckhelling, J. & Padley, M., 2012. *A Minimum income standard for the UK in 2012. Keeping up in hard times*, York: Joseph Rowntree Foundation.

Davoine, L., Erhel, C. & Guergoat-Lariviere, M., 2008. Monitoring quality in work: European Employment Strategy indicators and beyond. *International Labour Review,* vol. 147, no. 2-3, pp. 163-198.

De Vogli, R., Ferrie, J.E., Chandola, T., Kivimäki, M. & Marmot, M.G., 2007. Unfairness and health: evidence from the Whitehall II Study. *Journal of epidemiology and community health,* vol. 61, no. 6, pp. 513-518.

Dembe, A.E., 1996. *Occupation and disease: how social factors affect the conception of work-related disorders.* New Haven; London: Yale University Press.

Demerouti, E., Bakker, A.B., Nachreiner, F. & Ebbinghaus, M., 2002. From mental strain to burnout. *European Journal of Work & Organizational Psychology,* vol. 11, no. 4, pp. 423.

Demerouti, E., Bakker, A.B., Nachreiner, F. & Schaufeli, W.B., 2001. The job demands-resources model of burnout. *Journal of Applied Psychology,* vol. 86, no. 3, pp. 499-512.

Department for Transport 2011, April-last update*, Personal Travel Factsheet Commuting and Business Travel* [viewed 2013, October 17]. Available:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/49703/Commuting_and_business_travel_factsheet___April_2011.pdf.

Department for Work and Pensions / Department of Health, 2008. *Improving Health and Work: Changing Lives - the government's response to Dame Carol Black's review of the health of Britain's working-age population* [Homepage of TSO], [Online] [viewed 2011, July 29]. Available: http://www.dwp.gov.uk/docs/hwwb-improving-health-and-work-changing-lives.pdf.

DeSanto Iennaco, J., Cullen, M.R., Cantley, L., Slade, M.D., Fiellin, M. & Kasl, S.V., 2010. Effects of Externally Rated Job Demand and Control on Depression Diagnosis Claims in an Industrial Cohort. *American Journal of Epidemiology,* vol. 171, no. 3, pp. 303-311.

DGB, 2013. August 7-last update*, DGB-Index Gute Arbeit aktualisiert und erweitert – das ist neu seit 2012 (DGB-Index Good work Index updated and expanded – this is new since 2012)* [Homepage of DGB], [Online] [viewed 2013, November 30]. Available: http://www.DGB-Index-gute-arbeit.de/downloads/publikationen/data/sonderdruck_zeitschrift_gute_arbeit_ausgabe_7-8_2013.pdf.

Docherty, P., Kira, M. & Shani, A.B., 2009. What the world needs now is sustainable work systems in *Creating sustainable work systems.* eds. Docherty, P., Kira M. & Shani, A.B. 2nd edn, London and New York: Routledge, pp. 1-21.

Doef, M.v.d. & Maes, S., 1999. The Job Demand-Control (-Support) Model and psychological well-being: a review of 20 years of empirical research. *Work & Stress,* vol. 13, no. 2, pp. 87-114.

Dolan, P., Peasgood, T. & White, M., 2008. Do we really know what makes us happy A review of the economic literature on the factors associated with subjective well-being. *Journal of Economic Psychology,* vol. 29, no. 1, pp. 94-122.

Dorn, L., Stephen, L., Af Wåhlberg, A. & Gandolfi, J., 2010. Development and validation of a self-report measure of bus driver behaviour. *Ergonomics,* vol. 53, no. 12, pp. 1420-1433.

Driesen, K., Jansen, N.W.H., Kant, I.J., Mohren, D.C.L. & van Amelsvoort, Ludovic G. P. M., 2010. Depressed Mood in the Working Population: Associations with Work Schedules and Working Hours. *Chronobiology International: The Journal of Biological & Medical Rhythm Research,* vol. 27, no. 5, pp. 1062-1079.

Drury, C.G., 2008. The future of ergonomics/the future of work: 45 years after Bartlett (1962). *Ergonomics,* vol. 51, no. 1, pp. 14-20.

Dul, J., Bruder, R., Buckle, P., Carayon, P., Falzon, P., Marras, W.S., Wilson, J.R. & van der Doelen, B., 2012. A strategy for human factors/ergonomics: developing the discipline and profession. *Ergonomics,* vol. 55, no. 4, pp. 377-395.

Dunstan, D.W., Kingwell, B.A., Larsen, R., Healy, G.N., Cerin, E., Hamilton, M.T., Shaw, J.E., Bertovic, D.A., Zimmet, P.Z., Salmon, J. & Owen, N., 2012. Breaking Up Prolonged Sitting Reduces Postprandial Glucose and Insulin Responses. *Diabetes care,* vol. 35, no. 5, pp. 976-983.

DVLA, 2013. *At a glance: Guide to the current medical standards of fitness to drive.* [Homepage of Issued by the Drivers Medical Group, DVLA, Swansea], [Online] [viewed 2013, October]. Available: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/232964/At_a_glance.pdf.

DWP, 2012. *Older Workers Statistical Information Booklet 2012 Official Statistics*
 [Homepage of Department for work and pensions], [Online] [viewed 2014, January 15]. Available: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/199851/OWSIB_Official_Statistics_2012.pdf.

Eason, K., 2014. Afterword: The past, present and future of sociotechnical systems theory. *Applied Ergonomics,* vol. 45, no. 2, Part A, pp. 213-220.

Easterby-Smith, M., Thorpe, R. & Holman, D., 1996. Using repertory grids in management. *Journal of European Industrial Training,* vol. 20, no. 3, pp. 3-30.

Eatough, E.M., Way, J.D. & Chang, C., 2012. Understanding the link between psychosocial work stressors and work-related musculoskeletal complaints. *Applied Ergonomics,* vol. 43, no. 3, pp. 554-563.

Edwards, J.R. & Cooper, C.L., 1990. The person-environment fit approach to stress: Recurring problems and some suggested solutions. *Journal of Organizational Behavior,* vol. 11, no. 4, pp. 293-307.

Edwards, J.A., Van Laar, D., Easton, S. & Kinman, G., 2009. The Work-related Quality of Life Scale for Higher Education Employees. *Quality in Higher Education,* vol. 15, no. 3, pp. 207-219.

Elovainio, M., Ferrie, J.E., Singh-Manoux, A., Gimeno, D., De Vogli, R., Shipley, M.J., Vahtera, J., Brunner, E., Marmot, M.G. & Kivimäki, M., 2010. Organisational justice and markers of inflammation: the Whitehall II study. *Occupational and environmental medicine,* vol. 67, no. 2, pp. 78-83.

Elovainio, M., Kivimäki, M., Ek, E., Vahtera, J., Honkonen, T., Taanila, A., Veijola, J. & Järvelin, M., 2007. The effect of pre-employment factors on job control, job strain and psychological distress: A 31-year longitudinal study. *Social science & medicine,* vol. 65, no. 2, pp. 187-199.

Emery, F.E. & Trist, E.L., 1965. The Causal Texture of Organizational Environments. *Human Relations,* vol. 18, no. 1, pp. 21-32.

Erdogan, B., Bauer, T.N., Truxillo, D.M. & Mansfield, L.R., 2012. Whistle While You Work: A Review of the Life Satisfaction Literature. *Journal of Management,* vol. 38, no. 4, pp. 1038-1083.

Eriksson, I., Undén, A. & Elofsson, S., 2001. Self-rated health. Comparisons between three different measures. Results from a population study. *International journal of epidemiology,* vol. 30, no. 2, pp. 326-333.

Eurofound, 2009. April 30-last update*, Land transport (Fact sheet)* [Homepage of Eurofound], [Online] [viewed 2011, August 25]. Available: http://www.eurofound.europa.eu/pubdocs/2008/149/en/1/EF08149en.pdf.

European Agency for Safety and Health at Work, 2005. *Expert forecast on emerging physical risks related to occupational safety and health.* LuxembourgOffice for Official Publications of the European Communities.

European Commission, 2010. *Europe 2020: A European strategy for smart, sustainable and inclusive growth* [Homepage of European Commission], [Online] [viewed 2011, July 29]. Available: http://ec.europa.eu/commission_2010-2014/president/news/documents/pdf/20100303_1_en.pdf.

European Union, 2001. *Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions - Employment and social policies: a framework for investing in quality* [Homepage of European Union], [Online] [viewed 2011, July 29]. Available: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52001DC0313:EN:NOT

Evans, G.W. & Johansson, G., 1998. Urban bus driving: An international arena for the study of occupational health psychology. *Journal of occupational health psychology,* vol. 3, no. 2, pp. 99-108.

Equality Act. 2010. [online] [viewed 2014, February 10] Available: http://www.legislation.gov.uk/ukpga/2010/15/contents

Ferrie, J.E., Head, J., Shipley, M.J., Vahtera, J., Marmot, M.G. & Kivimäki, M., 2006. Injustice at work and incidence of psychiatric morbidity: the Whitehall II study. *Occupational and environmental medicine,* vol. 63, no. 7, pp. 443-450.

Ferrie, J.E., Head, J.A., Shipley, M.J., Vahtera, J., Marmot, M.G. & Kivimäki, M., 2007. Injustice at work and health: causation, correlation or cause for action? *Occupational and environmental medicine,* vol. 64, no. 6, pp. 428.

Ferrie, J.E., Shipley, M.J., Stansfeld, S.A., Smith, G.D. & Marmot, M., 2003. Future uncertainty and socioeconomic inequalities in health: the Whitehall II study. *Social science & medicine (1982),* vol. 57, no. 4, pp. 637-646.

Findlay, P., Kalleberg, A.L. & Warhurst, C., 2013. The challenge of job quality. *Human Relations,* vol. 66, no. 4, pp. 441-451.

Franco, G. & Franco, F., 2001. De Morbis Artificum Diatriba [Diseases of Workers]. *American Journal of Public Health,* vol. 91, no. 9, pp. 1380-1382.

Fransella, F., Bell, R. & Bannister, D., 2004. *A Manual for Repertory Grid Technique.* 2nd edn, Chichester: John Wiley & Sons Ltd.

French, J.R.P., Caplan, R.D. & Harrison, R.V., 1982. *The mechanisms of job stress and strain.* John Wiley and Sons Ltd.

French, S.A., Harnack, L.J., Hannan, P.J., Mitchell, N.R., Gerlach, A.F. & Toomey, T.L., 2010. Worksite environment intervention to prevent obesity among metropolitan transit workers. *Preventive medicine,* vol. 50, no. 4, pp. 180-185.

Frese, M., 1999. Social support as a moderator of the relationship between work stressors and psychological dysfunctioning: A longitudinal study with objective measures. *Journal of occupational health psychology,* vol. 4, no. 3, pp. 179-192.

Frese, M. & Mohr, G., 1987. Prolonged unemployment and depression in older workers: A longitudinal study of intervening variables. *Social science & medicine,* vol. 25, no. 2, pp. 173-178.

Friedman, M., Thoresen, C.E., Gill, J.J., Ulmer, D., Powell, L.H., Price, V.A., Brown, B., Thompson, L., Rabin, D.D., Breall, W.S., Bourg, E., Levy, R. & Dixon, T., 1986. Alteration of type A behavior and its effect on cardiac recurrences in post myocardial infarction patients: Summary results of the recurrent coronary prevention project. *American Heart Journal,* vol. 112, no. 4, pp. 653-665.

Fuchs, T., 2010. *Potentiale des DGB-Index Gute Arbeit für die betriebliche Anwendung und arbeitswissenschaftliche Forschung - Replik auf den Artikel von G. Richenhagen und J. Prümper in der ZfA 2/2009 (Potential of the DGB Good Work Index for operational use and scientific research work - response to article by G. Richenhagen and J. Prümper in the ZfA).* Available: http://www.zfa-online.de/informationen/leser/volltexte/2010/2010_01_volltexte/Beitrag%201_zfa_1_2010.pdf.

Fuchs, T., 2007. *DGB-Index Gute Arbeit - Methodenpapier* [Homepage of DGB], [Online] [viewed 2011, August 12]. Available: http://www.DGB-Index-gute-arbeit.de/downloads/publikationen/data/methodenpapier.pdf.

Fuchs, T., 2006. *Was ist gute Arbeit? 19 Anforderungen aus der Sicht von Erwerbstätigen (What is Good Work? 19 requirements from the perspective of workers)* [Homepage of Initiative Neue Qualität der Arbeit, Bundesanstalt für Arbeitsschutz und Arbeitsmedizin], [Online] [viewed 2012, August 2]. Available: http://www.inqa.de/SharedDocs/PDFs/DE/Publikationen/inqa-19-was-ist-gute-arbeit.pdf?__blob=publicationFile.

Fujino, Y., Horie, S., Hoshuyama, T., Tsutsui, T. & Tanaka, Y., 2006. A systematic review of working hours and mental health burden. *Journal of occupational health,* vol. 48, no. 4, pp. 87-97.

Fujishiro, K., 2005. *Fairness at work: its impacts on employee well-being (unpublished PhD thesis),* The Ohio State University, Columbus.

Gallie, D., 2000. The quality of working life: is Scandinavia different? Estudio/Working Paper 2000/154.

Gallie, D., 2013. Direct participation and the quality of work. *Human Relations,* vol. 66, no. 4, pp. 453-473.

Ganster, D.C., Fusilier, M.R. & Mayes, B.T., 1986. Role of social support in the experience of stress at work. *Journal of Applied Psychology,* vol. 71, no. 1, pp. 102-110.

Gerhart, B., 1987. How important are dispositional factors as determinants of job satisfaction? Implications for job design and other personnel programs. *Journal of Applied Psychology,* vol. 72, no. 3, pp. 366-373.

Glasø, L., Bele, E., Nielsen, M.B. & Einarsen, S., 2011. Bus drivers' exposure to bullying at work: An occupation-specific approach. *Scandinavian Journal of Psychology,* vol. 52, no. 5, pp. 484-493.

Gold, R.L., 1958. Roles in Sociological Field Observations. *Social Forces,* vol. 36, no. 3, pp. 217-223.

Goldberg, D.P. & Hillier, V.F., 1979. A scaled version of the General Health Questionnaire. *Psychological medicine,* vol. 9, no. 01, pp. 139.

Goldthorpe, J.H., 1968. *The Affluent worker: industrial attitudes and behaviour.* London: Cambridge University Press.

Grayling, C., 2011. May 17-last update*, How to tackle unemployment (speech)* [Homepage of Uk Government], [Online] [viewed 2013, December 20]. Available: https://www.gov.uk/government/speeches/how-to-tackle-unemployment.

Greening, J., Lynn, B. & Leary, R., 2003. Sensory and autonomic function in the hands of patients with non-specific arm pain (NSAP) and asymptomatic office workers. *Pain,* vol. 104, no. 1-2, pp. 275-281.

Groves, R.M., Floyd J. Fowler, F.J.J., Couper, M.P., Lepkowski, J.M. & Singer, E.T.,R., 2009. *Survey methodology.* second edn, John Wiley & sons.

Grün, C., Hauser, W. & Rhein, T., 2010. Is Any Job Better than No Job? Life Satisfaction and Re-employment. *Journal of Labor Research,* vol. 31, no. 3, pp. 285-306.

Grund, C. & Schmitt, A., 2013. Works councils, wages and job satisfaction. *Applied Economics,* vol. 45, no. 3, pp. 299-310.

Grzywacz, J.G. & Dooley, D., 2003. "Good jobs" to "bad jobs": replicated evidence of an employment continuum from two large surveys. *Social science & medicine,* vol. 56, no. 8, pp. 1749-1760.

Hackman, J.R., 1980. Work redesign and motivation. *Professional Psychology,* vol. 11, no. 3, pp. 445-455.

Hackman, J.R. & Oldham, G.R., 1976. Motivation through the design of work: test of a theory. *Organizational behavior and human performance,* vol. 16, no. 2, pp. 250-279.

Hajiran, H., Toward a Quality of Life Theory: Net Domestic Product of Happiness. *Social Indicators Research,* vol. 75, no. 1, pp. 31-43.

Hakanen, J.J. & Schaufeli, W.B., 2012. Do burnout and work engagement predict depressive symptoms and life satisfaction? A three-wave seven-year prospective study. *Journal of affective disorders,* vol. 141, no. 2–3, pp. 415-424.

Hakim, C., 1991. Grateful slaves and self-made women: fact and fantasy in women's work orientations. *European Sociological Review,* vol. 7, no. 2, pp. 101-121.

Hall, P.A. & Gingerich, D.W., 2004. *MPIfG Discussion Paper 04/5 Varieties of Capitalism and Institutional Complementarities in the Macroeconomy An Empirical Analysis* [Homepage of Max Planck Institute for the Study of Societies], [Online] [viewed 2013, November 27]. Available: http://www-management.wharton.upenn.edu/guillen/hall/hall.mpifgspaper.pdf.

Han, K., Kim, H.S., Kim, M., Hong, K., Park, S., Yun, S., Song, M., Jung, Y., Kim, H., Kim, D.D., Choi, H. & Kim, K., 2007. Thinking in Clinical Nursing Practice: A Study of Critical Care Nurses' Thinking Applying the Think-Aloud, Protocol Analysis Method. *Asian Nursing Research,* vol. 1, no. 1, pp. 68-82.

Hancock, P.A. & Drury, C.G., 2011. Does human factors/ergonomics contribute to the quality of life? *Theoretical Issues in Ergonomics Science,* vol. 12, no. 5, pp. 416-426.

Hansen, A.M., Kaergaard, A., Andersen, J.H. & Netterstrøm, B., 2003. Associations between repetitive work and endocrinological indicators of stress. *Work & Stress,* vol. 17, no. 3, pp. 264-276.

Harma, M., 2006. Workhours in relation to work stress, recovery and health. *Scandinavian journal of work, environment & health,* vol. 32, no. 6, pp. 502-514.

Haslam, C., Clemes, S., Crawford, J., Gibb, A., Gyi, D., Haslam, R.A., Maguire, M., McDermott, H., Morga, K. & Nicolle, C., 2013. September 25-last update*, Working Late: Strategies to Enhance Productive and Healthy Environments for the Older Workforce* [Homepage of New Dynamics of Ageing], [Online] [viewed 2013, December 11]. Available: http://www.workinglate.org/nda-findings-22/.

Haslam, R. & Waterson, P., 2013. Ergonomics and Sustainability. *Ergonomics,* vol. 56, no. 3, pp. 343-347.

Havig, A.K., Skogstad, A., Veenstra, M. & Romøren, T.I., 2011. The effects of leadership and ward factors on job satisfaction in nursing homes: a multilevel approach. *Journal of Clinical Nursing,* vol. 20, no. 23-24, pp. 3532-3542.

Health Survey England, 2011. *Health Survey England 2010 dataset* [Homepage of ESDS], [Online] [viewed 2013, March 28]. Available: http://nesstar.esds.ac.uk/webview/index.jsp?v=2&mode=documentation&submode=abstract&study=http://nesstar.esds.ac.uk:80/obj/fStudy/6986&top=yes.

Healy, M. & Perry, C., 2000. Comprehensive criteria to judge validity and reliability of qualitative research within the realism paradigm. *Qualitative Market Research: An International Journal,* vol. 3, no. 3, pp. 118-126.

Helliwell, J., Layard, R. & Sachs, J., 2012. *World Happiness report*, Columbia University The Earth Institute.

Hemingway, H., Shipley, M., Brunner, E., Britton, A., Malik, M. & Marmot, M., 2005. Does autonomic function link social position to coronary risk? The Whitehall II study. *Circulation,* vol. 111, no. 23, pp. 3071-3077.

Herzberg, F., 1968. *Work and the nature of man.* London: Staples.

Herzberg, F., Mausner, B. & Snyderman, B., 1959. *The Motivation to Work.* New YorkJohn Wiley and sons.

Hignett, S., 2005. Qualitative methodology in *Evaluation of Human Work, 3rd Edition: A Practical Ergonomics Methodology.* eds. J.R. Wilson & N.E. Corlett, 3rd edn, CRC Press, pp. 113-128.

Hillage, J. & Pollard, E., 1998. *Employability: developing a framework for policy analysis. Research Report 85* [Homepage of Department for Education and Employment, London], [Online] [viewed 2013, December 11]. Available: http://www.voced.edu.au/node/12921.

Holler, M., 2014. *Methodenbericht zur Weiterentwicklung des DGB-Index Gute Arbeit in der Erhebungsperiode 2011/2012 (Methodological report of the further development of the DGB index Good Work during the survey period 2011/2012)*, Stadtbergen Internationales Institut für Empirische Sozialökonomie, gGmbH.

Hollister, M.N., 2004. Does Firm Size Matter Anymore? The New Economy and Firm Size Wage Effects. *American Sociological Review,* vol. 69, no. 5, pp. 659-679.

Holman, D., Clegg, C. & Waterson, P., 2002. Navigating the territory of job design. Applied Ergonomics, vol. 33, no. 3, pp. 197-205.

Holtermann, A., Hansen, J.V., Burr, H., Søgaard, K. & Sjøgaard, G., 2012. The health paradox of occupational and leisure-time physical activity. *British journal of sports medicine,* vol. 46, no. 4, pp. 291-295.

House, E.R., 1991. Realism in Research. *Educational Researcher,* vol. 20, no. 6, pp. 2-9.

Howell, D.C., 2013. *Statistical methods for psychology.* S.l. Wadsworth/Cengage Learning.

HSE, 2013. *Reported injuries by Industry, Severity and Employment Status 2010/2011 (HSE HandS-On statistics tool)* [Homepage of HSE], [Online] [viewed 2013, October 28]. Available: https://handson.hse.gov.uk/hse/public/tableadvanced.aspx?shortcode=RID3&a=tablesimple.

HSE, 2012. *Health and Safety Executive: Annual statistics 2011/2012* [Homepage of Health and Safety Executive], [Online] [viewed 2013, June 17]. Available: http://www.hse.gov.uk/statistics/overall/hssh1112.pdf.

HSE, 2007. *Managing the causes of work-related stress A step-by-step approach using the Management Standards* [Homepage of Health and Safety

Executive], [Online] [viewed 2011, July 28]. Available: http://www.hse.gov.uk/pubns/priced/hsg218.pdf.

HSE, 2004. *Manual Handling Guidance on Regulations.* 3rd edn, Health and Safety Executive.

HSE, 1974. *Health and Safety at Work etc. Act.*

Hu, X., Kaplan, S. & Dalal, R.S., 2010. An examination of blue- versus white-collar workers' conceptualizations of job satisfaction facets. *Journal of vocational behavior,* vol. 76, no. 2, pp. 317-325.

Huang, X. & Vliert, E.V.d., 2004. Job Level and National Culture as Joint Roots of Job Satisfaction. *Applied Psychology,* vol. 53, no. 3, pp. 329-348.

Huang, Y., Chen, C., Du, P. & Huang, I., 2012. The causal relationships between job characteristics, burnout, and psychological health: a two-wave panel study. *The International Journal of Human Resource Management,* vol. 23, no. 10, pp. 2108-2125.

Humphrey, S.E., Nahrgang, J.D. & Morgeson, F.P., 2007. Integrating motivational, social, and contextual work design features: A meta-analytic summary and theoretical extension of the work design literature. *Journal of Applied Psychology,* vol. 92, no. 5, pp. 1332-1356.

Huysse-Gaytandjieva, A., Groot, W. & Pavlova, M., 2013. Why do some employees fall into and fail to exit a job-lock situation? *Journal of environmental and public health,* vol. 2013.

IJmker, S., Huysmans, M.A., Blatter, B.M., van der Beek, A.J., van Mechelen, W. & Bongers, P.M., 2007. Should office workers spend fewer hours at their computer? A systematic review of the literature. *Occupational and environmental medicine,* vol. 64, no. 4, pp. 211-222.

ILO, 2013. April 28-last update*, The prevention of occupational diseases* [Homepage of International Labor Organization], [Online] [viewed 2013, August 23]. Available: http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---safework/documents/publication/wcms_208226.pdf.

ILO, 2006. Decent Work: a Global Concept. *World of work,* vol. 57, pp. 4.

Ingre, M., Kecklund, G., Åkerstedt, T. & Kecklund, L., 2004. Variation in Sleepiness during Early Morning Shifts: A Mixed Model Approach to an Experimental Field Study of Train Drivers. *Chronobiology International,* vol. 21, no. 6, pp. 973-990.

Ingre, M., Kecklund, G., Åkerstedt, T., Söderström, M. & Kecklund, L., 2008. Sleep Length as a Function of Morning Shift-Start Time in Irregular Shift Schedules for Train Drivers: Self-Rated Health and Individual Differences. *Chronobiology International,* vol. 25, no. 2-3, pp. 349-358.

ISO, 2012. *Road vehicles. Ergonomic requirements for the driver's workplace in line-service buses. General description, basic requirements. BS ISO 16121-1:2012.* 2nd edn, LondonBSI.

ISSP*, ISSP home page* [Homepage of ISSP], [Online] [viewed 2013, June 6]. Available: http://www.gesis.org/en/issp/issp-home/.

Jankowicz, D., 2004. *The easy guide to repertory grids.* Chichester: Wiley.

Janwantanakul, P., Pensri, P., Jiamjarasrangsri, V. & Sinsongsook, T., 2008. Prevalence of self-reported musculoskeletal symptoms among office workers. *Occupational medicine (Oxford, England),* vol. 58, no. 6, pp. 436-438.

Jayatilleke, A.U., Nakahara, S., Dharmaratne, S.D., Jayatilleke, A.C., Poudel, K.C. & Jimba, M., 2009. Working conditions of bus drivers in the private sector and bus crashes in Kandy district, Sri Lanka: a case–control study. *Injury Prevention,* vol. 15, no. 2, pp. 80-86.

Jencks, C., Perman, L. & Rainwater, L., 1988. What Is a Good Job? A New Measure of Labor-Market Success. *American Journal of Sociology,* vol. 93, no. 6, pp. 1322-1357.

Jettinghoff, K. & Houtman, I., 2009. 18 February-last update*, A sector perspective on working conditions* [Homepage of Eurofound], [Online] [viewed 2011, August 25]. Available: http://www.eurofound.europa.eu/pubdocs/2008/14/en/1/ef0814en.pdf.

Joensuu, M., Kivimäki, M., Koskinen, A., Kouvonen, A., Pulkki-Råback, L., Vahtera, J., Virtanen, M. & Väänänen, A., 2012. Differential Associations of Job Control Components With Mortality: A Cohort Study, 1986–2005. *American Journal of Epidemiology,* vol. 175, no. 7, pp. 609-619.

Joensuu, M., Väänänen, A., Koskinen, A., Kivimäki, M., Virtanen, M. & Vahtera, J., 2010. Psychosocial work environment and hospital admissions due to mental disorders: A 15-year prospective study of industrial employees. *Journal of affective disorders,* vol. 124, no. 1-2, pp. 118-125.

Johansson, G., 1989. Job demands and stress reactions in repetitive and uneventful monotony at work. *International Journal of Health Services,* vol. 19, no. 2, pp. 365-377.

Johnson, J.V. & Hall, E.M., 1988. Job Strain, Work Place Social Support, and Cardiovascular Disease: A Cross-Sectional Study of a Random Sample of the Swedish Working Population. *American Journal of Public Health,* vol. 78, no. 10, pp. 1336-1342.

Johnson, R.B. & Onwuegbuzie, A.J., 2004. Mixed Methods Research: A Research Paradigm Whose Time Has Come. *Educational Researcher,* vol. 33, no. 7, pp. 14-26.

Judge, T.A. & Piccolo, R.F., 2004. Transformational and Transactional Leadership: A Meta-Analytic Test of Their Relative Validity. *Journal of Applied Psychology,* vol. 89, no. 5, pp. 755-768.

Kahneman, D., Krueger, A.B., Schkade, D.A., Schwarz, N. & Stone, A.A., 2004. A survey method for characterizing daily life experience: the day reconstruction method.(Reports). *Science,* vol. 306, no. 5702, pp. 1776-1880.

Kalleberg, A.L. & Vaisey, S., 2005. Pathways to a Good Job: Perceived Work Quality among the Machinists in North America. *British Journal of Industrial Relations,* vol. 43, no. 3, pp. 431-454.

Kalleberg, A.L., 2008. The Mismatched Worker: When People Don't Fit Their Jobs. *Academy of Management Perspectives,* vol. 22, no. 1, pp. 24-40.

Kanai-Pak, M., Aiken, L.H., Sloane, D.M. & Poghosyan, L., 2008. Poor work environments and nurse inexperience are associated with burnout, job dissatisfaction and quality deficits in Japanese hospitals. *Journal of Clinical Nursing,* vol. 17, no. 24, pp. 3324-3329.

Karanika-Murray, M., Antoniou, A.S., Michaelides, G. & Cox, T., 2009. Expanding the risk assessment methodology for work-related health: A technique for incorporating multivariate curvilinear effects. *Work & Stress,* vol. 23, no. 2, pp. 99-119.

Karasek, R., 1979. Job Demands, Job Decision Latitude, and Mental Strain: Implications for Job Redesign. *Administrative Science Quarterly,* vol. 24, no. 2, pp. 285-308.

Karasek, R., Baker, D., Marxer, F., Ahlbom, A. & Theorell, T., 1981. Job Decision Latitude, Job Demands, and Cardiovascular Disease: A Prospective Study of Swedish Men. *American Journal of Public Health,* vol. 71, no. 7, pp. 694-705.

Karasek, R., Brisson, C., Kawakami, N., Houtman, I., Bongers, P. & Amick, B., 1998. The Job Content Questionnaire (JCQ): an instrument for internationally comparative assessments of psychosocial job characteristics. *Journal of occupational health psychology,* vol. 3, no. 4, pp. 322-355.

Kelly, G., 1955. *The psychology of personal constructs.* New York London: Norton.

King, A.C., Oman, R.F., Brassington, G.S., Bliwise, D.L. & Haskell, W.L., 1997. Moderate-intensity exercise and self-rated quality of sleep in older adults. A randomized controlled trial. *JAMA: the journal of the American Medical Association,* vol. 277, no. 1, pp. 32-37.

King, N., 2004. Using templates in the thematic analysis of text in *Essential Guide to Qualitative Methods in Organizational Research.* eds.. Cassell, C. & Symon, G. London: Sage Publications, pp. 256-270.

Kinman, G. & Jones, F., 2005. Lay representations of workplace stress: What do people really mean when they say they are stressed? *Work & Stress,* vol. 19, no. 2, pp. 101.

Kirjonen, J. & Hänninen, V., 1986. Getting a Better Job: Antecedents and Effects. *Human Relations,* vol. 39, no. 6, pp. 503-516.

Kistler, E., Mussman, F. & Trischler, F., 2011. Social imbalance in working conditions as well - an obstacle to economic success in
Socially Unbalanced Europe: Socio-political proposals in times of crisis. eds. Busch, K., Flore, M., Kohl, H., & Schlatermund, H. Pontypool, Wales: The Merlin Press, pp. 217-228.

Kivimäki, M., Batty, G.D. & Hublin, C., 2011a. Shift Work as a Risk Factor for Future Type 2 Diabetes: Evidence, Mechanisms, Implications, and Future Research Directions. *PLoS Medicine,* vol. 8, no. 12: e1001138.

Kivimäki, M., Batty, G.D., Hamer, M., Ferrie, J.E., Vahtera, J., Virtanen, M., Marmot, M.G., Singh-Manoux, A. & Shipley, M.J., 2011b. Using additional information on working hours to predict coronary heart disease: a cohort study. *Annals of Internal Medicine,* vol. 154, no. 7, pp. 457-463.

Kivimäki, M., Elovainio, M., Vahtera, J., Virtanen, M. & Stansfeld, S.A., 2003. Association between organizational inequity and incidence of psychiatric disorders in female employees. *Psychological medicine,* vol. 33, no. 2, pp. 319-326.

Kivimäki, M., Virtanen, M., Elovainio, M., Kouvonen, A., Vaananen, A. & Vahtera, J., 2006. Work stress in the etiology of coronary heart disease-a meta-analysis. *Scandinavian journal of work, environment & health,* vol. 32, no. 6, pp. 431-442.

Kivimäki, M., Nyberg, S.T., Batty, G.D., Fransson, E.I., Heikkilä, K., Alfredsson, L., Bjorner, J.B., Borritz, M., Burr, H., Casini, A., Clays, E., De Bacquer, D., Dragano, N., Ferrie, J.E., Geuskens, G.A., Goldberg, M., Hamer, M., Hooftman, W.E., Houtman, I.L., Joensuu, M., Jokela, M., Kittel, F., Knutsson, A., Koskenvuo, M., Koskinen, A., Kouvonen, A., Kumari, M., Madsen, I.E., Marmot, M.G., Nielsen, M.L., Nordin, M., Oksanen, T., Pentti, J., Rugulies, R., Salo, P., Siegrist, J., Singh-Manoux, A., Suominen, S.B., Väänänen, A., Vahtera, J., Virtanen, M., Westerholm, P.J., Westerlund, H., Zins, M., Steptoe, A. & Theorell, T., 2012. Job strain as a risk factor for coronary heart disease: a collaborative meta-analysis of individual participant data. *The Lancet,* vol. 380, no. 9852, pp. 1491-1497.

Kolstad, H.A., Hansen, Å.M., Kærgaard, A., Thomsen, J.F., Kaerlev, L., Mikkelsen, S., Grynderup, M.B., Mors, O., Rugulies, R., Kristensen, A.S., Andersen, J.H. & Bonde, J.P., 2011. Job Strain and the Risk of Depression: Is Reporting Biased? *American Journal of Epidemiology,* vol. 173, no. 1, pp. 94-102.

Konrad, A.M., Ritchie, J.E., Lieb, P. & Corrigall, E., 2000. Sex differences and similarities in job attribute preferences: A meta-analysis. *Psychological bulletin,* vol. 126, no. 4, pp. 593-641.

Kralj, N., Oertel, C., Doench, N., Nuebling, M., Pohrt, U. & Hofmann, F., 2011. Duration of wet work in hairdressers. *International archives of occupational and environmental health,* vol. 84, no. 1, pp. 29-34.

Krueger, R.A. & Casey, M.A., 2000. *Focus groups: a practical guide for applied research.* Thousand Oaks, Calif.; London: Sage Publications.

Ku, C. & Smith, M.J., 2010. Organisational factors and scheduling in locomotive engineers and conductors: Effects on fatigue, health and social well-being. *Applied Ergonomics,* vol. 41, no. 1, pp. 62-71.

Kubo, T., Ozasa, K., Mikami, K., Wakai, K., Fujino, Y., Watanabe, Y., Miki, T., Nakao, M., Hayashi, K., Suzuki, K., Mori, M., Washio, M., Sakauchi, F., Ito,

Y., Yoshimura, T. & Tamakoshi, A., 2006. Prospective Cohort Study of the Risk of Prostate Cancer among Rotating-Shift Workers: Findings from the Japan Collaborative Cohort Study. *American Journal of Epidemiology,* vol. 164, no. 6, pp. 549-555.

Kuijer, P.P.F.M., de Vries, W.H.K., van der Beek, A.J., van Dieën, J.H., Visser, B. & Frings-Dresen, M.H.W., 2004. Effect of Job Rotation on Work Demands, Workload, and Recovery of Refuse Truck Drivers and Collectors. *Human Factors: The Journal of the Human Factors and Ergonomics Society,* vol. 46, no. 3, pp. 437-448.

Kuorinka, I., Jonsson, B., Kilbom, A., Vinterberg, H., Biering-Sørensen, F., Andersson, G. & Jørgensen, K., 1987. Standardised Nordic questionnaires for the analysis of musculoskeletal symptoms. *Applied Ergonomics,* vol. 18, no. 3, pp. 233-237.

Kuper, H. & Marmot, M., 2003. Job strain, job demands, decision latitude, and risk of coronary heart disease within the Whitehall II study. *Journal of epidemiology and community health,* vol. 57, no. 2, pp. 147-153.

Kuper, H., Singh-Manoux, A., Siegrist, J. & Marmot, M., 2002. When reciprocity fails: effort–reward imbalance in relation to coronary heart disease and health functioning within the Whitehall II study. *Occupational and environmental medicine,* vol. 59, no. 11, pp. 777-784.

Lahti, J., Lallukka, T., Lahelma, E. & Rahkonen, O., 2013. Leisure-time physical activity and psychotropic medication: A prospective cohort study. *Preventive medicine,* vol. 57, no. 3, pp. 173-177.

LaMontagne, A.D., 2012. Invited Commentary: Job Strain and Health Behaviors—Developing a Bigger Picture. *American Journal of Epidemiology,* vol. 176, no. 12, pp. 1090-1094.

Landsberger, H.A., 1958. *Hawthorne revisited: Management and the worker, its critics, and developments in human relations in industry.* Ithaca, N.Y.: Cornell University.

Lang, J., Ochsmann, E., Kraus, T. & Lang, J.W.B., 2012. Psychosocial work stressors as antecedents of musculoskeletal problems: A systematic review and meta-analysis of stability-adjusted longitudinal studies. *Social science & medicine,* vol. 75, no. 7, pp. 1163-1174.

Layard, R., 2010. Measuring subjective well-being. *Science,* vol. 327(5965), pp. 534-535.

Layard, R., 2004. April 2004-last update*, Good jobs and bad jobs; CEP occasional paper 19* [Homepage of Centre for Economic Performance], [Online] [viewed 2011, July 29]. Available: http://eprints.lse.ac.uk/28757/1/OP019.pdf.

Lazarus, R.S., 1966. *Psychological stress and the coping process.* McGraw-Hill.

Lee, H., Song, R., Cho, Y.S., Lee, G.Z. & Daly, B., 2003. A comprehensive model for predicting burnout in Korean nurses. *Journal of advanced nursing,* vol. 44, no. 5, pp. 534-545.

Leschke, J., Watt, A. & Finn, M, 2008. *Putting a number on job quality? Constructing a European Job Quality Index* [Homepage of European Trade Union Institute], [Online] [viewed 2011, July 29]. Available: http://www.etui.org/Publications2/Working-Papers/Job-quality-in-Europe.

Lewig, K.A. & Dollard, M.F., 2003. Emotional dissonance, emotional exhaustion and job satisfaction in call centre workers. *European Journal of Work and Organizational Psychology,* vol. 12, no. 4, pp. 366-392.

Lewins, A. & Silver, C., 2007. *Using software in qualitative research: a step-by-step guide.* London: SAGE.

Li, F., Jiang, L., Yao, X. & Li, Y., 2013. Job demands, job resources and safety outcomes: The roles of emotional exhaustion and safety compliance. *Accident Analysis & Prevention,* vol. 51, pp. 243-251.

Li, G. & Buckle, P., 1999. Current techniques for assessing physical exposure to work-related musculoskeletal risks, with emphasis on posture-based methods. *Ergonomics,* vol. 42, no. 5, pp. 674.

Lincoln, Y.S. & Guba, E.G., 1985. *Naturalistic inquiry.* Beverly Hills, Calif.; London: Sage.

Lindner, M., 2012. December 14-last update*, Jahrbuch 2013 - Der DGB-Index Gute Arbeit in der betrieblichen Praxis Persönliche Erfahrungen mit der Kooperation von Sozialwissenschaft und Gewerkschaft (Yearbook 2013 - The DGB Good Work Index in practice Persönliche Erfahrungen mit der Kooperation von Sozialwissenschaft Personal experiences with the cooperation of social science und Gewerand trade union)* [Homepage of DGB], [Online] [viewed 2013, November 30]. Available: http://www.DGB-Index-gute-arbeit.de/sonderauswertungen/data/jahrbuch_2013_artikel_mary_lindner.pdf.

Liu, H., Wang, Q., Keesler, V. & Schneider, B., 2011. Non-standard work schedules, work–family conflict and parental well-being: A comparison of married and cohabiting unions. *Social science research,* vol. 40, no. 2, pp. 473-484.

Lizano, E.L. & Mor Barak, M.E., 2012. Workplace demands and resources as antecedents of job burnout among public child welfare workers: A longitudinal study. *Children and Youth Services Review,* vol. 34, no. 9, pp. 1769-1776.

Lloyd, C. & Mayhew, K., 2010. Skill: the solution to low wage work? *Industrial Relations Journal,* vol. 41, no. 5, pp. 429-445.

Locke, E.A., 1976. The Nature and Causes of Job Satisfaction' in *Handbook of Industrial and Organizational Psychology.* ed. M.D. Dunnette, Chicago: Rand-McNally, .

Loretto, W., Platt, S. & Popham, F., 2010. Workplace Change and Employee Mental Health: Results from a Longitudinal Study. *British Journal of Management,* vol. 21, no. 2, pp. 526-540.

Loughlin, C. & Murray, R., 2013. Employment status congruence and job quality. *Human Relations,* vol. 66, no. 4, pp. 529-553.

Loukidou, L., Loan-Clarke, J. & Daniels, K., 2009. Boredom in the workplace: More than monotonous tasks. *International Journal of Management Reviews,* vol. 11, no. 4, pp. 381-405.

Lowe, B.D., You, H., Bucciaglia, J.D., Gilmore, B.J. & Freivalds, A., 1995. An Ergonomic Design Strategy for the Transit Bus Operators' Workspace. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting,* vol. 39, no. 17, pp. 1142-1146.

Lowe, G.S. & Schellenberg, G., 2001. *What's a good job?The importance of employment relationships*, Ottawa: CPRN.

Lowe, G.S., Schellenberg, G. & Shannon, H.S., 2003. Correlates of employees' perceptions of a healthy work environment. *American Journal of Health Promotion,* vol. 17, no. 6, pp. 390-399.

Lu, L. & Gilmour, R., 2004. Culture and conceptions of happiness: individual oriented and social oriented swb. *Journal of Happiness Studies,* vol. 5, no. 3, pp. 269-291.

Luxon, L. & Prasher, D. (eds), 2007. *Noise and its effects.* John Wiley: Chichester.

Lynch, B.M., 2010. Sedentary Behavior and Cancer: A Systematic Review of the Literature and Proposed Biological Mechanisms. *Cancer Epidemiology Biomarkers & Prevention,* vol. 19, no. 11, pp. 2691-2709.

MacDermid, J.C., Geldart, S., Williams, R.M., Westmorland, M., Lin, C.A. & Shannon, H., 2008. Work organization and health: A qualitative study of the perceptions of workers. Work, vol. 30, no. 3, pp. 241-254.

Machin, M.A. & Hoare, P.N., 2008. The role of workload and driver coping styles in predicting bus drivers' need for recovery, positive and negative affect, and physical symptoms. *Anxiety, Stress and Coping,* vol. 21, no. 4, pp. 359-375.

MacKay, C.J., Cousins, R., Kelly, P.J., Lees, S. & McCaig, R.H., 2004. 'Management Standards' and work-related stress in the UK: Policy background and science. *Work & Stress,* vol. 18, no. 2, pp. 91-112.

Magee, B., 1982. *Popper.* London: Fontana.

Marchand, A. & Blanc, M., 2010. The contribution of work and non-work factors to the onset of psychological distress: An eight-year prospective study of a representative sample of employees in Canada. *Journal of Occupational Health,* vol. 52, no. 3, pp. 176-185.

Marchand, A., Demers, A. & Durand, P., 2005. Do occupation and work conditions really matter? A longitudinal analysis of psychological distress

experiences among Canadian workers. *Sociology of health & illness,* vol. 27, no. 5, pp. 602-627.

Marcus, M., Gerr, F., Monteilh, C., Ortiz, D.J., Gentry, E., Cohen, S., Edwards, A., Ensor, C. & Kleinbaum, D., 2002. A prospective study of computer users: II. Postural risk factors for musculoskeletal symptoms and disorders. *American Journal of Industrial Medicine,* vol. 41, no. 4, pp. 236-249.

Marmot, M., 2004. *Status Syndrome.* London: Bloomsbury.

Marras, W.S., Davis, K.G., Heaney, C.A., Maronitis, A.B. & Allread, W.G., 2000. The influence of psychosocial stress, gender, and personality on mechanical loading of the lumbar spine. *Spine,* vol. 25, no. 23, pp. 3045-3054.

Maslach, C., Schaufeli, W.B. & Leiter, M.P., 2001. Job Burnout. *Annual Review of Psychology,* vol. 52, no. 1, pp. 397.

Maslow, A.H., 1943. A theory of human motivation. *Psychological review,* vol. 50, no. 4, pp. 370-396.

Massaccesi, M., Pagnotta, A., Soccetti, A., Masali, M., Masiero, C. & Greco, F., 2003. Investigation of work-related disorders in truck drivers using RULA method. *Applied Ergonomics,* vol. 34, no. 4, pp. 303-307.

McCrae, R.R. & Costa, P.T., 1987. Validation of the five-factor model of personality across instruments and observers. *Journal of personality and social psychology,* vol. 52, no. 1, pp. 81-90.

McDonald, F., 2008. Working to Death: The Regulation of Working Hours in Health Care. *Law & Policy,* vol. 30, no. 1, pp. 108-140.

McDonald, P., Bradley, L. & Brown, K., 2009. 'Full-time is a Given Here': Part-time Versus Full-time Job Quality. *British Journal of Management,* vol. 20, no. 2, pp. 143-157.

McDonough, P., Duncan, G.J., Williams, D. & House, J., 1997. Income dynamics and adult mortality in the United States, 1972 through 1989. *American Journal of Public Health,* vol. 87, no. 9, pp. 1476-1483.

McGuffog, A., Spencer, M., Turner, C. & Stone, B., 2004. *Working patterns of train drivers: implications for fatigue and safety. QinetiQ Document Identifier Number QINETIQ/KI/CHS/CR043098.,* London RSSB.

McNamara, T.K., Pitt-Catsouphes, M., Matz-Costa, C., Brown, M. & Valcour, M., 2013. Across the continuum of satisfaction with work–family balance: Work hours, flexibility-fit, and work–family culture. *Social science research,* vol. 42, no. 2, pp. 283-298.

McPhail, R. & Fisher, R., 2008. It's more than wages: Analysis of the impact of internal labour markets on the quality of jobs. *International Journal of Human Resource Management,* vol. 19, no. 3, pp. 461-472.

Melamed, S., Ben-Avi, I., Luz, J. & Green, M.S., 1995a. Objective and subjective work monotony: Effects on job satisfaction, psychological distress,

and absenteeism in blue-collar workers. *Journal of Applied Psychology,* vol. 80, no. 1, pp. 29-42.

Melamed, S., Ben-Avi, I., Luz, J. & Green, M.S., 1995b. Repetitive work, work underload and coronary heart disease risk factors among blue-collar workers—The CORDIS Study. *Journal of psychosomatic research,* vol. 39, no. 1, pp. 19-29.

Melamed, S., Shirom, A., Toker, S., Berliner, S. & Shapira, I., 2006. Burnout and risk of cardiovascular disease: Evidence, possible causal paths, and promising research directions. *Psychological bulletin,* vol. 132, no. 3, pp. 327-353.

Mezger, E., Vermeylen, G. & Parent-Thirion, A., 2011. Quality of work and employment in the European Working Conditions Survey in *Socially Unbalanced Europe: Socio-political proposals in times of crisis.* eds. Busch,K., Flore, M., Kohl, H. & Schlatermund, H. Pontypool, Wales: The Merlin Press, pp. 243-267.

Michie, S., Wren, B. & Williams, S., 2004. Reducing absenteeism in hospital cleaning staff: pilot of a theory based intervention. *Occupational and environmental medicine,* vol. 61, no. 4, pp. 345-349.

Miles, M.B. & Huberman, A.M., 1994. *Qualitative Data Analysis: an expanded sourcebook.* 2nd edn, London: Sage.

Miller, P. & Haslam, C., 2009. Why employers spend money on employee health: Interviews with occupational health and safety professionals from British Industry. *Safety Science,* vol. 47, no. 2, pp. 163-169.

Morgan, D.L., 1998. *The focus group guidebook.* London: SAGE.

Morgeson, F.P. & Humphrey, S.E., 2006. The Work Design Questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work. Journal of Applied Psychology, vol. 91, no. 6, pp. 1321-1339.

Morris, J.N., Heady, J.A., Raffle, P.A.B., Roberts, C.G. & Parks, J.W., 1953. Coronary heart disease and physical activity of work. *The Lancet,* vol. 262, no. 6796, pp. 1111-1120.

Muñoz de Bustillo Llorente, R. & Fernández Macías, E., 2005. Job satisfaction as an indicator of the quality of work. *Journal of Socio-economics,* vol. 34, no. 5, pp. 656-673.

Muñoz de Bustillo Llorente, R., Fernández Macías, E., Anton, J.I. & Esteve, F., 2009. *Indicators of job quality in the european union* [Homepage of European Parliament], [Online] [viewed 2011, April 7]. Available: http://www.europarl.europa.eu/activities/committees/studies/download.do?language=en&file=27929.

Muñoz de Bustillo, R., Fernández-Macías, E., Antón, J. & Esteve, F., 2011a. *Measuring more than money.* Cheltenham UK: Edward Elgar.

Muñoz de Bustillo, R., Fernández-Macías, E., Esteve, F. & Antón, J., 2011b. E pluribus unum? A critical survey of job quality indicators. *Socio-Economic Review,* vol. 9, no. 3, pp. 447-475.

Murrell, K.F.H., 1965. *Ergonomics: man in his working environment.* LondonChapman and Hall.

Mussman, F., 2009a, *DGB Index Gute Arbeit (conference abstract)* [viewed 2014, January 24]. Available: http://www.ose.be/conf_ETUI2009/slides/DGB-Index_abstract.pdf.

Mussman, F. 2009b. 18–19 March-last update*, The German "Good-Work" Index (DGB-Index Gute Arbeit).* [Homepage of The Observatoire social européen (OSE)], [Online] [viewed 2013, June 20]. Available: http://www.ose.be/conf_ETUI2009/slides/DGB-Index_ETUI_Gute_Arbeit.pdf;http://www.ose.be/conf_ETUI2009/slides/DGB-Index_abstract.pdf;.

Nabi, H., Kivimäki, M., De Vogli, R., Marmot, M.G., Singh-Manoux, A. & Whitehall II Prospective Cohort Study, 2008. Positive and negative affect and risk of coronary heart disease: Whitehall II prospective cohort study. *BMJ (Clinical research ed.),* vol. 337, pp. a118.

Nahrgang, J.D., Morgeson, F.P. & Hofmann, D.A., 2011. Safety at work: A meta-analytic investigation of the link between job demands, job resources, burnout, engagement, and safety outcomes. *Journal of Applied Psychology,* vol. 96, no. 1, pp. 71-94.

Nakashima, M., 2011. Association between long working hours and sleep problems in white collar workers. *Journal of sleep research,* vol. 20, no. 01.

National Research Council Panel on Musculoskeletal Disorders and the Workplace, 2006. Magnitude of Occupationally-Related Musculoskeletal Disorders in *Fundamentals and Assessment Tools for Occupational Ergonomics.* eds. Marras, W.S. & Karwowski, W. 2nd edn,Boca Raton Taylor and Francis, pp. 2.1-2.21.

Ndjaboué, R., Brisson, C. & Vézina, M., 2012. Organisational justice and mental health: A systematic review of prospective studies. *Occupational and environmental medicine,* vol. 69, no. 10, pp. 694-700.

Netterstrom, B., Conrad, N., Bech, P., Fink, P., Olsen, O., Rugulies, R. & Stansfeld, S., 2008. The relation between work-related psychosocial factors and the development of depression. *Epidemiologic reviews,* vol. 30, pp. 118-132.

Neuendorf, K.A., 2002. *The content analysis guidebook.* London: SAGE.

Neville, S., 2013. ONS to change method of calculating zero-hours contracts. *The Guardian,* August 23, p.3.

Niedhammer, I., Goldberg, M., Leclerc, A., Bugel, I. & David, S., 1998. Psychosocial factors at work and subsequent depressive symptoms in the Gazel cohort. *Scandinavian journal of work, environment & health,* vol. 24, no. 3, pp. 197-205.

Nieuwenhuijsen, K., Bruinvels, D. & Frings-Dresen, M., 2010. Psychosocial work environment and stress-related disorders, a systematic review. *Occupational Medicine,* vol. 60, no. 4, pp. 277-286.

Nilsson, K., Hertting, A. & Pettersond, I., 2009. "It depends on us": Employee perspective of healthy working conditions during continual reorganisations in a radiology department. *Work,* vol. 33, no. 2, pp. 191-200.

Nordander, C., Ohlsson, K., Akesson, I., Arvidsson, I., Balogh, I., Hansson, G., Stromberg, U., Rittner, R. & Skerfving, S., 2009. Risk of Musculoskeletal Disorders among Females and Males in Repetitive/Constrained Work. *Ergonomics,* vol. 52, no. 10, pp. 1226-1239.

North, F.M., Syme, S.L., Feeney, A., Shipley, M. & Marmot, M., 1996. Psychosocial work environment and sickness absence among British civil servants: the Whitehall II study. *American Journal of Public Health,* vol. 86, no. 3, pp. 332-340.

Office for National Statistics, 2012. August-last update*, EMP 16 Employment by Occupation* [Homepage of ONS], [Online] [viewed 2012, September 21]. Available: http://www.ons.gov.uk/ons/rel/lms/labour-market-statistics/september-2012/index-of-data-tables.html#tab-Employment-tables.

Okunribido, O.O., Shimbles, S.J., Magnusson, M. & Pope, M., 2007. City bus driving and low back pain: A study of the exposures to posture demands, manual materials handling and whole-body vibration. *Applied Ergonomics,* vol. 38, no. 1, pp. 29-38.

Oldham, G.R. & Hackman, J.R., 2010. Not what it was and not what it will be: The future of job design research. *Journal of Organizational Behavior,* vol. 31, no. 2, pp. 463-479.

ONS, 2013. September 11-last update*, Labour Market Statistics, September 2013* [Homepage of Office for National statistics], [Online] [viewed 2013, October 28]. Available: http://www.ons.gov.uk/ons/dcp171778_325094.pdf.

Osterman, P., 2010. Job design in the context of the job market. *Journal of Organizational Behavior,* vol. 31, no. 2, pp. 401-411.

Pallant, J., 2010. *SPSS survival manual: a step by step guide to data analysis using SPSS.* Maidenhead: Open University Press.

Parent, M., El-Zein, M., Rousseau, M., Pintos, J. & Siemiatycki, J., 2012. Night Work and the Risk of Cancer Among Men. *American Journal of Epidemiology,* vol. 176, no. 9, pp. 751-759.

Parkes, K.R., Carnell, S. & Farmer, E., 2005. *Musculo-skeletal disorders, mental health and the work environment; RR316* [Homepage of Health and Safety Executive], [Online] [viewed 2011, July 29]. Available: http://www.hse.gov.uk/research/rrpdf/rr316.pdf.

Parliament of the United Kingdom, 1998. *Working Time Regulations: SI 1998/1833.* England and Wales;Scotland;Northern Ireland.

Parsons, K.C., 2002. *Human thermal environments.* 2nd edn, LondonTaylor & Francis.

Patel, A.V., Bernstein, L., Deka, A., Feigelson, H.S., Campbell, P.T., Gapstur, S.M., Colditz, G.A. & Thun, M.J., 2010. Leisure Time Spent Sitting in Relation to Total Mortality in a Prospective Cohort of US Adults. *American Journal of Epidemiology,* vol. 172, no. 4, pp. 419-429.

Peña-Casas, R. & Pochet, P., 2009. April-last update*, Convergence and divergence of working conditions in Europe: 1990–2005* [Homepage of Eurofound], [Online] [viewed 2013, November 27]. Available: http://www.eurofound.europa.eu/publications/htmlfiles/ef08104.htm.

Pilcher, J.J., Lambert, B.J. & Huffcutt, A.I., 2000. Differential effects of permanent and rotating shifts on self-report sleep length: a meta-analytic review. *Sleep,* vol. 23, no. 2, pp. 155-163.

Pompeii, L.A., Savitz, D.A., Evenson, K.R., Rogers, B. & McMahon, M., 2005. Physical Exertion at Work and the Risk of Preterm Delivery and Small-for-Gestational- Age Birth. *Obstetrics & Gynecology,* vol. 106, no. 6, pp. 1279-1288

Preinfalk, H. & Michenthaler, G., 2011. On the necessity for and the path towards a "European Quality of Work Indicator" in *Socially Unbalanced Europe: Socio-political proposals in times of crisis.* eds. Busch, K., Flore, M., Kohl, H. &. Schlatermund, H. Pontypool, Wales:The Merlin Press, pp. 229-242.

Prümper, J. & Richenhagen, G., 2009. *Der DGB-Index „Gute Arbeit" – eine arbeitswissenschaftliche Bewertung (The DGB index 'Good work' - an ergonomical evaluation) In GfA (Hrsg.), Arbeit, Beschäftigungsfähigkeit und Produktivität im 21. Jahrhundert. 55. Kongress der Gesellschaft für Arbeitswissenschaft (S. 341-344).* [Homepage of GfA Press. Dortmund.], [Online] [viewed 2012, August 02]. Available: http://people.f3.htw-berlin.de/Professoren/Pruemper/publikation/2009/Pruemper-Richenhagen_DGB-Index.pdf.

Punnett, L. & Wegman, D.H., 2004. Work-related musculoskeletal disorders: the epidemiologic evidence and the debate. *Journal of Electromyography and Kinesiology,* vol. 14, no. 1, pp. 13-23.

Rafferty, A.M., Clarke, S.P., Coles, J., Ball, J., James, P., McKee, M. & Aiken, L.H., 2007. Outcomes of variation in hospital nurse staffing in English hospitals: cross-sectional analysis of survey data and discharge records. *International journal of nursing studies,* vol. 44, no. 2, pp. 175-182.

Rakovski, C.C. & Price-Glynn, K., 2010. Caring labour, intersectionality and worker satisfaction: an analysis of the National Nursing Assistant Study (NNAS). *Sociology of health & illness,* vol. 32, no. 3, pp. 400-414.

Ramazzini, B., 1964. *Diseases of workers; translated from the Latin text, De morbis artificum of 1713, by W.C. Wright.* New York; London: Hafner.

Rankin, N., 2009. *Testing in employment: the 2009 IRS survey.* IRS Employment Review.

Reynolds, J., Kizito, J., Ezumah, N., Mangesho, P., Allen, E. & Chandler, C., 2011. Quality assurance of qualitative research: a review of the discourse. *Health research policy and systems / BioMed Central,* vol. 9, pp. 43.

Rice, R.W., Markus, K., Moyer, R.P. & McFarlin, D.B., 1991. Facet Importance and Job Satisfaction: Two Experimental Tests of Locke's Range of Affect Hypothesis. *Journal of Applied Social Psychology,* vol. 21, no. 24, pp. 1977-1987.

Richards, L., 2005. *Handling Qualitative Data.* London: Sage Publications Ltd.

Rick, J., Briner, R.B., Daniels, K., Perryman, S. & Guppy, A., 2001. *A critical review of psychosocial hazard measures.* HSE.

Ritter, J.A. & Anker, R., 2002. Good jobs, bad jobs: Workers' evaluations in five countries. *International Labour Review,* vol. 141, no. 4, pp. 331.

Robertson, I.T. & Smith, M., 2001. Personnel selection. *Journal of Occupational & Organizational Psychology,* vol. 74, no. 4, pp. 441.

Robson, C., 2011. *Real World Research.* 3rd edn, John Wiley and Sons Ltd.

Rojas, M., 2007. Heterogeneity in the relationship between income and happiness: A conceptual-referent-theory explanation. *Journal of Economic Psychology,* vol. 28, no. 1, pp. 1-14.

Rose, M., 1985. *Re-working the work ethic: economic values and socio-cultural politics.* London: Batsford.

Rose, M., 2007. Why so fed up and footloose in IT? Spelling out the associations between occupation and overall job satisfaction shown by WERS 2004. *Industrial Relations Journal,* vol. 38, no. 4, pp. 356-384.

Rose, M., 2005. Job Satisfaction in Britain: Coping with Complexity. *British Journal of Industrial Relations,* vol. 43, no. 3, pp. 455-467.

Rose, M., 2003. Good Deal, Bad Deal? Job Satisfaction in Occupations. *Work, Employment & Society,* vol. 17, no. 3, pp. 503-530.

Rosso, B.D., Dekas, K.H. & Wrzesniewski, A., 2010. On the meaning of work: A theoretical integration and review. *Research in Organizational Behavior,* vol. 30, pp. 91-127.

Rugulies, R., Bültmann, U., Aust, B. & Burr, H., 2006. Psychosocial Work Environment and Incidence of Severe Depressive Symptoms: Prospective Findings from a 5-Year Follow-up of the Danish Work Environment Cohort Study. *American Journal of Epidemiology,* vol. 163, no. 10, pp. 877-887.

Ryan, B. & Haslegrave, C.M., 2007. Use of concurrent and retrospective verbal protocols to investigate workers' thoughts during a manual-handling task. *Applied Ergonomics,* vol. 38, no. 2, pp. 177-190.

Sachau, D.A., 2007. Resurrecting the Motivation-Hygiene Theory: Herzberg and the Positive Psychology Movement. *Human Resource Development Review,* vol. 6, no. 4, pp. 377-393.

Sahlgren, G., 2013. *Work Longer, Live Healthier: The relationship between economic activity, health and government policy.* Institute of economic affairs.

Saris, W.H.M., Blair, S.N., Van Baak, M.A., Eaton, S.B., Davies, P.S.W., Di Pietro, L., Fogelholm, M., Rissanen, A., Schoeller, D., Swinburn, B., Tremblay, A., Westerterp, K.R. & Wyatt, H., 2003. How much physical activity is enough to prevent unhealthy weight gain? Outcome of the IASO 1st Stock Conference and consensus statement. *Obesity Reviews,* vol. 4, no. 2, pp. 101-114.

Schmidt, S.W., 2007. The relationship between satisfaction with workplace training and overall job satisfaction. *Human Resource Development Quarterly,* vol. 18, no. 4, pp. 481-498.

Schnall, P.L., Landsbergis, P.A. & Baker, D., 1994. Job strain and cardiovascular disease. *Annual Review of Public Health,* vol. 15, pp. 381-411.

Schokkaert, E.A., van Ootegem, L. & Verhofstadt, E., 2009. *Measuring job quality and job satisfaction* [Homepage of Ghent University], [Online] [viewed 2011, April 12]. Available: http://www.FEB.UGent.be/nl/Ondz/wp/Papers/wp_09_620.pdf.

Schokkaert, E., Van Ootegem, L. & Verhofstadt, E., 2011. Preferences and subjective satisfaction: measuring well-being on the job for policy evaluation. *CESifo Economic Studies,* vol. 57, no. 4, pp. 683-714.

Schreuder, J.A.H., Roelen, C.A.M., Koopmans, P.C., Moen, B.E. & Groothoff, J.W., 2010. Effort–reward imbalance is associated with the frequency of sickness absence among female hospital nurses: A cross-sectional study. *International journal of nursing studies,* vol. 47, no. 5, pp. 569-576.

Schumacher, E., 1979. *Good Work.* London: Cape.

Schütte, M., 2011. March 8-last update*, DGB-Index - A review of statistical quality criteria* [Homepage of Bundesanstalt für Arbeitsschutz und Arbeitsmedizin], [Online] [viewed 2012, August 2]. Available: http://www.baua.de/en/Publications/Expert-Papers/Gd61.html?nn=717206.

Secretary of State for Transport, 2007. *The Vehicle Drivers (Certificates of Professional Competence) Regulations 2007.* Road Traffic edn, London.

Secretary of State for Transport, 1985. *Transport Act.* Act of Parliament edn Great Britain.

Selye, H., 1956. *The stress of life.* Longmans.

Sengupta, S., Edwards, P.K. & Tsai, C., 2009. The Good, the Bad, and the Ordinary: Work Identities in "Good" and "Bad" Jobs in the United Kingdom. *Work and Occupations,* vol. 36, no. 1, pp. 26-55.

Sennett, R., 2008. *The Craftsman.* London: Penguin Books.

Shaw, M.L.G., 1981. Conversational Heuristics in *Recent Advances in Personal Construct Psychology.* ed. M.L.G. Shaw, London Academic Press, pp. 31-44.

Shirom, A., Westman, M. & Melamed, S., 1999. The effects of pay systems on blue-collar employees' emotional distress: The mediating effects of objective and subjective work monotony. *Human Relations,* vol. 52, no. 8, pp. 1077-1097.

Siegrist, J., 1996. Adverse health effects of high-effort/low-reward conditions. *Journal of occupational health psychology,* vol. 1, no. 1, pp. 27-41.

Siegrist, J., Benach, J., McKnight, A., Goldblatt, P. & Muntaner, C., 2009. *Employment Arrangements, Work Conditions and Health Inequalities: Report on New Evidence on Health Inequality Reduction, Produced by Task Group 2 for the Strategic Review of Health Inequalities post 2010;* London: Marmot Review.

Siegrist, J., Starke, D., Chandola, T., Godin, I., Marmot, M., Niedhammer, I. & Peter, R., 2004. The measurement of effort–reward imbalance at work: European comparisons. *Social science & medicine,* vol. 58, no. 8, pp. 1483-1499.

Silverman, D., 2011. *Interpreting qualitative data: a guide to the principles of qualitative research.* 4th edn, London: SAGE.

Singleton, W.T., 1972. *Introduction to ergonomics.* Geneva:World Health Organization.

Singleton, W.T., 1962. *The industrial use of ergonomics.* H.M.S.O.

Sinokki, M., Hinkka, K., Ahola, K., Koskinen, S., Kivimäki, M., Honkonen, T., Puukka, P., Klaukka, T., Lönnqvist, J. & Virtanen, M., 2009. The association of social support at work and in private life with mental health and antidepressant use: The Health 2000 Study. *Journal of affective disorders,* vol. 115, no. 1-2, pp. 36-45.

Smith, A., Wadsworth, E., Chaplin, K., Allen, P. & Mark, G., 2011. *What is a good job? The relationship between work/working and improved health and wellbeing*, England: IOSH.

Sokejima, S. & Kagamimori, S., 1998. Working hours as a risk factor for acute myocardial infarction in Japan: case-control study. *BMJ (Clinical research ed.),* vol. 317, no. 7161, pp. 775-780.

Sparks, K., Faragher, B. & Cooper, C.L., 2001. Well-being and occupational health in the 21st century workplace. *Journal of Occupational & Organizational Psychology,* vol. 74, no. 4, pp. 489.

Spielberger, C. & Reheiser, E., 1994. Job stress in university, corporate, and military personnel. *International Journal of Stress Management,* vol. 1, no. 1, pp. 19-31.

Stansfeld, S. & Candy, B., 2006. Psychosocial work environment and mental health - A meta-analytic review. *Scandinavian Journal of Work, Environment and Health,* vol. 32, no. 6, pp. 443-462.

Stansfeld, S., Head, J. & Marmot, M., 2000. *Work-related factors and ill health The Whitehall II Study* HSE.

Stansfeld, S.A., Fuhrer, R., Shipley, M.J. & Marmot, M.G., 1999. Work characteristics predict psychiatric disorder: prospective results from the Whitehall II Study. *Occupational and environmental medicine,* vol. 56, no. 5, pp. 302-307.

Stansfeld, S.A., North, F.M., White, I. & Marmot, M.G., 1995. Work characteristics and psychiatric disorder in civil servants in London. *Journal of epidemiology and community health,* vol. 49, no. 1, pp. 48-53.

Stanton, N. & Young, M.S., 1999. *A guide to methodology in ergonomics: desiging for human use.* London: Taylor & Francis.

Stedmon, A.,W., Howells, H., Wilson, J.,R. & Dianat, I., 2012. Ergonomics/Human Factors Needs of an Ageing Workforce in the Manufacturing Sector. *Health Promotion Perspectives,* vol. 2, no. 2, pp. 112-125.

Stewart, T. & Berns, T., 2013. The Human-centred organisation. *The Ergonomist,* vol. December, no. 522, pp. 12-13.

Stewart, V., Stewart, A. & Fonda, N., 1981. *Business applications of repertory grid.* Maidenhead: McGraw-Hill Book Company (UK) Limited.

Straker, L. & Mathiassen, S.E., 2009. Increased physical work loads in modern work – a necessity for better health and performance? *Ergonomics,* vol. 52, no. 10, pp. 1215.

Strazdins, L., D'Souza, R.M., Clements, M., Broom, D.H., Rodgers, B. & Berry, H.L., 2011. Could better jobs improve mental health? A prospective study of change in work conditions and mental health in mid-aged adults. *Journal of epidemiology and community health,* vol. 65, no. 6, pp. 529-534.

Sultan-Taieb, H., Lejeune, C., Drummond, A. & Niedhammer, I., 2011. Fractions of cardiovascular diseases, mental disorders, and musculoskeletal disorders attributable to job strain. *International archives of occupational and environmental health,* vol. 84, no. 8, pp. 911-925.

Sverke, M., Hellgren, J. & Naswall, K., 2002. No security: a meta-analysis and review of job insecurity and its consequences. *Journal of occupational health psychology,* vol. 7, no. 3, pp. 242-264.

Sweeney, P.D. & McFarlin, D.B., 2005. Wage comparisons with similar and dissimilar others. *Journal of Occupational and Organizational Psychology,* vol. 78, no. 1, pp. 113-131.

Swerdlow, A., 2003. *Shift work and breast cancer: a critical review of the epidemiological evidence: RR 132* [Homepage of HSE], [Online] [viewed 2011, July 29]. Available: http://www.hse.gov.uk/research/rrpdf/rr132.pdf.

Symonds, C.P., 1947. Use and abuse of the term flying stress in *Psychological disorders in flying personnel of the Royal Air Force investigated during the War 1939-1945.* ed. Great Britain. Air Ministry, London: HMSO.

Tabachnick, B.G. & Fidell, L.S., 2006. *Using multivariate statistics.* 5th edn, Boston: Allyn and Bacon.

Takkouche, B., Regueira-Méndez, C. & Montes-Martínez, A., 2009. Risk of cancer among hairdressers and related workers: a meta-analysis. *International journal of epidemiology,* vol. 38, no. 6, pp. 1512-1531.

Tangian, A., 2009. August 01-last update*, Decent work: indexing European working conditions and imposing workplace tax* [Homepage of Sage on behalf of etui], [Online] [viewed 2011, July 29]. Available: http://trs.sagepub.com/content/15/3-4/527.

Tangian, A., 2007. *Is work in Europe decent? A study based on the 4th European survey of working conditions 2005.* Wirtschafts- und Sozialwissenschaftliches Institut (WSI), Hans-Böckler-Stiftung.

Tausig, M. & Fenwick, R., 1999. Recession and well-being. *Journal of health and social behavior,* vol. 40, no. 1, pp. 1-16.

Taylor, A.H. & Dorn, L., 2006. Stress, fatigue, health and risk of road traffic accidents amonst professional drivers: The Contribution of Physical Inactivity. *Annual Review of Public Health,* vol. 27, no. 1, pp. 371-391.

The AA, 2013. April 13-last update*, Car running costs 2013/14* [viewed 2013, October 17]. Available: http://www.theaa.com/motoring_advice/running_costs/.

The Journal, 2012. August 9-last update*, Stopping Tyne and Wear bus route war starts more conflict* [viewed 2013, October 28]. Available: http://www.thejournal.co.uk/news/north-east-news/stopping-tyne-wear-bus-route-4404839.

Thomas, C. & Power, C., 2010. Shift work and risk factors for cardiovascular disease: a study at age 45 years in the 1958 British birth cohort. *European journal of epidemiology,* vol. 25, no. 5, pp. 305-314.

Thomsen, J.F., Mikkelsen, S., Andersen, J.H., Fallentin, N., Loft, I.P., Frost, P., Kaergaard, A., Bonde, J.P. & Overgaard, E., 2007. Risk factors for hand-wrist disorders in repetitive work. *Occupational and environmental medicine,* vol. 64, no. 8, pp. 527-533.

Tissot, F., Messing, K. & Stock, S., 2009. Studying the relationship between low back pain and working postures among those who stand and those who sit most of the working day. *Ergonomics,* vol. 52, no. 11, pp. 1402-1418.

Toker, S. & Biron, M., 2012. Job burnout and depression: Unraveling their temporal relationship and considering the role of physical activity. *Journal of Applied Psychology,* vol. 97, no. 3, pp. 699-710.

Tomioka, K., 2011. Working hours, occupational stress and depression among physicians. *Occupational Medicine,* vol. 61, no. 3, pp. 163-170.

Toynbee, P., 2003. *Hard work: life in low-pay Britain.* London:Bloomsbury.

Trevelyan, F.C. & Haslam, R.A., 2001. Musculoskeletal disorders in a handmade brick manufacturing plant. *International Journal of Industrial Ergonomics,* vol. 27, no. 1, pp. 43-55.

Tse, J.L.M., Flin, R. & Mearns, K., 2007. Facets of job effort in bus driver health: Deconstructing "effort" in the effort-reward imbalance model. *Journal of occupational health psychology,* vol. 12, no. 1, pp. 48-62.

Tse, J.L.M., Flin, R. & Mearns, K., 2006. Bus driver well-being review: 50 years of research. *Transportation Research Part F: Traffic Psychology and Behaviour,* vol. 9, no. 2, pp. 89-114.

Tsutsumi, A. & Kawakami, N., 2004. A review of empirical studies on the model of effort–reward imbalance at work: reducing occupational stress by implementing a new theory. *Social science & medicine,* vol. 59, no. 11, pp. 2335-2359.

Tsutsumi, A., Kayaba, K. & Ishikawa, S., 2011. Impact of occupational stress on stroke across occupational classes and genders. *Social science & medicine,* vol. 72, no. 10, pp. 1652-1658.

Tüchsen, F., Hannerz, H., Burr, H. & Krause, N., 2005. Prolonged standing at work and hospitalisation due to varicose veins: a 12 year prospective study of the Danish population. *Occupational and environmental medicine,* vol. 62, no. 12, pp. 847-850.

Tucker, P. & Rutherford, C., 2005. Moderators of the Relationship Between Long Work Hours and Health. *Journal of occupational health psychology,* vol. 10, no. 4, pp. 465-476.

Tuomi, K., Vanhala, S., Nykyri, E. & Janhonen, M., 2004. Organizational practices, work demands and the well-being of employees: a follow-up study in the metal industry and retail trade. *Occupational Medicine,* vol. 54, no. 2, pp. 115-121.

Unite, 2011. 21 January 2011-last update*, A safer way* [Homepage of Unite], [Online] [viewed 2012, September 25]. Available: www.unitetheunion.org/passenger-transport.aspx.

van Drongelen, A., Boot, C.R.L., Merkus, S.L., Smid, T. & van der Beek, A.J., 2011. The effects of shift work on body weight change - a systematic review of longitudinal studies. *Scandinavian Journal of Work Environment & Health,* vol. 37, no. 4, pp. 263-275.

Van Laar, D., Edwards, J.A. & Easton, S., 2007. The Work-Related Quality of Life scale for healthcare workers. *Journal of advanced nursing,* vol. 60, no. 3, pp. 325-333.

van Ommeren, J.N. & Gutiérrez-i-Puigarnau, E., 2011. Are workers with a long commute less productive? An empirical analysis of absenteeism. *Regional Science and Urban Economics,* vol. 41, no. 1, pp. 1-8.

van Uffelen, J.G.Z., Wong, J., Chau, J.Y., Van Der Ploeg, H.P., Riphagen, I., Gilson, N.D., Burton, N.W., Healy, G.N., Thorp, A.A., Clark, B.K., Gardiner, P.A., Dunstan, D.W., Bauman, A., Owen, N. & Brown, W.J., 2010. Occupational sitting and health risks: A systematic review. *American Journal of Preventive Medicine,* vol. 39, no. 4, pp. 379-388.

van Vegchel, N., de Jonge, J., Bosma, H. & Schaufeli, W., 2005. Reviewing the effort–reward imbalance model: drawing up the balance of 45 empirical studies. *Social science & medicine,* vol. 60, no. 5, pp. 1117-1131.

Vehicle and Operator Services Agency, 2011. February-last update*, Rules on Drivers' Hours and Tachographs Passenger-carrying vehicles in GB and Europe PSV 375: VOSA/CIS/2175/FEB11* [Homepage of VOSA], [Online] [viewed 2012, March 30]. Available: http://www.businesslink.gov.uk/Transport_Theme_files/Passengercarrying_vehicles_tachograph_hours_0511.pdf.

Virtanen, M., Ferrie, J.E., Gimeno, D., Vahtera, J., Elovainio, M., Singh-Manoux, A., Marmot, M.G. & Kivimäki, M., 2009a. Long working hours and sleep disturbances: the Whitehall II prospective cohort study. *Sleep,* vol. 32, no. 6, pp. 737-745.

Virtanen, M., Singh-Manoux, A., Ferrie, J.E., Gimeno, D., Marmot, M.G., Elovainio, M., Jokela, M., Vahtera, J. & Kivimäki, M., 2009b. Long working hours and cognitive function: the Whitehall II Study. *American Journal of Epidemiology,* vol. 169, no. 5, pp. 596-605.

Virtanen, M., Stansfeld, S.A., Fuhrer, R., Ferrie, J.E. & Kivimäki, M., 2012a. Overtime work as a predictor of major depressive episode: A 5-year follow-up of the whitehall ii study. *PLoS ONE,* vol. 7, no. 1.

Virtanen, M., Heikkilä, K., Jokela, M., Ferrie, J.E., Batty, G.D., Vahtera, J. & Kivimäki, M., 2012b. Long Working Hours and Coronary Heart Disease: A Systematic Review and Meta-Analysis. *American Journal of Epidemiology,* vol. 176, no. 7, pp. 586-596.

Volkoff, S., 2001. The end of working life:questions for ergonomics, *Proceedings of the SELF-ACE 2001 Conference – Ergonomics for changing work*, pp. 55.

Waddell, G. & Burton, A.K., 2006. *Is work good for your health and wellbeing?*, London:The Stationary Office.

Waddington, D., 2004. Participant observation in *Essential Guide to Qualitative Methods in Organizational Research.* eds. C. Cassell & G. Symon,London Sage Publications, pp. 154-164.

Wadsworth, E.J.K., Chaplin, K.S. & Smith, A.P., 2010a. The work environment, stress and well-being. *Occupational Medicine,* vol. 60, no. 8, pp. 635-639.

Wadsworth, E.J.K., Chaplin, K.S., Allen, P.H. & Smith, A.P., 2010b. What is a Good Job? Current Perspectives on Work and Improved Health and Well-Being. *The Open Occupational Health & Safety Journal,* vol. 2, no. 1, pp. 9-15.

Wagstaff, A.S. & Sigstad Lie, J.A., 2011. Shift and night work and long working hours--a systematic review of safety implications. *Scandinavian journal of work, environment & health,* vol. 37, no. 3, pp. 173-185.

Waldenström, K. & Härenstam, A., Does the job demand-control model correspond to externally assessed demands and control for both women and men? *Scandinavian Journal of Public Health,* no. 36, pp. 242-249.

Wallace, C., Pichler, F. & Hayes, B.C., 2007. *First European Quality of Life Survey: Quality of work and life satisfaction.* Dublin European Foundation for the Improvement of Living and Working Conditions.

Walters, S., 2005. Making the Best of a Bad Job? Female Part-Timers' Orientations and Attitudes to Work. *Gender, Work & Organization,* vol. 12, no. 3, pp. 193-216.

Ward, J., Haslam, C. & Haslam, R., 2008. *The impact of health and safety management on organisations and their staff.* IOSH.

Ware, J.E. & Sherbourne, C.D., 1992. The MOS 36-Item Short-Form Health Survey (SF-36®): I. conceptual framework and item selection.; 30(6):473-83. *Med Care,* vol. 30, no. 6, pp. 473-483.

Warr, P.B., 2007a. Searching for happiness at work. *The Psychologist,* vol. 20, pp. 726-729.

Warr, P.B., 2007b. *Work, happiness, and unhappiness.* Mahwah, N.J.; London:Lawrence Erlbaum Associates.

Warr, P.B., 1990. The measurement of well-being and other aspects of mental health. *Journal of Occupational Psychology,* vol. 63, no. 3, pp. 193-210.

Warr, P.B., Cook, J. & Wall, T., 1979. Scales for the measurement of some work attitudes and aspects of psychological well-being. *Journal of Occupational Psychology,* vol. 52, no. 2, pp. 129-148.

Warr, P.B. & Jackson, P., 1985. Factors influencing the psychological impact of prolonged unemployment and of re-employment. *Psychological medicine,* vol. 15, no. 04, pp. 795.

Waterson, P., 2011. World war II and other historical influences on the formation of the ergonomics research society. *Ergonomics,* vol. 54, no. 12, pp. 1111-1129.

Waterson, P. & Sell, R., 2006. Recurrent themes and developments in the history of the Ergonomics Society. *Ergonomics,* vol. 49, no. 8, pp. 743-799.

Weber, M., 1930, 2002. *The Protestant ethic and the spirit of capitalism: translated by Kalberg,S.* Oxford: Blackwell.

Wegge, J., Van Dick, R. & von Bernstorff, C., 2010. Emotional dissonance in call centre work. *Journal of Managerial Psychology,* vol. 25, no. 6, pp. 596-619.

Weick, K.E., 1979. *The social psychology of organising.* New York: McGraw-Hill.

Whitfield, D.J.C., 1995. Ergonomics in the design and operation of Sizewell 'B' nuclear power station. *Ergonomics,* vol. 38, no. 3, pp. 455-461.

WHO, 2010. *Healthy Workplaces: a model for action*, Geneva World Health Organization.

WHO, 1948. *Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948.*

Williams, C., 2011. *Management.* 6th edn, Cengage learning.

Wilmot, E.G., Edwardson, C.L., Achana, F.A., Davies, M.J., Gorely, T., Gray, L.J., Khunti, K., Yates, T. & Biddle, S.J., 2012. Sedentary time in adults and the association with diabetes, cardiovascular disease and death: systematic review and meta-analysis. *Diabetologia,* vol. 55, no. 11, pp. 2895-2905.

Wilson, J.R., 2014. Fundamentals of systems ergonomics/human factors. *Applied Ergonomics,* vol. 45, no. 1, pp. 5-13.

Wilson, K., Brown, M. & Cregan, C., 2008. Job quality and flexible practices: An investigation of employee perceptions. *The International Journal of Human Resource Management,* vol. 19, no. 3, pp. 473-486.

Wilson, M.G., Dejoy, D.M., Vandenberg, R.J., Richardson, H.A. & McGrath, A.L., 2004. Work characteristics and employee health and well-being: Test of a model of healthy work organization. *Journal of Occupational & Organizational Psychology,* vol. 77, no. 4, pp. 565-588.

Winkel, J., 1987. On the Significance of Physical Activity in Sedentary Work. *Work with Display Units 86,* Edited by Knave, B. &.Wideback, P.G. North-Holland: Amsterdam*,* pp. 229.

Winkel, J. & Westgaard, R., 1992. Occupational and individual risk factors for shoulder-neck complaints: Part II — The scientific basis (literature review) for the guide. *International Journal of Industrial Ergonomics,* vol. 10, no. 1-2, pp. 85-104.

Wipfli, B., Landers, D., Nagoshi, C. & Ringenbach, S., 2011. An examination of serotonin and psychological variables in the relationship between exercise and mental health. *Scandinavian Journal of Medicine & Science in Sports,* vol. 21, no. 3, pp. 474-481.

Wong, W., 2011. May-last update*, Reasserting the value of work in Europe* [Homepage of European Policy Centre], [Online] [viewed 2013, June 3]. Available: http://www.isn.ethz.ch/Digital-

Library/Publications/Detail/?ots591=0c54e3b3-1e9c-be1e-2c24-a6a8c7060233&lng=en&id=130076.

Wooden, M., Warren, D. & Drago, R., 2009. Working Time Mismatch and Subjective Well-being. *British Journal of Industrial Relations,* vol. 47, no. 1, pp. 147-179.

Woods, V. & Buckle, P., 2006. Musculoskeletal ill health amongst cleaners and recommendations for work organisational change. *International Journal of Industrial Ergonomics,* vol. 36, no. 1, pp. 61-72.

Wreder, A., Gustavsson, M. & Klefsjö, B., 2008. Management for sustainable health; A TQM-inspired model based on experiences taken from successful Swedish organizations. International Journal of Quality & Reliability Management, vol. 25, no. 6, pp. 561-584.

Zaccaro, S.J. & Stone, E.F., 1988. Incremental validity of an empirically based measure of job characteristics. *Journal of Applied Psychology,* vol. 73, no. 2, pp. 245-252.

Zapf, D., 2002. Emotion work and psychological well-being: A review of the literature and some conceptual considerations. *Human Resource Management Review,* vol. 12, no. 2, pp. 237-268.

Zigmond, A.S. & Snaith, R.P., 1983. The Hospital Anxiety and Depression Scale. *Acta Psychiatrica Scandinavica,* vol. 67, no. 6, pp. 361-370.

Zink, K.J., 2014. Designing sustainable work systems: The need for a systems approach. *Applied Ergonomics,* vol. 45, no. 1, pp. 126-132.

Zohar, D., 2008. Safety climate and beyond: A multi-level multi-climate framework. *Safety Science,* vol. 46, no. 3, pp. 376-387.

Appendix A
Repertory grid interview schedule

Date_____Reference number_____

Paper clips; Post its; Job cards; Construct cards
Rep grid and spare; Interview sheet; Voice recorder;
Information sheet; consent form; Scale; highlighter pen

Thank you!

I am thinking about jobs –what people think about jobs, how people think about jobs

Part of my PhD; this is the first part, I am looking for ideas about what and how people think, and will then use that to help me identify an area to look at in more detail, with more people.

I would like to record – is that ok? Partly so I can listen later to what I say – check my interview technique; also so I can concentrate on listening more and writing less. I will write some things down as we go along though, as a basis for us to talk about.

Information will be anonymous– I will write down number, not name, only I will know which name is which number. And we can stop if you change your mind or need to leave.

Any questions before we start?

To start with, can I just take some basic information about you?

Current job? (title and broad content)

How long have you been doing that?

What jobs have you done before?

We need to use some examples of jobs, to give us some examples to talk about. I need you to identify some particular jobs that you might have done or that other people do;

a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
your job	your manager's job	A reportee's job	If I hadn't done this….	Your job somewhere else	Somebody else in the organisation	A job you didn't/wouldn't like	A previous job	Some other job	A good job

Alternatives if required – partners job; child's/siblings job

 (**do all cards, put post-it across writing on card, don't obscure the number!)**

Triads – can you think of some way in which two of these jobs are the same, and the third is different?

(prompt – what might it be like, what might it involve doing a job like that/that job; why might you want or not want a job like that?)

Write on job letters (under line the pair) and construct (pair first)

Ladder down to get detail – how, what?

Then scale all jobs on that construct –place construct card on scoring line; write 1.2.3.4.5 on grid

Also score job on supplied element ' a good job'

Repeat with other triads

(If struggling – try full context elicitation – lay down all jobs – is there anything which makes two of these jobs the same or similar? Can you identify a job which is different in that way?)

Any other thoughts about jobs we haven't covered that you think are important?

Can you tell me a bit about your job – how you chose it/why you do it, how you feel about it?

What things might make a job a good job?

Do you think your job is a good job? In what ways?

Is your current job good for your health? Why/why not?

Supplied construct "A job which is good for your health" Grade each against element

Any other thoughts on a job which would be good for your health? What things might affect whether a job was good for health?

Anything else you would like to tell me?

Male Female

Age

Appendix A

Appendix B
Repertory grid interviews, cluster anlaysis for three interviewees

Case study A John

Cluster analysis, generated using RepGrid IV software

Constructs (ways of describing similarities and differences between jobs)

Percentage similarity between elements (jobs). For example, there is at least a 90% similarity in the jobs of Sales Director, Sales in small organisation and Managing Director.

Constructs – opposite poles

Elements (jobs)

Similarity between constructs. For example being undervalued correlates 100% with being paid at a subsistence level, and monotonous work correlates 100% with being closely controlled and monitored. All of these features correlate by about 85% or more with having a clear career path

Construct (left pole)										Construct (right pole)
not good for health	5	4	2	1	1	2	3	1	4	4	good for health
ability to control and complete the task	1	1	1	1	1	1	1	1	1	5	outcome uncertain and may be judged differently by others
life fits around job	5	2	1	1	1	1	1	5	3	5	job fits around lifestyle
appreciated	1	3	1	1	1	1	2	4	4	4	undervalued
pay - enough to maintain expected lifestyle	1	3	1	1	1	1	2	4	4	4	pay - subsistence level
clear career path	1	1	1	1	1	1	1	5	4	5	non-specific career path
variety of tasks	1	1	1	1	1	3	4	5	4	4	monotony
freedom to plan and prioritise	1	1	1	1	1	3	4	5	4	4	job closely controlled and monitored
contact with customers	1	2	1	2	1	5	4	5	1	2	confined environment, 1 or 2 people
focussed on customer	4	3	1	2	5	5	4	1	1	1	focussed on business need

playschool supervisor
customer services
lorry driving
banking
finance
managing director
sales in small org
sales director
production engineer
A good job

Case study B Paul

Cluster analysis, generated using RepGrid IV software

creative - passion	5	1	4	2	2	2	2	2	3	5	routine, same every day
team working	3	5	4	4	2	2	3	3	3	4	work on your own
good work-home balance	2	2	4	4	4	2	2	3	4	2	poor work-home balance
healthy	1	2	4	3	4	3	2	2	4	3	unhealthy
physically dirty	2	2	1	3	3	3	3	4	5	5	suit and tie, in an office
manual work	1	2	2	2	3	2	4	4	5	5	mental work
lower paid	1	4	3	3	3	3	4	4	5	5	more money to be made
bottom of the pile	1	3	3	4	3	3	5	5	5	3	top of the pile
low responsibility	2	2	4	5	5	4	5	5	5	3	higher responsibility

accountant
director of T&L
head chef
A good job
Grill chef
nurse
chef, pub
mechanic
carpenter
kitchen porter

Case study C Tom

Cluster analysis, generated using RepGrid IV software

	shelf stacker	holiday rep	professor	army	Dom Services manager	caretaker supervisor	caretaker	school caretaker	paint sprayer	
dealing with the public	5	1	1	1	1	1	2	1	1	dealing only with colleauges
team working is important	3	2	1	1	1	1	2	2	5	could do it on your own
responsibility across campus	1	1	3	2	1	1	2	3	5	responsilbity only for tasks
high consequences if things go wrong	1	2	2	2	2	5	4	4		low consequences if you do things wrong
deciding what needs doing	1	1	2	2	1	5	4	4		doing things
potential H&S risks	1	1	1	1	1	5	5	5		few H&S risks
would stick to the rules	4	4	4	1	1	1	1	5	4	may not stick to the rules

Appendix C
Repertory grid interviews: good jobs and good for health jobs

To identify the key features of 'a good job', two sets of data were used –

a) relevant comments made by all 18 interviewees during the repertory grid interview and particularly in answer to the question 'what do you think makes a good job' and 'is your current job a good job? In what way?' and

b) those constructs which scored 1 (or 5 if negatively worded) for the element **'a good job'**. If no constructs scored 1 (or 5), the elements which scored 2 (or 4) were taken instead.

Combining these data produced a list of 2-8 features per individual which were associated with a good job.

	Information from interview transcripts	**Information from constructs**
Administrator	Variety Helping people responsibility	
Caretaker supervisor	People – team and senior people Organisational culture	
RPO	Interesting Involve other people	
Hairdresser	Having fun Good pay	Well paid for what you do Going home clean Colleagues are friends I can be myself
Shop owner	Enjoy job content	Physical demands Working with the public
Health coordinator	People I work with The job itself	Creativity Teamwork Responsible for resources and people Working with people superficially
IT team manager	People you work with One that is right for the individual	Safe
Lecturer	Personal growth – appropriate challenge Community, belonging	Manager with respect for people Clear feedback criteria Enabling process
Special needs teacher	Creativity, job satisfaction	Creative Appreciated Working with a team
Sales director	Feeling valued	Pay

	Being rewarded	Appreciated
	Working with others	Career path
	Clear career path	Variety
		Autonomy
		Customer contact
Consultant occupational hygienist	Discretion, control	Well paid
	Feel valued	Opportunity to learn
	Satisfaction	
	Job content that suits	
Teacher/lecturer	Influencing others	Learning new things
		Rewarding – can see outcomes
Library assistant	People you work with	Career choice
		Influence on people
		variety
		Optimistic
		Friendly relationships
Warehouse supervisor	People you work with	Chilled
		Well paid
Cleaner	Being with other people	Chosen to suit interests
		Rewarding
		Doesn't need particular education
Grill chef	Being passionate about it	Top of the pile
	Money	High responsibility
Chief executive, healthcare	Not money now	Recognition
		High risk, high impact
		People oriented culture
		Autonomy
		Empowering leader
Head teacher	Enjoyable	being appreciated
	mental stimulation	making a difference
	creativity	responsibility

To identify the key features of 'a job good for health', two sets of data were used –

a)   Relevant comments made by all 18 interviewees during the interview and particularly in answer to the question 'what do you think makes a job good for health' and 'is your current job good for your health? In what way?' and

b) Constructs for each individual were compared using a sums of difference method, comparing the scores for each construct with the construct '*a job good for health'*. The constructs which were closest in each case were noted

	Information from interview transcripts	Information from constructs
Administrator	Job satisfaction Something you enjoy Not too pressured	
Caretaker supervisor	Variety, not mundane	
RPO	Enjoyable happy	
Hairdresser	Physical Activity Nice environment Not dangerous	Going home clean Boring Anyone could do it without training
Shop owner	Not dangerous	Working with public Pen pushing, office work Able to go out and do things (after work) Mental demands
Health coordinator	Physical activity (Burnout, stress)	Working with people superficially Responsible for resources and people Job insecure
IT team manager	Physical activity Warm and safe	Requires experience Rarely recognised and rewarded Proactive
Lecturer	(Prolonged sitting) (Long hours) (Long travel) Meaningful (to you) job	Manager with respect for people You create the job content and processes Enabling process
Special needs teacher	(Stress – demands outweigh time or capability) Manager feedback, appreciation	Appreciated Responsibility for service/outcome
Sales director	Security (Stress) Working hours, fit in with family	Job fits around lifestyle
Consultant occupational hygienist	Happy with what you are doing (Stress)	Opportunity to learn, broaden new Challenges Experience Well paid High discretion
Teacher/lecturer	(Stress – lack of preparation) (Insecurity)	Physically active Determining your own working patterns

	(Long commute)	
Library assistant	Not stressful	Not stressful
	Breaks	
Warehouse supervisor	Physical activity	Thinking about current job
	Breaks	Chilled
	Not too stressful	
Cleaner		On your feet all day
		Dealing with the public
Grill chef	(Stress)	Good work-home balance
	Activity	
	Working hours – life balance	
Chief executive, healthcare	(Stress)	People oriented culture
	(Office environment, sedentary)	High risk, high impact
	(Working hours, no time for exercise)	Recognition and reward
Head teacher	(Issues outside control)	Low time input
	Mental stimulation	
	Physical activity	
	Daylight, outside	
	Not threatened	
	Not over promoted	

(features in brackets are those which are negatively associated with health)

The data from the above two tables were reduced using broadly the same categories that were used to sort the constructs previously (the category 'emotional outcomes' was split to become two categories – one was 'stress', including negative emotional outcomes; the other was 'rewarding', including worthwhile work and also job satisfaction more generally). Any duplications for each individual were removed. A comparison could then be made between the most commonly occurring features associated with a 'good job' against those associated with a 'job which is good for health', as illustrated in Figure 4-3.

Appendix D
Information sheet and interview schedule for semi-structured interviews (chapters 5 and 6)

How do people think about jobs and work?

My research is looking at how people think about jobs and work, and what employers do to make work better. I am interviewing a number of people to explore this, and would like to include you.

- The interview will take half an hour or so and can be done at a time and place that suits you and your manager

- I will ask you for some basic details about yourself such as what jobs you have done in the past. We will then talk about your current job and jobs you have done before, and what was good or not so good about some of those jobs. I will also ask you about the things that are important to you in your work.

- I will make some written notes, and will also record the interview if you are happy for me to do that.

- I will be talking to a number of people who do the same job as you.

- The collected information will be kept securely at the university, it will be labelled with a number, not your name. I will give some general feedback to your employer about the overall findings of my work. There will be nothing in my report to imago which will identify you or anyone else or anything particular you have said.

- I will also use the results to pick out ideas from all the people I interview and also in different companies to find common ideas and also differences between people and different companies. Some of this may be shared with other people e.g. by being published in journals: again nobody will know who said what.

- If you change your mind at any time you can cancel the interview, or stop if it has already started, without the need to give any reasons.

This study is part of my student research project funded by Loughborough University. I am being supervised by Professor Roger Haslam. If you have any questions, you can contact either myself or Roger.

If you are unhappy about any aspect of this research you can contact either myself or Roger. Alternatively, you may refer to the university policy on research conduct, which is available at http://www.lboro.ac.uk/admin/committees/ethical.

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Appendix D

Thank you; half hour (will interrupt you if I have to); tape record and notes

I am interested in different jobs, the differences between jobs, and the differences that are important to people.

a) Can you tell me briefly what jobs you have done before you did this one, how long you have been doing this one? (Also – any periods of unemployment)

b) Thank you. Think now about your current job. Why did you choose to be a cleaner? (what is it that appealed to you; main reason for choosing this job)

c) Tell me some things that are good about being a cleaner?

d) Tell me some things that are good about working here?

e) Thinking about other jobs you have done – what was particularly good or bad about each? Better or worse than current job?

f) How about whether those jobs were good or bad for your health? (Do you think being a cleaner is a job which is good for your health ; what makes a job good for health? What makes a job bad for health?)

g) I am interested in what people think makes a job a good job. If you consider your job of being a …………………. – is it a good job? On a scale of 1-10?

h) What would make it a …..

i) Some people think that these things are important for a job to be a good job. I want to know what you think. I will tell you some things, I want to know which are the most important for a job to be a good job for you.

• **very important** 'A good job must have this'

• Nice, but not the end of the world – **quite important** 'This would make a good job better, but it's not the end of the world of it doesn't have this'

• **Not important** 'I am really not bothered whether a job has this or not'

You can always go back and change any if you want to

1. Having a job which is well paid (how well paid does it have to be?)

2. Working in a nice building – good work space, good facilities
(*this question was discounted during structured analysis)*

3. The hours you work – having a choice, which hours, how many

4. Having a job which is useful to society (is this job useful? Is it valued? Does it matter to you?)

5. Who you work for – your manager or supervisor - how important is that to whether a job is a good job for you? (what is it about the manager that is important for a job to be good)

6. Who you work for - the right company, or a good company (do you care whether you work for premiere, NCT, coca cola, the army etc - anything about the organisation that is important for a job to be a good job.)

(*this question was discounted during structured analysis)*

7. Who you work with – your mates

8. Having a job which is secure (how secure does it have to be)

9. Having enough time to do the job (work volume compared to the time available, how hard or fast you have to work)

10. Having a job where you have control (e.g. about what you do, when you do it, how you do it)

11. A job which is safe (H&S, not security)

12. A job which is interesting, varied or creative (different every day)

13. Learning new things, getting training,

14. Being able to get promotion

Review list – any to be moved? Which are *most* important (choose 2-4)?

j) If a close friend or family member said 'should I be a …….' what would you say?

k) How old are you?   l) male/female

That's it, unless you have anything else you wanted to tell me, anything you think is important that I haven't asked about
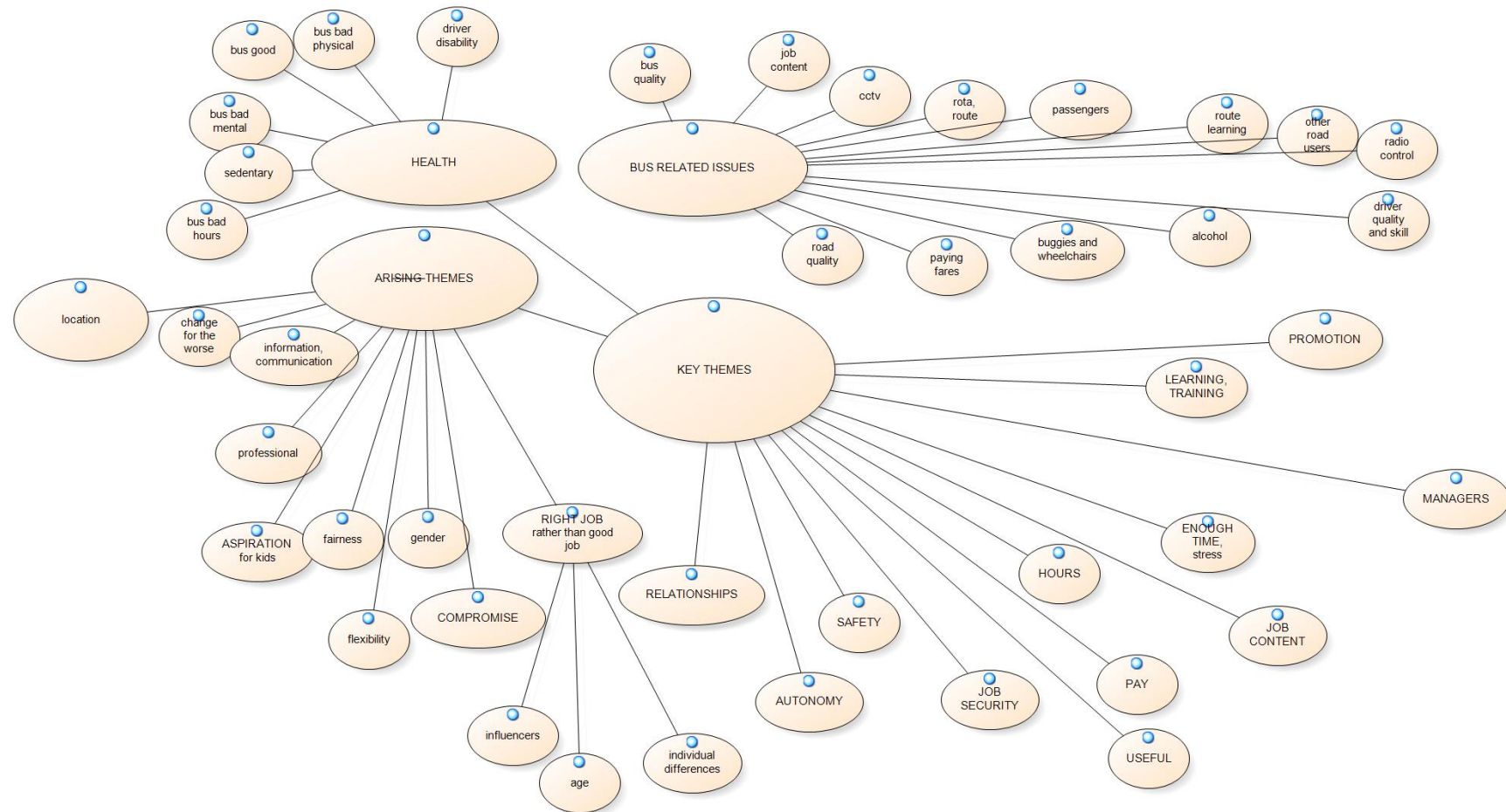
Thank you
Comments, observations

Appendix E
Examples of coding structure for qualitative data

This extract from NVivo shows the main coding structure for bus driver interview data. The coding structrue for the other studies was similar but not identical. Themes were then broken down further within this, examples are given overleaf.

Detailed extracts from coding structure

JOB SECURITY	insecurity arises from decisions the company makes
(coding categories for bus drivers)	insecurity arises if I do something stupid
	insecurity relates to recession, outside influences
	Security is less important now I am older
	This is a secure industry
	This is a secure job

HOURS (coding categories for bus drivers)	Control over hours	being able to change or influence shifts is good
		benefit of knowing what hours you are doing
		choice of working extra hours is good
	coping, adaptation	
	impact on life, family good or bad	benefit of being home at different times
		impact on family and life
	Impact on wellbeing, health	
	Individual variation	don't like early starts
		don't like lates
		don't like nights
		I'm a ,,,,,, person
		it doesn't bother me
	particular elements of working patterns	bad because of variation
		long hours are bad
		pressure to do overtime
		weekends are bad
	pay and hours	

SAFETY	good safety is about me doing things right	
(coding categories for bus drivers)	good safety management is about the company doing things right	
	safety management can be over the top	
	some jobs are intrinsically safer than others	
	some risks are not manageable	in bus driving

SAFETY	H &S is important to me
(coding categories in ManCo)	H &S is very important to the company
	safety has greatly improved
	unmanaged or unmanageable H &S issues

Appendix F
Management report written for BigBus – Executive summary

Bus driving at BigBus - Executive summary

This work was carried out as part of a doctoral study at Loughborough University into the topic, "What makes a job a 'good' job?" The assistance of BigBus in carrying out this work, and the contribution of its employees is greatly appreciated.

The job of driving a bus at BigBus is generally a good one. 88% of drivers consider it to be mostly or definitely good.

A good pay and benefits package contributes to this perception, as do robust health and safety provision, excellent training opportunities and working hours which are good in many respects, particularly relative to others in the industry.

Many drivers also consider their jobs to be good because they enjoy what they do – particularly the interactions with passengers and the physical act of driving a bus.

Job quality is seen as higher at T_than at the other two depots, the greatest differences are in management related matters. It is not clear how much the differences arise from variation between the cohorts at the different depots (e.g. that there are more newly recruited drivers at Trent Bridge)

The lowest scoring dimension of job quality is job security, and this relates at least in part to drivers feeling vulnerable to dismissal in case of error. There is a perception amongst drivers that the only role of managers is in discipline; and that the organisation favours passengers at the expense of drivers, sometimes unfairly.

These aspects of the job, together with concerns raised about shift planning and route timetabling may be intrinsic to the nature of the industry, but there may be benefits nonetheless in exploring whether there is scope for changes which would be beneficial.

BigBus drivers rate their health slightly lower than do others with the same occupational classification in the UK (although this category includes industries other than driving). Health issues related to sedentariness, working hours and work pressures are recognised through the bus industry. Continued efforts to offset these risks are important, particularly as the pension age rises and drivers need to remain fit for work for longer.

Appendix G
Management report written for LittleBus – Executive summary

Bus driving at LittleBus

Executive summary

This work was carried out as part of a doctoral study at Loughborough University into the topic, "What makes a job a 'good' job?" The assistance of LittleBus in carrying out this work, and the contribution of its employees is greatly appreciated.

One of the key strengths of LittleBus is the freedom it extends to its drivers. This was very widely commented on and observed. Drivers appreciate being 'left alone' and trusted to run their services, this was the most significant difference they identified between LittleBus and other operators. In addition, many drivers commented on the support they received and the flexibility they were shown when trying to reconcile work with personal commitments. In terms of freedom and control, therefore it would appear that working for LittleBus is a 'good job'. In other aspects, as measured by use of a questionnaire, it is identified as being a job of medium quality overall.

There is evidence that LittleBus is working to improve its operations, for example in terms of keeping blocks of driving time below five hours and structuring working days to be less than ten hours. There are significant benefits in doing this as reduced fatigue amongst drivers will reduce the risk of incidents and accidents: as well as having beneficial effects on customer satisfaction and driver health and turnover. It is recommended that efforts in this area continue.

There are some areas where there is scope for further development to ensure that LittleBus continues to grow successfully. Improvements in the organisation of health and safety management, as well as training to improve management and operational consistency generally, would be of benefit. A more formal structure with enhanced opportunities for dialogue and discussion up and down the company is likely to become more important as the organisation grows and develops. Finally, variation in bus quality is an area where intervention could potentially have a beneficial impact on the satisfaction and comfort of drivers and customers.

<div align="right">

Wendy Jones
April 2012

</div>

Appendix H
Management report written for LittleCoach – Executive summary

Bus driving at LittleCoach

Executive summary

This work was carried out as part of a doctoral study at Loughborough University into the topic, "What makes a job a 'good' job?" The assistance of LittleCoach in carrying out this work, and the contribution of its employees is greatly appreciated.

LittleCoach's drivers enjoy many aspects of their work, especially their relationships with passengers and the autonomy of their role, as well as the opportunities to visit interesting places when running tours and day trips.

There is evidence of some good working relationships between drivers and between drivers and managers, and the flat structure of the organisation allows drivers relatively easy access to those in authority.

Many drivers also appreciate the high quality of the vehicles and feel well supported by the maintenance team. Clearly this is a priority for the organisation, although there may be a benefit in extending this care and attention to some of the on-site facilities such as the drivers' rest area which is somewhat shabby and unmaintained. Improvements in this, and in other areas of welfare and health and safety generally, would be of benefit. There may be scope for driver involvement in making improvements.

LittleCoach prioritises compliance with working hours legislation, and is making efforts in other legislative areas such as driver training. These are both very important for the security of the organisation as well as driver wellbeing, and it is important that efforts continue and are potentially extended – working patterns which comply with the law can still have adverse effects on driver alertness and health.

Areas which cause the greatest dissatisfaction for drivers are pay, especially in relation to the expertise they feel they need to do their job, and the responsibilities they take on; and work planning. Last minute work allocation and late changes to duties are a source of disquiet and have a significant impact on family life and potentially on driver health and wellbeing. Although drivers accept that 24/7 working is the nature of the industry and in general are pragmatic and tolerant of the demands this places on them, improvement in this area would be one of the most significant areas for action to improve driver morale and wellbeing, and ensure they feel valued by the organisation. This is likely to become increasingly important to ensure viability of the company if there is a shortage of suitably qualified drivers once the CPC regulations are fully in force in September 2013.

Appendix H

Appendix I
DGB-Index questionnaire

This questionnaire is part of a research project being carried out at Loughborough University into how people think about their jobs and about work in general. N___ is one of several who have agreed to take part in the study.

The answers you give in this questionnaire will be confidential. They cannot be traced back to you. Any feedback given to N___ from this research will be in general terms about the findings from all the questionnaires together within the organisation.

If you have any questions about this project, you can contact the researchers named below.

Thank you for taking part, your help with this is very much appreciated,

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IMPORTANT

This form is designed to be scanned and marked by computer.

Please make your responses by filling in the bubbles like this:-
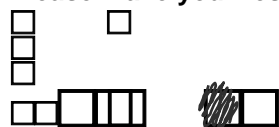
Please <u>don't</u> just tick or cross the bubbles – we need some nice, dark colouring in!

Please do not fold your questionnaire.

Thank you.

This form is designed to be scanned and marked by computer. Please make your responses by filling in the bubbles like this:-

| 16-24 | 25-34 | 35-44 | 45-54 | 55-64 | >65 |
| Ⓐ | Ⓑ | ⬤ | Ⓓ | Ⓔ | Ⓕ |

1a. How many hours do you usually work each week (including any overtime)?

| Less than 16 | 16-30 | 31-40 | 40-48 | 48-56 | More than 56 |
| Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ | Ⓕ |

1b. How long does it usually take you to travel from home to work each day, door to door (one way only)?

| Less than 10 minutes | 11-30 minutes | 31-60 minutes | 61-90 minutes | Longer than 90 minutes |
| Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ |

1c. What is your main/most frequent way of getting to work? (choose one only)

| Walking | Driving | By car, as a passenger | On a bicycle | On a motor bike or moped | By bus, train or tram |
| Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ | Ⓕ |

2. How long have you worked for this employer?

| Less than 1 year | 1-2 years | 2-5 years | 5-10 years | 10-20 years | More than 20 years |
| Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ | Ⓕ |

3a. Do you consider your job to be a good job?

| Yes, definitely | Yes, mostly | Not sure | No, not really | No, definitely not |
| Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ |

Can you say why? _____

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Appendix I

3b. Do you consider your job to be generally good for your health?

Yes, definitely	Yes, mostly	Not sure	No, not really	No, definitely not
Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ

Can you say why?_____

Some of the questions below have two parts. Depending on how you answer the first part of each, you may need to answer the second part as well.

EXAMPLE

If 'to a small extent' or 'not at all', how much does this bother you?

	To a great extent	To a good extent	To a small extent	Not at all		Not at all	A little	A lot	Very much
4.1. Do you get opportunities to undertake useful training?	Ⓐ	▨	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
4.2. Can you plan and organise your work yourself?	Ⓐ	Ⓑ	Ⓒ	▨	→	Ⓐ	▨	Ⓒ	Ⓓ

4a. Please think about your current job and answer each of the questions below

4b. *If 'to a small extent' or 'not at all', how much does this bother you?*

If you answer Ⓒ or Ⓓ, please also complete question 4b

	To a great extent	To a good extent	To a small extent	Not at all	if Ⓒ or Ⓓ	Not at all	A little	A lot	Very much
4.1. Do you get opportunities to undertake useful training?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
4.2. Can you plan and organise your work yourself?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
4.3. Does your work enable you to learn and to develop your skills?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
4.4. Are you able to use your own ideas at work?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
4.5. Do you feel that your work is useful for society?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
4.6. Do you think your pay is fair for the work you do?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
4.7. Do you have promotion prospects in your organisation?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ

4

5a. Please think about your current job and answer the questions below

If you answer Ⓒ or Ⓓ, please also complete question 5b

	To a great extent	To a good extent	To a small extent	Not at all		Not at all	A little	A lot	Very much
					If Ⓒ or Ⓓ				
5.1 Do you think that your senior managers do their job well?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
5.2 Do you think that your workplace encourages good working relationships?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
5.3 Do your colleagues help and support you when you need it?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
5.4 Do you get all the information you need to do your job well?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
5.5. Can you influence the amount of work you are asked to do?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
5.6 Can you influence how your work time is organised?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
5.7. Do you have control over how much overtime you work?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
5.8. Are your working hours reliable and predictable?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
5.9. Do you think your needs are considered when your working hours are planned?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
5.10 Does your supervisor /line manager plan your work well?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
5.11 Does your supervisor/line manager make you feel valued?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
5.12 Does your supervisor/line manager value training and personal development?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ

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Appendix I

6a. Thinking about the wage you earn in your current job, which one of the following statements is most accurate?

6b. *If 'just enough' or 'not enough', how much does this bother you?*

I can live very well on it	It is sufficient	It is just enough	It is not enough		Not at all	A little	A lot	Very much
Ⓐ	Ⓑ	Ⓒ	Ⓓ	if Ⓒ or Ⓓ →	Ⓐ	Ⓑ	Ⓒ	Ⓓ

7. Do you have a company pension in this job?

Yes (Go to question 8a)	No, I choose not to (Go to question 9a)	No, there is not one available (Go to question 9a)
Ⓐ	Ⓑ	Ⓒ

8a. Thinking about the pension you will have when you retire, which one of the following statements is most likely?

8b. *If 'just enough' or 'not enough', how much does this bother you?*

I will be able to live very well on it	It will be sufficient	It will be just enough	It will not be enough	I haven't thought about it yet		Not at all	A little	A lot	Very much
Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	if Ⓒ or Ⓓ →	Ⓐ	Ⓑ	Ⓒ	Ⓓ

9a. Are you anxious or worried about the future of your job/work?

9b. *If this is the case, how much does it bother you?*

No	To a small degree	To a moderate degree	To a great degree		Not at all	A little	A lot	Very much
Ⓐ	Ⓑ	Ⓒ	Ⓓ	if Ⓑ, Ⓒ or Ⓓ →	Ⓐ	Ⓑ	Ⓒ	Ⓓ

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Appendix I

10a. To what extent do the following requirements or problems arise with your work?

10b. *If this arises,* how much does it bother you?

If you answer Ⓑ Ⓒ or Ⓓ, please also complete question 10b

	Not at all	To a small extent	To a moderate extent	To a great extent	if Ⓑ,Ⓒ or Ⓓ	Not at all	A little	A lot	Very much
10.1. Do you have to work physically hard (e.g. heavy lifting, carrying, pushing or pulling)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
10.2. Is your body under strain when you are working (e.g. through prolonged standing, sitting or uncomfortable positions)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
10.3. Are you exposed to loud noise in your job?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
10.4. Is your work disturbed by unwanted interruptions?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
10.5. Do feel rushed or under time pressure when doing your work?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
10.6. Do you have to reduce the quality of your work to get it finished in time?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
10.7. Do you need to hide your feelings at work?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
10.8. Do others at work disrespect you or talk down to you?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ
10.9. In your work, are there conflicting or contradictory demands?	Ⓐ	Ⓑ	Ⓒ	Ⓓ	→	Ⓐ	Ⓑ	Ⓒ	Ⓓ

11a. How easy do you find it to do your work compared to a few years ago?

11b. *If 'more difficult',* why do you think this is?

Easier	About the same	More difficult	if Ⓒ	More is expected of me	I find work harder as I get older	Both of these
Ⓐ	Ⓑ	Ⓒ	→	Ⓐ	Ⓑ	Ⓒ

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12. Thinking about your health and the job you do at the moment, will you still be able to manage it when you are 65?

Probably	Probably not	I don't know
Ⓐ	Ⓑ	Ⓒ

13a. How is your health, in general? Would you say it was:-

Very Good	Good	Fair	Bad	Very Bad
Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ

13b. Are you; -

Male	Female
Ⓐ	Ⓑ

13c. Are you :-

Single (never married)	Living with husband, wife or partner	Divorced or separated	Widowed
Ⓐ	Ⓑ	Ⓒ	Ⓓ

13d. Do you have any children under 16 years old living in your household?

No	1	2	3 or more
Ⓐ	Ⓑ	Ⓒ	Ⓓ

13e. How old are you?

16-24	25-34	35-44	45-54	55-64	>65
Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ

Thank you for your help. Please put your questionnaire in the envelope provided and return it to:

Wendy Jones
Postgraduate Researcher
Loughborough Design School
James France Building
Loughborough University
Loughborough. LE11 3TU.

Appendix I

Appendix J
Script for filmed instructions for questionnaire respondents at
BigBus

Hi, my name is Wendy Jones;

I am carrying out research with colleagues from Loughborough University to explore how people think about their jobs and about work in general. We are focusing especially on bus and coach drivers.

BigBus is one of several companies we will be working with to learn more about how bus drivers see their work and whether there are practical and realistic steps which employers can take to improve the quality of bus drivers' jobs. BigBus are keen to understand more about how their drivers feel, and to act on any areas where there may be room for improvement

The trade union have been involved in the planning for this project and have given their full support.

There are several parts to the research, including interviews with a number of drivers, and some observation, so you may see me around from time to time over the coming weeks. Today, the focus is on a questionnaire which we are asking all drivers to complete. It will take you about 15 minutes, and there are no right or wrong answers, we are interested in how you really feel about your work. The questionnaires are anonymous and will be returned straight to me at the university. It has been arranged deliberately so that it won't be possible for anyone to find out what any one person has said. This is because we want you to feel able to say what you really think.

We will be giving some feedback to BigBus about the results from the research so that they can consider it when designing jobs and planning your work. This will be from the overall findings or from large groups.

A couple of practical points about filling in the questionnaire - firstly, please can you make sure you colour in each answer you have chosen really well, as we will be reading the completed forms with a scanner. Secondly you will see that there are shaded areas on some of the questions– this means that depending on the answer you give for the first half of a question, you may need to answer the second half of the question as well.

Thank you for your help with this work, it is very much appreciated by us at the university, and will hopefully bring benefits to BigBus and to you as its drivers as well,

Appendix K
Algorithm for converting questionnaire data into DGB-Index
scores

1. Each question is scored as below

Resources and Income		
Part A – presence of resource	**Part B – whether it is considered bothersome**	**Score**
A To a great extent	-	100
B	-	83.3
C	A Not at all	66.7
D Not at all	A	50
C/D	B	33.3
C/D	C	16.7
C/D	D Very much	0

Burdens		
Part A – presence of burden	**Part B – whether it is considered bothersome**	**Score**
A not at all	-	100
B	1 Not at all	83.3
C	1	66.7
D to a great extent	1	50
B/C/D	2	33.3
B/C/D	3	16.7
B/C/D	4 Very much	0

2. Scores are combined (by averaging) to give a score for each of the 15 dimensions. For example, three questions are combined to give a score for Hours, two questions are combined to give a score for Emotional demands

3. Dimension scores are then combined to give a score for the partial-indices Resources, Burdens and Income/security. Resources is formed by averaging 10 dimensions, Burdens by averaging 3 dimensions and Income/security by averaging the remaining 2 dimensions.

4. The three partial-index scores are averaged to produce the overall DGB-Index score.

Appendix L
Assessment of questionnaires with missing responses

Type of error	X	Y	Z
Cause of error	Individual has failed to answer one or more questions	Individual has answered the first half of questions but has not always answered part B where appropriate	Individual has answered the questions as if there were one 8 point scale
Rule applied	If 6 or less errors, calculate scores per individual on the basis of questions which have been answered If 7 or more errors, discount questionnaire (participants who accidentally miss one page miss out at least 7 questions)	If 7 or more errors, discount questionnaire If 6 or less errors, impute results on assumption that part B is 'a little bothered'. Imputing provides a better results than simply removing the question as it ensures that the individuals' response on the first half of the question is included, and allocates a neutral, mid-range score for the second half.	If up to 6 errors of this type, the relevant questions can be removed and the score calculated as for type X errors provided the questionnaire is otherwise apparently well completed. For more errors than this, the whole questionnaire is discarded as there are too many gaps; and the implication is that the individual has misunderstood the questionnaire structure, and therefore all answers are potentially invalid.
Implications for results	Some dimensions and/or part indices will be calculated on less than the full amount of items for some individuals; this is not likely to introduce substantial error, particularly once results are combined with those of others in the population. Some questionnaires will be excluded; for missing pages, this is likely to relate to error, and is unlikely to skew the results; if an individual has chosen to leave multiple questions blank this may indicate a more negative individual, therefore excluding their data introduces a risk of type II error	For a small number of errors, imputing the result is the compromise option. It prevents loss of too many questionnaires, and introduces a relatively small risk of error; which could be positive or negative but is unlikely to be substantial; and is likely to be balanced out at a population level. For those with more errors (e.g. who gave no type B answers, because they misunderstood the questionnaire structure), it is not practical to impute. Errors are more likely to occur for individuals with negative views, as they are more likely to have answered C or D, which require a part B answer. (An individual answering only A or B does not need to complete part B and therefore could not make these errors). Therefore, discounting their questionnaires increases the risk of type II error. Discounting the questionnaires of those who misunderstood the question structure increases the likelihood of removing questionnaires of those who have literacy or language difficulties	Discounting the questionnaires of those who misunderstood the question structure increases the likelihood of removing questionnaires of those who have literacy or language difficulties

Appendix M
Evidence of normality for DGB-Index data

Evidence of normality

The tables below demonstrate that the DGB-Index data are normal for all three companies, and that there are no outliers. In each case the Kolmogorov-Smirnov significance is above 0.05, indicating normality. In addition, the normal probability plots in each case form a 'reasonably straight line' (Pallant, p63).

1. BigBus

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
DGB-Index	.026	381	.200[*]	.992	381	.046

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Normal Q-Q Plot of DGBI
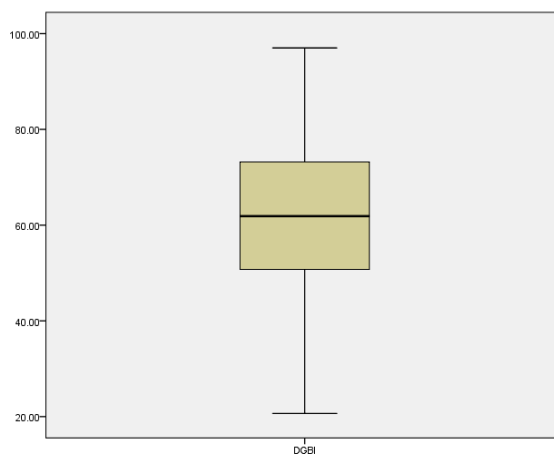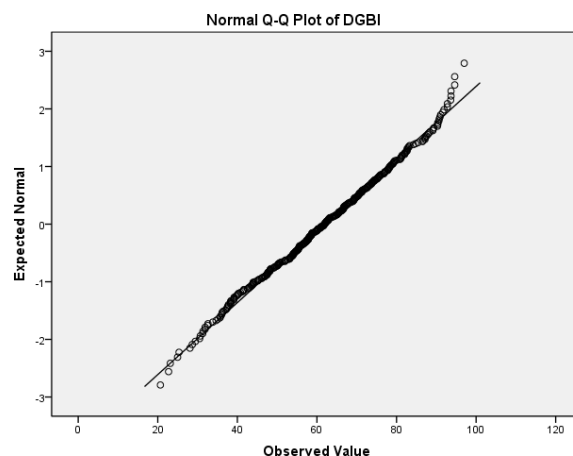
2. LittleBus

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
DGB-Index	.095	28	.200[*]	.968	28	.518

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Normal Q-Q Plot of DGBI
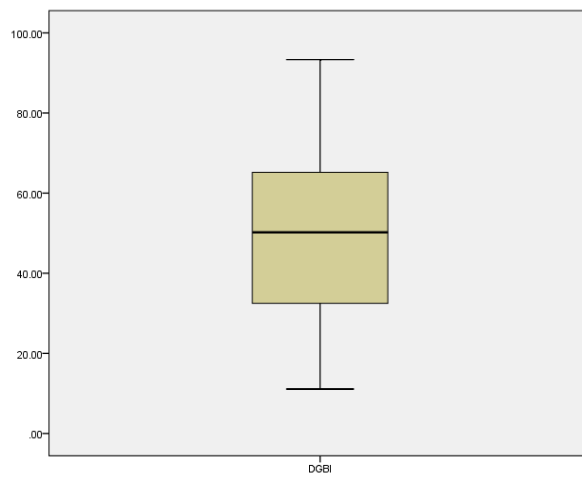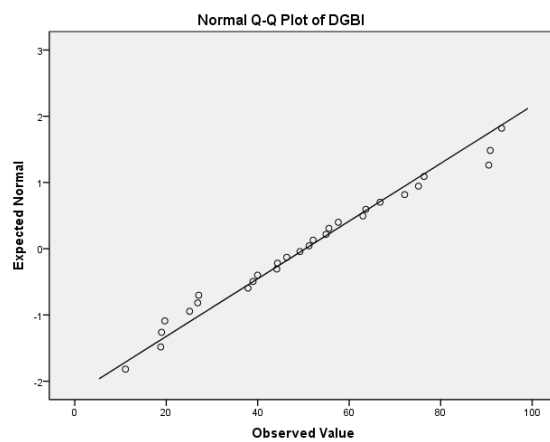
3. LittleCoach

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
DGB-Index	.200	14	.136	.897	14	.101

a. Lilliefors Significance Correction

Normal Q-Q Plot of DGBI
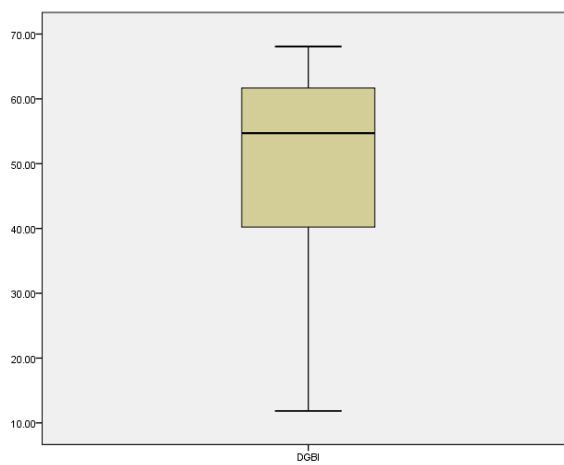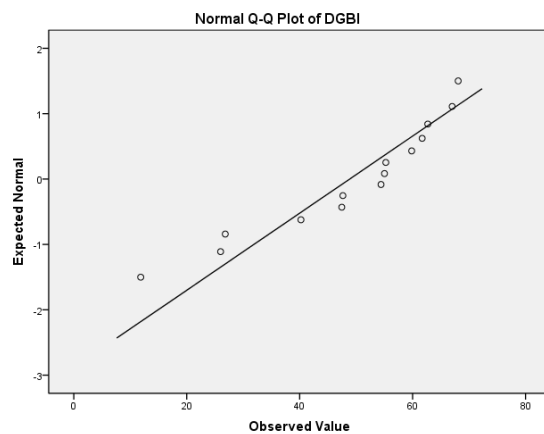
Appendix N
Evidence of mulitcollinearity for DGB-Index data

Before carrying out linear regression, it is important to ensure that the variables are independent. Pallant ((2010)) recommends that the variables should have correlations of less than 0.7; and that that the collinearity tolerance statistics should be greater than 0.1.

The first three tables below show the low tolerance stistic. Below that, correlation beween the variables is shown, which confirms that none exceed 0.7.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.334	.142		16.385	.000		
	training	-.001	.001	-.045	-.725	.469	.598	1.672
	creativity	.000	.001	-.016	-.285	.776	.697	1.435
	promotion	4.721E-5	.001	.003	.054	.957	.707	1.414
	control	.002	.001	.075	1.231	.219	.626	1.599
	information	.001	.001	.055	.803	.422	.483	2.069
	manager	-.001	.001	-.039	-.527	.598	.412	2.429
	senior and culture	-.002	.001	-.094	-1.450	.148	.543	1.840
	colleauges	.000	.001	-.007	-.125	.900	.681	1.467
	useful	.000	.001	-.012	-.228	.820	.890	1.124
	hours	-.002	.001	-.099	-1.606	.109	.601	1.663
	pressure	-.003	.001	-.161	-2.484	.013	.545	1.836
	emotional demands	.000	.001	.027	.427	.670	.561	1.783
	physical demands	-.003	.001	-.140	-2.295	.022	.619	1.617
	security	.000	.001	.041	.781	.435	.821	1.218
	income	.000	.001	-.027	-.466	.642	.702	1.425

a. Dependent Variable: goodhealthjobdichot

Appendix N

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.668	.109		15.293	.000		
	training	-.002	.001	-.112	-1.896	.059	.601	1.663
	creativity	.000	.001	.015	.276	.783	.704	1.421
	promotion	-.001	.001	-.053	-.968	.334	.707	1.415
	control	.002	.001	.089	1.548	.122	.630	1.586
	information	.000	.001	.028	.430	.668	.476	2.102
	manager	-.001	.001	-.034	-.472	.637	.410	2.442
	senior and culture	-.003	.001	-.181	-2.910	.004	.537	1.861
	colleagues	-.001	.001	-.052	-.950	.343	.694	1.440
	useful	-5.998E-5	.001	-.003	-.060	.952	.903	1.108
	hours	-.001	.001	-.039	-.669	.504	.610	1.639
	pressure	.000	.001	-.028	-.451	.652	.541	1.849
	emotional demands	-6.315E-5	.001	-.006	-.090	.928	.557	1.796
	physical demands	-.001	.001	-.077	-1.329	.185	.616	1.623
	security	.001	.000	.098	1.953	.052	.827	1.209
	income	-.002	.001	-.166	-3.019	.003	.691	1.446

a. Dependent Variable: goodjobdichot

Appendix N

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.876	.149		12.626	.000		
	training	-.001	.001	-.065	-1.053	.293	.601	1.663
	creativity	.000	.001	-.023	-.406	.685	.702	1.424
	promotion	-.001	.001	-.038	-.677	.499	.706	1.416
	control	-.002	.001	-.086	-1.439	.151	.630	1.586
	information	.001	.001	.069	1.005	.315	.476	2.102
	manager	.000	.002	-.009	-.122	.903	.409	2.445
	senior and culture	-.002	.001	-.091	-1.409	.159	.537	1.863
	colleagues	4.837E-5	.001	.002	.044	.965	.696	1.437
	useful	.000	.001	.005	.101	.919	.901	1.110
	hours	.000	.001	.013	.206	.837	.610	1.639
	pressure	-.001	.001	-.081	-1.256	.210	.541	1.848
	emotional demands	-.001	.001	-.100	-1.565	.118	.557	1.796
	physical demands	-.002	.001	-.077	-1.275	.203	.616	1.624
	security	-8.918E-5	.001	-.007	-.132	.895	.826	1.211
	income	.000	.001	-.016	-.276	.783	.688	1.454

a. Dependent Variable: SRHdichot

Appendix N

Correlations

		DGBI	senior and culture	training	creativity	promotion	control	information	manager	colleauges	useful	hours	pressure	emotional demands	physical demands	security	income
DGBI	Pearson Correlation	1	.604	.495	.444	.491	.453	.642	.652	.417	.192	.546	.696	.701	.637	.637	.697
senior and culture	Pearson Correlation	.604	1	.434	.381	.378	.355	.553	.594	.379	.212	.414	.359	.456	.335	.251	.355
training	Pearson Correlation	.495	.434	1	.344	.418	.409	.450	.513	.381	.227	.354	.244	.282	.291	.121	.376
creativity	Pearson Correlation	.444	.381	.344	1	.315	.401	.350	.431	.186	.104	.278	.277	.336	.280	.107	.270
promotion	Pearson Correlation	.491	.378	.418	.315	1	.286	.411	.405	.296	.145	.314	.264	.284	.231	.164	.375
control	Pearson Correlation	.453	.355	.409	.401	.286	1	.398	.461	.324	.117	.454	.274	.312	.179	.124	.305
information	Pearson Correlation	.642	.553	.450	.350	.411	.398	1	.610	.406	.199	.460	.458	.518	.405	.207	.366
manager	Pearson Correlation	.652	.594	.513	.431	.405	.461	.610	1	.418	.219	.562	.364	.469	.344	.220	.465
colleauges	Pearson Correlation	.417	.379	.381	.186	.296	.324	.406	.418	1	.108	.335	.204	.399	.221	.049	.277
useful	Pearson Correlation	.192	.212	.227	.104	.145	.117	.199	.219	.108	1	.155	.065	.148	.061	-.012	.162
hours	Pearson Correlation	.546	.414	.354	.278	.314	.454	.460	.562	.335	.155	1	.313	.381	.307	.208	.371
pressure	Pearson Correlation	.696	.359	.244	.277	.264	.274	.458	.364	.204	.065	.313	1	.514	.574	.353	.279
emotional demands	Pearson Correlation	.701	.456	.282	.336	.284	.312	.518	.469	.399	.148	.381	.514	1	.409	.227	.386
physical demands	Pearson Correlation	.637	.335	.291	.280	.231	.179	.405	.344	.221	.061	.307	.574	.409	1	.286	.31
security	Pearson Correlation	.637	.251	.121	.107	.164	.124	.207	.220	.049	-.012	.208	.353	.227	.286	1	.260
income	Pearson Correlation	.697	.355	.376	.270	.375	.305	.366	.465	.277	.162	.371	.279	.386	.31	.260	1

Correlations between DGB-Index dimensions.