Health and well-being in the architectural profession and the influence of gender

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HEALTH AND WELL-BEING IN THE ARCHITECTURAL PROFESSION AND THE INFLUENCE OF GENDER.

Katherine Jessica Colleen Sang

A Doctoral Thesis submitted in part fulfilment of the requirements for the award of Doctor of Philosophy of Loughborough University.
ABSTRACT

There is considerable evidence that those working within the construction industry are at risk of poor health and well-being due to a number of stressors. The structure and culture of the construction industry combine to result in stressors for those employed within the sector, namely, long working hours, high workload, job insecurity, low professional worth and poor work life balance. Architects occupy a unique position in the construction industry and may face additional stressors due to their reliance on construction as their sole client. There is also evidence that some architects enter the profession due to a mis-belief that the architect's role is primarily creative. This conflict between expectations and reality may act as an additional stressor. Poor health and well-being may have damaging consequences for the individual, for example, illness, and for the organisation, through reduced productivity and attrition of employees.

Women working within the construction industry face a number of additional stressors, including discrimination, poorer career prospects and a paternalistic culture. Similar stressors have been identified for women working within the architectural profession, which have been cited as reasons for women choosing to leave the architectural profession.

There is a paucity of research examining health and well-being in the architectural profession, or directly comparing the experiences of men and women within the profession. The main objectives of this thesis were to a) explore levels of health and well-being experienced by architects, b) to determine antecedents and consequences
of health and well-being and c) to identify gender differences in antecedents, levels and consequences of health and well-being.

A mixed methods approach has been undertaken. The research comprised of two phases, a large scale quantitative questionnaire which identified levels of health and well-being and relationships between antecedents, measures of health and well-being and consequences. Issues raised by the questionnaire were then explored in the second phase of the research; via semi structured interviews with practising architects.

The data indicated that architects experience job satisfaction, high work life conflict, high levels of job demands and physical symptoms of stress. Architects' emotional response to work was complex, with high levels of positive and negative emotions being reported. Turnover intentions (desires to leave current job or the architectural profession) were strongly related to work life conflict and also related to job satisfaction, suggesting a relationship between antecedents of health and well-being and consequences. Female architects reported poorer health and well-being on all measures except job demands and affective well-being (emotional response to work), indicating that female architects may be more vulnerable to poorer health and well-being. Interview data revealed that many architects enter the profession due to a desire to be creative, but this expectation was not met in reality. Many reported that education had not prepared them for working life, and may have encouraged unhealthy working practices. Many architects felt that the social status of architects was low and this may impact their health and well-being. Female architects reported additional problems, including task restriction, gender stereotyped attitudes and restricted access to clients.
These findings were used to adapt an existing generic framework of the relationships between antecedents of health and well-being and consequences. The framework was changed in order to include aspects of working life which may be of particular relevance to the health and well-being of all architects and for female architects in particular.

Key words: architects, health and well-being, mixed methods, women, work
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- The members of two online discussion forums have been very helpful with advice on references and methodology; the student member of the Society for Industrial and Organisational Psychology and Psych-Postgrads, an online forum of UK based psychology postgraduate students.
- I would like to thank the members of Women and Gender Studies, a research group of like minded individuals at Loughborough University. Their advice, support and friendship has helped me along my way in this endeavour.
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Chapter One: Introduction

1.1 Introduction

This thesis details research undertaken to explore the work-related health and well-being of men and women working in the architectural profession. Chapter One provides an introduction to the research presented in this thesis, and its structure is provided in Table 1.1. It details the context of the current research, noting relevant characteristics of the United Kingdom’s construction industry and the architectural profession. It then leads to an exploration of the purpose of the research, by identifying the research problem, the research’s aims and objectives, the scope of the research and relevant definitions. The research is justified by explaining the industrial significance of the work, current knowledge and its methodological significance. The methodology is briefly described and the research propositions are detailed. The chapter then summarises the contribution to knowledge made by this thesis and concludes by outlining the structure of the thesis.

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Table 1.1 Structure of Chapter One
Chapter One: Introduction

1.2 Research Context

The following sections discuss the industrial context of the research, by describing characteristics of the UK construction industry and the architectural profession which may be relevant to the health and well-being of those working within it.

1.2.1. The nature of the construction industry

The UK construction industry incorporates a wide range of occupations involved in the construction and maintenance of the built environment (CITB, 2002) employing approximately 10% of the working population and accounting for around 10% of the country’s Gross Domestic Product (DTI, 2004). These statistics indicate the sector’s national importance, both in terms of its economic contribution and its role as an employer.

The UK construction industry has a number of characteristics which shape the culture of the sector, which in turn affects how employees are treated. The sector is characterised by a project-based structure (Loosemore et al., 2003), fragmentation (DTI, 2004), workforce homogeneity (Langford et al., 1995) and a procurement system which hampers innovation (Blayse and Manley, 2004). All of these factors combine to influence the structure and culture of the sector.

The construction industry is a labour intensive and low tech sector; as a result, people are the most important and often the most expensive resource deployed within it (Loosemore et al., 2003). Nevertheless, care for the workforce is often considered to be a secondary aspect of the construction process. In order to determine why this
should be, it is necessary to examine how construction takes place, identifying those characteristics of the sector which impact on how workers are treated.

Procurement systems in the construction industry are an integral aspect of the sector's structure and culture. The sector largely relies on a price-based environment, with a competitive tendering procurement system (Loosemore et al., 2003). Focusing on cost rather than quality is damaging, not only to the end product, but also to the workforce. There are a number of problems associated with the tendering process. The low profit margins associated with the tendering process can mean that there is a strong desire to finish projects on time in order to avoid additional labour costs. This desire, combined with increasing client pressure to produce a better quality end product, underlies the need to work long hours (ibid).

Construction is a project-based culture; and it is generally believed that each construction project is unique, with its own problems and issues (Loosemore et al., 2003). This culture has resulted in a fragmented workforce, with project teams forming for fixed periods before disbanding to begin a new project. Valuable knowledge is thereby lost as teams dissolve (Emmitt, 1999), but the transient nature of the workforce also has repercussions for the health of employees. Construction workers need to be able to commute long distances to reach project locations, resulting in a longer working day (Loosemore et al., 2003). There may be serious implications for families and communities (Giddens, 2001) and for employee well-being (Love and Edwards, 2005). Furthermore, a project-based culture does not foster a sense of job security as it often relies on the use of subcontracting, which further fragments the sector.
The majority of construction workers are either self-employed or work within small organisations (DTI, 2004). In 2003, 70 per cent of all private contractors employed three people or less (DTI, 2004). Such reliance on subcontracting results in a casual labour force which is difficult to monitor, with a variety of consequences. For example, the process of competitive tendering can be undermined through cash-only casual workers undercutting legitimate contractors (Langford et al, 1995). Any attempts to implement a human resource policy will be severely hampered, not only by a casual workforce but also by subcontracting.

The sector is currently facing a skills shortage in terms of both the numbers of people and the skills which they themselves possess (CITB, 2004). Evidence suggests that if the sector's period of growth continues in parallel with declining numbers of students undertaking building-related degrees, the construction industry could have difficulty coping with its workload (Dainty and Edwards, 2003). The ageing population of the UK, increased participation in higher education and the poor image of the industry are seen as key factors in the shortage of new recruits (DFEE, 2000; Fielden et al, 2001; MacKenzie et al, 2000). The skills shortage will make it difficult for organisations to produce high-quality products within desired budgetary and time constraints, exacerbating problems associated with competitive tendering.

The skills shortage, health and safety concerns, staff retention, absenteeism and performance are drivers for change in employment practices in the construction industry (Rethinking Construction, 2003). As such they also act as drivers for an analysis of how existing employment practices affect those working in the sector.
1.2.2 The architectural profession

The architectural profession is discussed in greater detail in Chapter Three. This section summarises the most salient aspects of the profession. The architect is one of the many professional experts involved in the building process. In 2007 there were approximately twenty eight thousand chartered architects in the UK (RIBA, 2007).

An architect has a range of responsibilities within the construction process, namely, initial design, recommending the rest of the project team and managing the project (Salisbury, 1998). It has been argued that the architects’ role has been eroded by the introduction of new types of building contracts and occupational groups such as project managers which cover many of the traditional duties of the architects (Emmitt, 1999a).

The training process of becoming an architect takes a minimum of seven years, and involves gaining a three year undergraduate degree known as RIBA Part 1, followed by a further two years of advanced undergraduate study known as RIBA Part 2 (PCNW, 2003). Two years of professional experience within an architectural practice are required, usually one year after RIBA Part 1 and one year after RIBA Part 2 (ibid). The RIBA Part 3 examination is then taken. Once this has been achieved, an individual may join the Architects' Registration Board (ARB). Individuals may then apply for Chartered Membership with the RIBA (RIBA, 2006). The RIBA argues that Chartership allows architects to influence the representation of the profession while ‘reaping the benefits of the professional support available to chartered members’ and gaining a qualification which is ‘a highly recognised and valued brand world-wide’ (RIBA, 2006). It is clear that qualifying as an architect requires a considerable time commitment.
Chapter Three details extant literature which explores work related health and well-being in the architectural profession. To summarise, the erosion of the role of architects has led to a reduction in the social status of architects (Emmitt, 1999a; Blau, 1984). Architects have reported concern over a lack of opportunity to use their creative skills (Blau, 1984). This may be due to architects entering the profession due to a conflict between individuals' expectations of the profession and the reality, a conflict which is exacerbated by experiences during the educational process (Emmitt, 1999; Blau, 1984).

Work related stress for architects has been attributed to a range of factors, including; high workload, project deadlines, distrust of practices and poor career prospects (Cox and Hamilton, 1998). There is evidence that women experience discrimination within the architectural profession and, despite the time commitment required to qualify many are leaving the profession (de Graft-Johnson et al., 2005; Anthony, 2001; Kingsley and Glynn, 1992). De Graft-Johnson et al., (2005) acknowledge that many men are affected by similar, poor, working conditions, but this has not been explored in the extant literature.

1.3 Purpose of the research

This section defines the research problem, the aims and objectives of the research, its scope and relevant definitions.
Chapter One: Introduction

1.3.1 Research problem

The research presented in this thesis addresses the issue of health and well-being in the architectural profession. The central research question is:

*What are the levels of health and well-being experienced by architects, and what are their causes and consequences?*

Health and well-being is an emerging area in the construction management literature and is under-researched within specific occupational groups. Current tools for measuring employee health and well-being are often generic and do not incorporate factors relevant to certain occupations. In addition, they are often androcentric (centred around male norms) and do not reflect the experiences of women in the workforce. There is evidence that those working in the construction professions experience a range of stressors which are linked to the culture and structure of the construction industry. There is a paucity of research exploring these issues with architects, who occupy a unique position within the construction industry. In addition there is concern within the architectural profession regarding the number of women leaving (RIBA, 2003). The RIBA (2003) report suggested that women leave the profession due to a number of occupational stressors. Further work is needed to investigate the existence and role of these stressors (sometimes referred to as antecedents of health and well-being) and their possible consequences for both male and female architects.
1.3.2 Aims and Objectives

Aim:

To explore the antecedents, levels and consequences of the health and well-being of male and female architects.

Objectives:

1. To establish the levels of health and well-being experienced by architects working in the UK.

2. To explore the extent to which health and well-being is determined by gender.

3. To explore the antecedents of health and well-being in the architectural profession, focusing on understanding the interplay of structure, culture and individual circumstances/actions on well-being outcomes.

4. To identify the impact of health and well-being on performance, commitment and contribution of male and female architects.

5. To develop recommendations for addressing health and well-being issues in the architectural profession, at the professional, organisational and individual level.
1.3.3 Scope of the research

This thesis is confined by the following boundaries;

- This thesis is limited to those working within the UK architectural profession.
- It does not access the opinions of those who have left the profession or those in higher education.

1.4 Justification of the research

This section details the justification of the research. The industrial significance of the research is specified. The section then summarises the current knowledge in the area of work related health and well-being, particularly within the construction and architectural context. The section concludes by identifying the methodological significance of the research.

1.4.1 Industrial significance

Recent evidence suggests that qualified female architects are choosing to leave the profession, due to a range of stressors (RIBA, 2003). Some of these may be specific to female architects, while others may apply to both male and female architects (de Graft-Johnson et al., 2005). In addition, there is evidence that architects enter the profession due to unrealistic expectations and this may harm their health and well-being (Blau, 1984; Emmitt, 1999). Architects also occupy a unique role in the construction industry (Emmitt, 1999) and this may result in additional stressors. This combined with the erosion of the architect's role (Emmitt, 1999) may mean that architects are vulnerable to a range of stressors, some of which are shared by other professional groups both within and outside the construction industry. There may also
be stressors which are specific to the architectural profession. Identifying these factors will help to develop recommendations to improve the health and well-being of architects, both male and female. Doing so may improve the organisational and occupational retention of architects.

1.4.2 Current knowledge

While the research investigating health and well-being is extensive (see for example Danna and Griffin, 1999), much of this work lacks focus and does not explore factors which are specific to occupational groups, which may have their own culture and structure (Warr, 1987). It is known that certain factors in the workplace act as antecedents to health and well-being (Danna and Griffin, 1999). It has also been demonstrated that poor health and well-being, often conceptualised as stress, increases with educational achievement and is especially prevalent within the professions (Doyle, 2003). Health and well-being is an emerging topic within the construction management literature (see for example, Sutherland and Davidson, 1993; Lingard and Sublet, 2002; Lingard, 2003; Haynes and Love, 2004; and Love and Edwards, 2005). This research shows that those working in the construction industry are exposed to a range of occupational stressors (antecedents to health and well-being) for example, long working hours, high workload, job insecurity and poor work life balance. Much of this work does not explore the differing experiences of women in the construction industry. A body of extant knowledge has demonstrated that women face a range of difficulties when working in construction and these could act as additional occupational stressors. Much of the current construction research has focussed on civil engineers, construction managers and site managers and has been conducted outside of the UK (Lingard and Sublet, 2002; Lingard, 2003; Haynes and Love, 2004;
and Love and Edwards, 2005). Work undertaken with architects has focussed on female architects (Caven, 2004; de Graft Johnson et al., 2005) and has not provided direct comparisons with male architects. There is scope to examine health and well-being in the architectural profession to determine if architects experience similar stressors to other occupational groups, and if there are any gender differences.

1.4.3 Methodological significance

The research presented in this thesis is significant due to its methodological approach. As discussed in Chapter Four, much of the health and well-being literature relies on a positivist and quantitative approach. In addition, many of the generic tools for measuring health and well-being are based on male samples and working patterns and are therefore androcentric. The work presented here takes a mixed methods approach, in that it combines quantitative data collection and analysis (phase one of the research) with qualitative data collection and analysis (phase two of the research). It utilises standardised generic measurement tools and qualitative interviews which allow for respondents to report the issues which are of most salience to them. There has been a recent call for more diverse research approaches to health and well-being literature and this research helps to add to this.

1.5 Methodology

1.5.1 Overview of methodology

In order to address the research problem identified in Section 1.3 a mixed methodology was employed. A pragmatic philosophical perspective was employed as
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this has been identified as the most suitable for mixed methods research (Johnson and Onweugbuzie, 2004). The data collection was undertaken in two phases. The first phase of the data collection was a quantitative survey and utilised existing measures of work related health and well-being, specifically job satisfaction (Warr, Cook and Wall, 1981); Affective well-being (Warr, 1987); Physical Symptoms Inventory (Spector et al., 1998) and the Job Demand Control Model (Karasek, 1979). In addition, work life conflict and turnover intentions were captured by the survey. The second phase of data collection utilised semi-structured interviews which explored issues raised by the literature and survey. It allowed respondents to discuss the issues which were most relevant to them as an individual and as an architect (in contrast to the generic measures used in phase one of the data collection).

1.5.2 Propositions

Ten research propositions were developed through the literature review and these are set out below. Research propositions differ from hypotheses in that they are more tentative and allow for modification in the light of emerging data (Chens and Bryant, 1984). The propositions are numbered according to their appearance in the literature review chapters.

Proposition 1: Long working hours will be the most important factor in work life conflict.

Proposition 2: Work life conflict will be associated with job satisfaction and turnover intentions.
Chapter One: Introduction

Proposition 3: There will be significant relationships between measures of job demands and control and health and well-being.

Proposition 4: Generic measures of health and well-being may not capture factors relevant to both male and female architects.

Proposition 5: Architects will experience frustration at the lack of scope for creativity in their work.

Proposition 6: Architects may enter the profession with unrealistic expectations of the profession and there may be a conflict between these expectations and the reality.

Proposition 7: Those working in the construction industry are exposed to a range of stressors, particularly, long working hours, time pressures, work life conflict, staff shortages and high workload. It is anticipated that architects will also experience these stressors.

Proposition 8: Architects will experience high levels of job demand and control.

Proposition 9: Female architects will experience poorer health and well-being than male architects.

Proposition 10: Female architects will report higher turnover intentions than male architects.
1.6 Contributions to knowledge

The research was successful in achieving the objectives stated in Section 1.3.2, which addressed the research problem stated in Section 1.3.1. The main contributions to knowledge of this research are detailed below.

- This research has identified that architects' experience of health and well-being is complex, as levels of health and well-being appear to be high according to some measures, for example, job satisfaction and low according to others, for example, work life balance.

- Overall, female architects experience poorer health and well-being than male architects.

- This research has helped to further understanding of the factors which may be specifically relevant to the health and well-being of architects. These relate to expectations of the profession and experiences within architectural practices.

- There are appear to be significant relationships between health and well-being and negative outcomes, for example, physical symptoms of stress.

- There has been considerable debate regarding the validity and the usefulness of the Job Demand Control Model. The research presented here suggests that measures of control do relate to measures of health and well-being, however, the tool may not capture aspects of the working environment which are applicable to female architects.
1.7 Outline of thesis

Chapters Two and Three of this thesis discuss the extant literature in the area of work related health and well-being. Chapter Two details work related health and well-being literature, detailing influential theoretical models in the area, namely, affective well-being and the Job Demand Control Model. It is noted that these models are generic and do not apply to specific occupational groups or consider gendered aspects of work. In order to provide structure to the chapter, the framework of Danna and Griffin (1999) is followed as it provides a logical structure. This framework is also generic and doesn't consider occupational and gender specific factors. As will be seen in Chapter Two, Danna and Griffin's (1999) framework synthesises the extant literature in the area of work related health and well-being, and builds on well established models of work related stress namely Landy and Conte (2004) and Arnold et al., (2004). Chapter Two concludes by discussing women's experiences in the workforce and gender differences in work related health and well-being. Throughout Chapter Two research propositions are identified and clearly noted in the text.

Chapter Three discusses the health and well-being literature which has specifically explored the experiences of those working within the construction industry and more specifically, the architectural profession. As with Chapter Two, research propositions are noted in the text. Chapter Three also notes the experiences of women working in the construction industry and the architectural profession, noting potential differences in health and well-being.

Chapter Four details the methodology and research design employed to investigate the research problem. It was decided that given the complex nature of the problem, a
mixed methods approach should be utilised within a pragmatic philosophical perspective. The data collection occurred in two phases, a quantitative survey and semi-structured interviews. Associated ethical considerations are addressed.

Given the two phases of data collection, associated findings are presented in two Chapters, Five and Six. Chapter Five reports on the findings of the first phase of data collection. Data is presented for the whole sample and then delineated according to gender. Questions arising from the data are identified. Chapter Six reports on the findings from the semi-structured interviews. Similarly to Chapter Five, findings for the whole sample are detailed, leading to the identification of gender-specific issues. Throughout Chapters Five and Six areas for additional research are noted, for further discussion later within the thesis.

Chapter Seven discusses the findings reported in Chapters Five and Six, identifying areas of agreement and disagreement with the extant literature. Within Chapter Seven recommendations for the architectural profession, practices and individual architects are highlighted. In addition, Chapter Seven reworks Danna and Griffin's (1999) framework to include architecture and gender-specific issues.

Chapter Eight concludes the thesis by identifying how the research has satisfied the research objectives and propositions. It also identifies the limitations of the current study, recommendations for further research and the contribution to knowledge made the current research.
Chapter One: Introduction

1.8 Summary

This introductory chapter has detailed the context within which the current research took place by describing salient characteristics of the construction industry and the architectural profession. The purpose of the research was detailed through a description of the research problem, the aims and objectives of the research. The scope of the research was also described. In order to justify the research the industrial and methodological significance of the research was described. An overview of the methodology was described and the research proposition stated. The contributions to knowledge made by the current research were detailed and an outline of the thesis provided. Chapter Two discusses the relevant research in the area of health and well and the experiences of women in the paid workforce.
Chapter Two The relationships between paid employment and health and well-being

2.1 Introduction

This chapter provides a context for the current work by discussing the generic health and well-being literature. This allows for theoretical constructs to be discussed, which provide a context for the construction and architecture specific literature which is detailed in Chapter Three. Chapter Two discusses the extant literature in two areas. Firstly, it explores the literature on the relationship between work and well-being. To achieve this, it begins by defining well-being and then leads to a discussion of health and well-being in the workplace. Specific models of health and well-being in the workplace are discussed in section 2.4. Section 2.5 discusses measures of health and well-being, as the operationalisation of these terms is synonymous with its definition. Research propositions are noted in the next where appropriate. The literature in these areas is extensive and in order to summarise the work logically, a framework developed by Danna and Griffin (1999) is followed. This enables the extant literature to be explored while retaining focus on the most important issues. This framework can be seen in Figure 2.2. The chapter then discusses the literature on the role of women in the workforce and the health and well-being of women in paid employment. This discussion of the extant generic health and well-being literature provides a broad context for the current work. Factors which apply to all of those in paid employment (both male and female) can be discussed. This then allows for factors specific to those working in the architectural profession to be explored in Chapter Three. The chapter concludes by highlighting gaps in the research.
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<td>Broad definitions of health, well-being, stress</td>
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<td>2.3</td>
<td>Health and well-being in the Workplace</td>
<td>Work related stress, work stressors, subjective well-being</td>
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Table 2.1. Structure of Chapter Two.
2.2 Defining health and well-being

Well-being is a complicated concept which can be defined and measured in a variety of ways. This chapter aims to explore the various meanings of health and well-being and develop a comprehensive definition which is suitable for application to the construction work place. In order to achieve this, research in the area of health and well-being and its many components will be explored. Specific attention is paid to how health and well-being relate to individuals' experience of work and their performance.

Well-being can be seen as the general state of happiness (Diener et al., 1998), or as a part of good mental health (Warr, 1990). In addition to the more abstract definitions of well-being, there are physical determinants which are easy to assess and do not rely on subjective measures (Spector et al., 1998). In addition to the many definitions of well-being there are many ways of measuring the phenomenon, for example self assessment (known as subjective well-being (Diener, 2000)), peer assessment (Pavot and Diener, 1993), and medical assessment (Stewart, 1992).
Chapter 2 The relationships between paid employment and health and well-being

2.2.3 Broad definitions of health and well-being

The term health can be difficult to define. In one sense it can be viewed as the absence of disease (Emmet, 1991). Other definitions of health are much broader. For example, the World Health Organisation defines health as ‘a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity’ (World Health Organisation, 2006). The term ‘health’ potentially covers a vast range of concepts. Typically within the literature, the definition of health used in implicit in its measurement (Danna and Griffin, 1998).

Well-being can be defined as the condition of being contented, healthy and successful (Bryson et al., 1997). This would seem to be a common sense definition of ‘well-being’, but is complicated by a lack of exploration of the meanings of contented, healthy and successful. While physical health can be objectively determined, for example cardiac rate or blood pressure; contentment and success are more subjective terms. A more specific form of well-being is often discussed in the literature, namely, affective well-being, which reflects the frequency of experience of positive affects and the infrequency of negative affects (Daniels, 2000). This is discussed in further detail in section 2.4.

In much of the literature the term well-being itself has little meaning, rather it is used as an umbrella term covering many factors. In addition to well-being often having little meaning in itself, it is often taken to mean the same as terms such as ‘mental health’, ‘welfare’ or ‘happiness’ (Warr, 1996; Newell, 2002; Danna and Griffin, 1999). In some research well-being is an overarching term for factors which affect an
Chapter 2 The relationships between paid employment and health and well-being

individual's overall well-being. There are many terms which fall under the banner of well-being including, job satisfaction, career satisfaction, family satisfaction, life stress (Parasuraman and Simmers., 2001 and Warr, 1996), happiness, affective well-being (Diener, et al., 1998), stress, mental health (Newell, 2002), self esteem, health and contentment (Bryson et al., 1997) and burnout (Shriom, 2003). Table 2.2 summarises these factors and definitions of well-being. It is clear that well-being is a broad term composed of a variety of definitions and factors each with their own definition. Some of these terms are discussed later in this chapter, in particular job satisfaction, stress and affective well-being.

The definitions of well-being provided in Table 2.2 relate to many spheres of an individual's life. More specifically, the current research explores the relationship between work and well-being. Consequently the literature discussed in this chapter focuses on work and well-being, often known as stress research (Daniels, Harris and Briner, 2004).
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<table>
<thead>
<tr>
<th>Component of well-being</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Adjustment</td>
<td>Psychological well-being, composed of anxiety, depression and stress (Lovibond and Lovibond, 1995).</td>
</tr>
<tr>
<td>Affective Well-Being</td>
<td>The frequency of experience of positive effects and infrequency of experience of negative affects (Daniels, 2000). Overall feeling of good or bad (Newell, 2002).</td>
</tr>
<tr>
<td>Burnout</td>
<td>Caused by emotional exhaustion, fatigue, depersonalisation and lack of feeling of accomplishment (Shirom, 2003; McLeod 1998).</td>
</tr>
<tr>
<td>Career Satisfaction</td>
<td>Evaluation of satisfaction with progress and success over time (Parasuraman and Simmers, 2001).</td>
</tr>
<tr>
<td>Contentment</td>
<td>Used by Bryson et al (1997) although no definition is given. Is a state of being satisfied or happy.</td>
</tr>
<tr>
<td>Depression</td>
<td>'A low sad state marked by significant levels of sadness, lack of energy, low self-worth, guilt or related symptoms' (Comer, 2001 p.191).</td>
</tr>
<tr>
<td>Family Satisfaction</td>
<td>Extent of positive feelings towards family life (Parasuraman and Simmers, 2001).</td>
</tr>
<tr>
<td>Happiness</td>
<td>A term often associated with Subjective Well-Being and is a state of being satisfied with life, experiencing frequent joy and rarely experiencing negative emotions (Diener, et al., 1998).</td>
</tr>
<tr>
<td>Health</td>
<td>Physical and mental health (World Health Organisation, 2006).</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>The extent to which an individual has positive feelings towards their job. (Parasuraman and Simmers, 2001).</td>
</tr>
<tr>
<td>Life Stress</td>
<td>Psychological response state of disturbed affect in relation to stressors in an individual's life (Parasuraman and Simmers, 2001).</td>
</tr>
<tr>
<td>Stress</td>
<td>Stress is a state where an individual is forced to change. Stress is composed of a stressor (event which creates demands) and a stress response (an individual's reactions to stressors). Has both physical and psychological implications (Comer, 2001).</td>
</tr>
</tbody>
</table>

Table 2.2 Definitions of well-being and associated terms.
Chapter 2 The relationships between paid employment and health and well-being

2.3 Health and well-being in the workplace

There is a vast body of existing literature exploring health and well-being in the workplace. As Danna and Griffin (1999) point out, this body of work is disjointed and unfocussed largely due to the broad range of definitions of health and well-being.

Danna and Griffin's (1999) framework conceptualises health and well-being as stress and examines ways of measuring stress, its causes (stressors) and consequences. In order to provide a context for later discussions of job related health and well-being, work related stress will now be discussed.

2.3 Work related stress

Kahn and Byosiere (1992) developed a framework for the study of work stress, which is composed of three factors in the stress process. These factors are; work stressors, moderators of the stress process and consequences of stress. This framework is considered to be comprehensive (Landy and Conte, 2004). Consequently, the following discussion of work stress shall follow this format.

2.3.1 Work stressors

Work stressors (sometimes referred to as an occupational stressors) are 'aspects of the work environment that cause strains, poor psychological health or well-being of the individual' (Beehr et al., 2001 p. 115). It is clear from this definition that negative outcomes of stress on the individual are focussed on. Landy and Conte (2004)
Chapter 2 The relationships between paid employment and health and well-being

consider two types of stressors; physical and psychological. Arnold et al (2005) discuss seven sources of stress which are broadly similar to those discussed by Landy and Conte (2004) and are summarised in Table 2.3.

<table>
<thead>
<tr>
<th>Causes of stress</th>
<th>Examples</th>
</tr>
</thead>
</table>
| **1. Factors intrinsic to the job** | - Working conditions,  
| | - Shift work,  
| | - Work hours and workload,  
| | - Risk and danger,  
| | - New technology |
| **2. Role in the organisation** | - Role ambiguity: lack of clarity about scope and responsibility of job.  
| | - Role conflict: conflicting job demands  
| | - Responsibility |
| **3. Personality and coping strategy** | - Hardy and non hardy personality types |
| **4. Relationships at work** | - Relationships with superiors  
| | - Relationships with subordinates and colleagues |
| **5. Career development** | - Lack of job security |
| **6. Organisational culture and climate** | - Organisational climate: Employees perception of how the organisation functions  
| | - Organisational culture: values, assumptions and norms shared by members which influence behaviour. |
| **7. Home-work interface** | - Usually viewed as a conflict between work and non work demands |

Table 2.3 The seven causes of stress identified by Arnold et al (2004)

Figure 2.1 presents the dynamics of work stress. It can be seen that these seven causes of stress are also seen as antecedents of health and well-being in the workplace (see fig 2.2). Danna and Griffin (1998) conceptualise occupational stress according to the same categories identified above. Here some consistency can be seen in the extant literature.
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Sources of stress
- Intrinsic to the job
- Role in the organisation
- Personality and coping
- Relationships at work
- Career development
- Organisational culture and climate
- Home-work interface

Symptoms of stress
- Individual symptoms
- Organisational symptoms

Disease
- Coronary heart disease and mental illness
- Prolonged strikes, frequent and severe accidents, apathy

Figure 2.1 The dynamics of work stress (Source: Arnold et al, 2005).
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2.3.1.2 Factors intrinsic to the job

The following section considers stressors which are intrinsic to an individual's job, specifically, working conditions, working hours and work load.

Working conditions are specific to each occupation and our working environment can impact our mood and overall mental state (Arnold et al., 2004). Excessive and unexpected noise in the workplace can act as a significant stressor, more specifically changes in noise level have been seen to result in stress (Ivancevich and Matteson, 1980).

Shift work has been linked to greater exhaustion, depersonalisation and loss of energy, particularly night shifts (Demir et al., 2003). Offshore oil rig workers reported shift work and irregular working hours as the third most important source of stress (Cooper and Davidson, 1987).

Workload can be viewed as quantitative (volume of work) and qualitative (the relative ease or difficulty of the work). Work overload has received considerable attention by researchers of occupational stress (for example, French and Caplan, 1972; Davidson and Cooper, 1983; Burke and Greenglass, 1999). Sparks et al., (1997) showed that working in excess of forty hours per week is associated with poor physical and mental health. Work load is discussed in further detail in section 2.4.3 which discusses Karasek's Job Demand Control Model. Time pressures and tight deadlines are also associated with work related stress for sales people (Broadbridge, 1998). Long working hours are associated with stress related diseases such as cardiac problems and
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personal relationships may suffer (Breslow and Buell, 1960; Cooper, 1984; Melhuish, 1986). Broadbridge (1998) also presents evidence that business travel, while considered a fringe benefit for some can also be a source of stress as it adds to the length of the working day and impinges on non working life.

2.3.1.3 Role in the organisation

Role in the organisation refers to two constructs; role ambiguity and role conflict. Role ambiguity occurs when a person is unclear as to the objectives, scope and expectations of their work (Arnold et al., 2004). Role conflict occurs when a person is faced with conflicting demands, for example, undertaking duties which he or she does not believe are within the scope of their job role (Arnold et al., 2004). Role conflict and ambiguity have been associated with lower job satisfaction (Rizzo et al., 1970). A study of teachers found that role ambiguity and conflict were significantly related to burnout (Schwab and Iwanicki, 1982). A study of employees working within the manufacturing sector revealed that both role conflict and ambiguity negatively impact upon job satisfaction (Yousef, 2000).

The level of responsibility experienced by employees is also an important influence on work related stress. Those in managerial and professional positions are at increased risk of stress due to responsibility for people and things (Cooper, 1981). Those who have responsibility for people often spend more time interacting with others and attending meetings, which may lead to increased pressure to meet deadlines and schedules (French and Caplan, 1972; Cooper, 1981). Having responsibility for budgets and resources can also be stressful to managers (Broadbridge, 1998).
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Role in the organization is also linked to participation in any decision making, which can both increase and decrease stress. There is evidence, that for non management staff, participating in the decision making process can alleviate stress (van Dijkhuizen, 1981). However, it can also lead to resentment and anxiety for managers (Cooper, Cooper and Eaker, 1988), especially if the manager’s formal power is not matched by actual power (Donaldson and Gowler, 1988).

Those who are self-employed have been shown to experience slightly lower levels of job related distress (Clark and Oswald, 1994), possibly because they experience higher levels of self-efficacy (Bradley and Roberts, 2004). Self Efficacy is an individual’s beliefs about their ability to influence events in their lives (Bandura, 1994).

2.3.1.4 Personality and coping strategy

An individual’s personality appears to influence their experience of work related stress. There is evidence that those with a negative outlook on life (often referred to as negative disposition or negative affectivity) are more likely to experience stress (Arnold et al., 2004; Deary et al., 1996). The two most frequently researched personality factors are Type A personality and locus of control (Danna and Griffin, 1999). A Type A individual is ambitious, competitive, job involved and hostile (Arnold et al., 2004). Such individuals often experience high blood pressure and this has been associated with cardiovascular disease, a physical manifestation of stress (Irvine et al., 1989). However, more recent research has suggested that negative disposition has only a weak influence on job related health and well-being, rather,
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Occupational stressors such as conflict at work were more strongly related to stress outcomes (Fox et al., 2001).

An individual's locus of control is also important when considering work related stress. Locus of control refers to an individual's perception of how much control they have over aspects of their life. An internal locus of control refers to a person's belief that their own behaviours are the most important influence on what happens to them. As such they are able to control what happens in their life (Rotter, 1966). Those with an external locus of control attribute events to external events such as 'bad luck' (Rotter, 1966). Those with an internal locus of control may adopt more adaptive coping mechanisms for stress, as they are able to change their behaviour in order to improve their working experience (Parkes, 1984). Those with an external locus of control respond more strongly to work related stress and are more likely to experience negative health consequences such as depression (Fusilier, et al., 1987). The data presented to date have focussed on those working within Western countries. However, it appears that locus of control and Type A personality issues apply across cultures (Siu et al., 1997). The issue of control is discussed in further detail in section 2.4 when Karasek’s Demand Control model is explored.

2.3.1.5 Relationships at work

Relationships at work are an important influence on work related stress (Fox et al., 2001). These relationships which are important are between an employee and their manager, colleagues and subordinates. Mistrust between colleagues has been associated with low job satisfaction, poor communication flow and stress (Cooper and
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Cartwright, 1994). There is evidence that supportive relationships at work can help to moderate the impact of other occupational stressors (Pelfrene et al., 2002). Low social support has been associated with poor physical health, for example, insomnia (Akerstedt, 2002) and distress (Vermuelen and Mustard, 2000). Lack of social support from colleagues is also linked to outcomes of stress for example, increased staff turnover (Barak et al., 2001). From the evidence presented here it seems that social support at work and lack of trust between management and employees are important influences on work related stress.

2.3.1.6 Career Development

Concerns over job insecurity and career development are sources of work related stress and can result in negative outcomes such as job satisfaction and poorer performance (Cooper and Cartwright, 1994).

A study of American employees working in a range of occupations demonstrated significant relationships between job insecurity and attitudinal reactions, for example, reduced job satisfaction and increased turnover intentions (Ashford et al., 1989). White collar workers have been shown to experience health and behavioural changes during periods of job insecurity. Ferrie et al (1998) identified a worsening of long term illnesses, increased sleep disturbance and elevated blood pressure amongst civil servants who were experiencing actual or perceived job insecurity. It is important to note that it is not only actual insecurity which is important, but also perceived insecurity. This suggests that an individual's perceptions of the reality of their working conditions is important to their health and well-being.
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Work with professional managers has demonstrated that work and non work sources of social support can buffer the negative consequences of job insecurity (Lim, 1996). Section 2.3.1.8 states that work life conflict increased with educational achievement this may lead to a reduction in non work sources of support, potentially increasing vulnerability to work related stress related to job insecurity.

2.3.1.7 Organisational structure and climate

Managerial style is closely linked to the structure and culture of the organization and influences employee stress (Cooper and Cartwright, 1994). Employers who erode employees' self esteem, make ambiguous demands of employees and minimise the significance of the work undertaken by others risk causing ill health in those that work for them (Blanchard, 1993). Lack of participation in the decision making process has also been linked to ill health and stress (as detailed in section 2.3.1.3). It has also been argued that poor communication between managers and employees can result in stress (Broadbridge, 1998).

2.3.1.8 Work home interface

Given the increase in dual career couples, stress associated with managing the boundaries between work and home life has increased (Cooper and Cartwright, 1994), although a more recent study suggests that this may be on the decline (White et al., 2003). The most commonly reported imbalance in the work home interface is work to life conflict (Adams et al., 1996). When work interferes with family life this is terms 'spillover' stress (Glowinkowski and Cooper, 1986). Often this interference is the
Chapter 2 The relationships between paid employment and health and well-being

result of long working hours (White et al., 2003). Those with young children are particularly vulnerable to work life conflict (Thomas and Ganster, 1995). In addition work life conflict increases with educational achievement (Tausig and Fenwick, 2001). Conflict in the home work interface is related to low job satisfaction and emotional exhaustion and turnover intentions (Boles et al., 1997) indicating the potential consequences of work life conflict. Work life conflict has also been linked to reductions in productivity amongst workers (Hobson et al., 2001). Women are more prone to work life conflict and this is discussed in further detail later in this chapter.

Within the work life interface, work to life conflict would appear to be the most commonly reported concern, most frequently caused by long working hours. Work to life conflict is associated with a range of negative outcomes, such as low job satisfaction, reduced productivity, increased turnover and emotional exhaustion, indicating that work life conflict is problematic for the individual and the organisation. Chapter Three discusses the significant of long working hours to those working in the construction industry. Therefore it can be predicted that those working in the construction will experience work to life conflict and a range of negative outcomes will be associated with work to life conflict. As such the following research propositions can be posited.

Research propositions:

\[
P1: \text{Work life conflict will be associated with job satisfaction and turnover intentions} \]
\[
P2: \text{Long working hours will be the most important factor in work life conflict} \]

The research discussed here has focussed on work related stress. It is important to
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note that these stressors can have a cumulative effect, for example, if stressors accumulate they can have an additive effect resulting in an increase in negative outcomes (McEwan and Seeman, 1991). Stress is one measure of health and well-being in the workplace. The following section explores broader definitions of health and well-being in the workplace by discussing theoretical models.
Figure 2.2 Framework of health and well-being in the workplace (Danna and Griffin, 1999).
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2.4 Theoretical models of the relationship between paid work and health and well-being

2.4.1 Introduction

This section of Chapter Two discusses theoretical models of the relationship between paid work and health and well-being. Warr's Model of Affective well-being (1987; 1990) is described. This leads to a discussion of the Job Demand Control Model (Karasek, 1979) and Warr's Vitamin Model (1987; 1996).

2.4.2 Affective well-being

As discussed before, stress is one component of well-being and an important component of job related well-being. However, conceptualisation of well-being is often vague in the literature (Danna and Griffin, 1999). Warr (1987, 1990) has provided one of the most extensive reviews of the existing literature. Warr (1987, 1990) uses the term health and considers affective well-being as one component of overall mental health. Affective well-being is discussed in further detail later in this chapter. Other components of health according to Warr (1987) are competence, autonomy, aspiration and integrated functioning.

Competence is conceptualised by Warr (1987) as an individual's success in certain spheres. A competent person is one who possesses adequate psychological resources to deal with experienced pressures. This can be objective (what a person can actually do) and perceived (what they believe they can do).
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Warr (1987) defines autonomy as the degree of control an individual has over their own action and opinions. Warr (1987) discusses two types of autonomy. Firstly the extent to which someone is able to act as an independent agent and feel responsible for their own actions. Secondly, autonomy can be viewed as the degree to which an individual is interdependent with others in their environment. Aspiration can be conceptualised as the goals an individual makes and the efforts they make to attain them (Warr, 1987). Raised levels of aspiration is associated with motivated behaviour and low aspiration can result in reduced activity and unwillingness to change an existing situation even if it is unsatisfactory (Warr, 1987). Integrated functioning refers to an individual as a whole and the relationships between the other four components of health (Warr, 1987).

Daniels (2000) argues that affective well-being is the most important component of health, particularly within a work setting. As a consequence affective well-being will be focussed upon here and Warr’s Model of affective well-being is discussed in greater detail.
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2.4.2.1 Well-being axes

Well-being can be viewed in terms of a one dimensional scale of feeling good to feeling bad, however this does not fully capture the components of well-being. Warr (1996) proposes a two dimensional view of well-being. A person's well-being can be described in relation to its location relative to the two dimensions of pleasure and arousal (representing the contents of the feelings) and the central point of the figure (a greater distance from the centre point indicates greater intensity of feeling). A level of pleasure or displeasure may be associated with levels of arousal, and certain levels of arousal may be pleasurable or dis-pleasurable. This framework allows for the development of three main axes of measurement, which are summarised in the table below.

<table>
<thead>
<tr>
<th>Axis</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axis 1: Pleasure</td>
<td>Pleasure to Displeasure</td>
</tr>
<tr>
<td>Axis 2: Anxiety:</td>
<td>Anxiety (low pleasure, high arousal) to Comfort (high pleasure, low arousal).</td>
</tr>
<tr>
<td>Axis3: Depression</td>
<td>Depression (low pleasure, low arousal) to Enthusiasm (high pleasure, high arousal).</td>
</tr>
</tbody>
</table>

Table 2.4 Warr's (1987) Three Axes of well-being

Arousal in itself is not a reflection of well-being, as a high or low level of arousal can be associated with both high and low levels of well-being, so although it is included in the model, it is not scaled in terms of well-being. Previous literature has identified relationships between skill level and affective well-being. The National Skills Survey conducted in 2001 demonstrated that those working in highly skilled job experience high positive affect in the form of enthusiasm, and high negative affect in the form of anxiety (Green and Gallie, 2002)
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Figure 2.3. The three principal axes of Affective well-being (source: Warr, 1987).

Warr (1987) considers these axes of well-being to be one component of overall well-being, namely Affective Well-Being. Daniels (2000) argues that Affective Well-Being is the most important component of well-being both within the workplace and outside of work. Warr (1987) discusses how each axis can be measured and which specific facets of an individual’s life are covered by each axis. This is summarised in Table 2.5 This model is useful as it allows for an individual’s emotional response to their work to be captured and operationalised. In addition, it has been utilised by the WERS (2004) study. This will enable the data presented in the current work to be compared with a nationally representative sample, to determine if architects experience poorer or better affective well-being than the general working population.
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<table>
<thead>
<tr>
<th>Axis</th>
<th>Context-free</th>
<th>Affective</th>
<th>Well-Being</th>
<th>Facet-specific</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Discontented - contented</td>
<td>Happiness</td>
<td>Job satisfaction</td>
<td>Specific satisfactions for example pay, amount of responsibility etc</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Life satisfaction</td>
<td>Alienation from work</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>General distress</td>
<td>Job attachment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Negative affect</td>
<td>Organizational commitment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Anxious - comfortable</td>
<td>Anxiety</td>
<td>Job-related tension</td>
<td>Specific feelings of job strain</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neuroticism</td>
<td>Resigned satisfaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Depressed -- actively pleased</td>
<td>Depression</td>
<td>Job related depression</td>
<td>Specific aspects of job boredom</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tedium</td>
<td>Job related burnout</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Self-denigration</td>
<td>Job boredom</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Positive affect</td>
<td>Job related pleasure</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Job involvement</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Morale</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2.5 Affective well-being: Three axes of measurement and three levels of specificity, with illustrative types of index. Source: Warr (1987) p. 47.

Warr (1987) argues that the primary measure of job related well-being is job satisfaction. Job satisfaction is discussed in further detail in later in this chapter, when measures of work related health and well-being are discussed.

While the three Axes of well-being proposed by Warr (1987) are useful for measuring an individual’s affective response within a work and non work environment, they do not measure characteristics of the working environment which may influence these responses. Two models which capture aspects of the working environment are discussed in sections 2.4.3 and 2.4.4.

A vast amount of literature has been produced regarding the issue of paid work and well-being (Danna and Griffin, 1999). Given the scope of existing work in this area, a framework developed by Danna and Griffin (1999) will be used to define and conceptualise job related well-being. This framework discusses three aspects of well-being: antecedents, well-being itself and consequences. The framework is not limited
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to well-being as it also encompasses health within the workplace. The following sections will define job related well-being, examine its antecedents and the consequences of poor or good job related health and well-being.

2.4.3 Karasek's (1979) Job Demand-Control (JDC) Model.

The Job Demand-Control model has been a leading work stress model within occupational health psychology literature since the 1980's (de Lange, 2005; Daniels and Guppy, 1994). The JDC model explores the relationship between job characteristics and mental health / psychological well-being. In this sense the model is a stimulus – response model, with job characteristics as viewed as the stimulus and mental health / psychological well-being as the response. Within the JDC model, job characteristics or the work environment can be characterised as a combination of job demands and job control. Job demands are sometimes referred to as psychological demands and can be defined as psychological stressors present in the working environment, for example, work pace (Karasek, 1979). They can also be conceptualised as 'a task's mental workload and the mental alertness or arousal needed to carry out the task' (Beehr et al., 2001).

Job control (often referred to as decision latitude) is the degree of control an individual has over their job tasks and behaviour, for example, decision making (Karasek, 1979).
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The strain hypothesis associated with the DC model states that those working in an environment characterised by high job demands and low job control experience strain related outcomes, including poor psychological and physical well-being. Those whose work requires low demands and high control will experience fewer strain outcomes (Karasek, 1979; Karasek and Theorell, 1990).

The DC model is also associated with the activation or learning hypothesis, whereby people working in active jobs (high job demands and high control) develop high levels of motivation for learning and personal growth. In contrast those working in passive jobs (low demands and low control) will experience relatively low levels of...
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motivation for learning and personal growth (Van Der Doef and Mae, 1999; De Lange, et al.; 2003). The strain and activation hypotheses are summarised in table 2.6.

<table>
<thead>
<tr>
<th>Job demands</th>
<th>Job control</th>
<th>type of job outcomes</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Low</td>
<td>High strain</td>
<td>Strain related outcomes (e.g. poor well-being)</td>
</tr>
<tr>
<td>Low</td>
<td>High</td>
<td>Low strain</td>
<td>Lower than average strain related outcomes</td>
</tr>
<tr>
<td>High</td>
<td>High</td>
<td>Active</td>
<td>High motivation for learning and personal growth</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>Passive</td>
<td>Moderate motivation for learning and personal growth</td>
</tr>
</tbody>
</table>

Table 2.6 summary of the strain and activation hypotheses (Karaek, 1979; Karasek and Theorell, 1990 and De Lange et al.; 2003).

The Job Demands-Control model has been extensively researched in the well-being literature, but has received mixed support. The strain hypothesis is supported in some studies, while many others do not support the hypothesis (Beehr et al., 2001).

Pelfrene (2001) found evidence to support the JDC Model, highlighting links between job satisfaction and control, and feeling distress and demands. In a Dutch study, high time pressure, low control and low social support were associated with low well-being, supporting the strain hypothesis (Van der Doef, et al., 2000). In a comparative study of nurses and accountants, Evans and Steptoe (2002), nurses were found to experience greater job strain than accountants. Nurses reported high demands but low control. This study supports the JDC model, but may be confused by the mediating role of gender. The role of gender is discussed in greater detail later in this chapter.

Nurses in the United States have been found to experience poor job satisfaction and more stress, and this is seen to be the result of high workloads and low control (Fox et al., 1993). Job strain (high demands and low control) has also been linked to physical
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Symptoms of ill health amongst male workers, particularly, hypertension and changes in cardiovascular structure (Schnall et al., 1990). High job strain has also been associated with increased prevalence of depression (Mausner-Dorsch and Eaton, 2000).

Marmot et al (1997) undertook a large scale study investigating the role of job control as defined by the JDC model and other risk factors on coronary heart disease (CHD). CHD increased with a decrease in socioeconomic status. A range of risk factors were attributable to this increase including smoking and height, however, job control had the strongest influence on CHD. As socioeconomic status decreased, job control also decreased and was therefore associated with increased vulnerability to CHD (Marmot et al., 1997). Such a finding suggests that those in higher socio economic groups should experience a greater degree of control at work and should therefore be less prone to CHD. Low control and high demands have been associated with musculoskeletal disorders, particularly, neck, shoulder and back problems (Skov et al., 1996).

There is support for the relationship between job demands and job satisfaction. Beehr et al (2001) tested the Job-Demand Control model and its relationship with job satisfaction, psychological strain (for example, lack of concentration, feeling strained) and turnover intentions. The relationship with psychological strain was not supported, but there were important relationships between job demands, control and outcome variables such as job satisfaction and turnover. Job demands and control were negatively associated with turnover, while demands and control were positively
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related to job satisfaction. In other words, as demands and control increase, job satisfaction increases and turnover intentions decrease.

The literature presented so far has demonstrated that job demands and job control are important influences on work-related health and well-being. High job demands and low control have been associated with job strain, higher stress, low job satisfaction, depression, poor health and increased turnover. It appears to be clear that job demands and control are associated with several measures of well-being, for example, job related well-being, job satisfaction, turnover and physical and mental health. As such, it can be proposed that measures of job demands and control will correlate with measures of health and well-being, such as job satisfaction.

P3: There will be significant relationships between measures of job demands and control and health and well-being

2.4.4 Warr's Vitamin Model

Karasek's Job Demand-Control model argues for a linear relationship between job features and well-being. However, the relationships between job features and well-being do not appear to be linear (Stansfield, 2002). Warr (1987; 1994) proposed a model of the relationship between job features and well-being which accounted for the non linear relationships. Warr's Vitamin model refers to the environmental features, argued by Warr (1987; 1994) to determine job related well-being. Warr (1996) argues that any of these features (or vitamins) can impact the three axes of job related well-being. The tables below are adapted from Warr (1987, 1996) and Newell (2002). Table 2.7 identifies the nine features and provides alternative terms. Each of
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these alternative terms are seen by Warr (1987) to be synonymous with their corresponding 'vitamin'. Table 2.7 provides more detailed descriptions of each 'vitamin', providing examples of how they manifest in the work place.

The Vitamin model contrasts with the JDC model, as the latter assumes that work related health and well-being will improve with increased control within the workplace. However, there seems to be evidence that the features of the environment which are necessary for work-related health and well-being may only be beneficial at certain levels. The Vitamin Model argues that excess levels of certain environmental features may be harmful to health and well-being (Warr, 1987; 1994).
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<table>
<thead>
<tr>
<th>Vitamin Model (Job features)</th>
<th>Alternative Terms</th>
<th>Further explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opportunity for personal control</td>
<td>Autonomy, absence of close supervision</td>
<td>Jobs which do not allow personal control over activities are associated with high levels of stress. Those at higher levels of organisations where they have a greater level of autonomy often score higher in this area.</td>
</tr>
<tr>
<td>Opportunity for skill use</td>
<td>Utilization of valued skills</td>
<td>Allow an individual to use the skills they have and is linked to the ability to achieve personal goals which are linked to good mental health.</td>
</tr>
<tr>
<td>Externally generated goals</td>
<td>Job demands, role responsibility</td>
<td>Mental health is improved where goals are clear and the individual has a role in establishing these goals.</td>
</tr>
<tr>
<td>Variety</td>
<td>Variation in job content and location</td>
<td>Repetitive tasks do not promote good mental health. Variety of task promotes greater stimulation and motivation.</td>
</tr>
<tr>
<td>Environmental clarity</td>
<td>a) Information about the consequences of behaviour. b) Information about the future, absence of job insecurity. c) Information about required behaviour.</td>
<td>The degree to which the job environment provides feedback about an individual's performance.</td>
</tr>
<tr>
<td>Availability of money</td>
<td>Income level</td>
<td>Money in itself does not promote good mental health, rather the absence of it is detrimental to well-being.</td>
</tr>
<tr>
<td>Physical security</td>
<td>Absence of danger, good working conditions</td>
<td>This can be where an individual feels physically safe/unsafe, or perceives psychological insecurity due to impermanence of contract.</td>
</tr>
<tr>
<td>Opportunity for interpersonal contact</td>
<td>a) Quantity of interaction with others. b) Quality of interaction</td>
<td>Provides a support network to help cope with difficult or stressful situations. Allows for group working to achieve goals and can provide guidance on how to behave.</td>
</tr>
<tr>
<td>Valued social position</td>
<td>a) wider evaluations of status in society. b) more localised in company status. c) Personal evaluation of job significance.</td>
<td>This relates to the job's perceived social value, for example medical doctors are afforded high social status due to the value placed by society on their work.</td>
</tr>
</tbody>
</table>

Table 2.7 Warr’s Vitamin Model (Warr, 1987) and further explanations adapted from Newell (2002).

The Vitamin Model differs from the framework presented by Danna and Griffin (1999) as it only discusses the environmental influences on mental health. For example, it does not consider the role of individual disposition on health and well-
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being. However, it does capture facets of the working environment not included within the JDC Model.

2.5 Measuring job related well-being

2.5.1 Introduction

It becomes clear from the literature, that much research defines health and well-being in terms of the measures taken by researchers. The most common measure of work related health and well-being is Job Satisfaction (Warr, 1987), accordingly, this phenomenon is discussed in detail here, with reference to measurement techniques.

2.5.2 Defining job satisfaction

Although a range of definitions of job satisfaction exist a broad consensus on its definition has been reached (Cranny et al., 1992). It can be seen as 'an affective (emotional) reaction to one's job, resulting from the incumbent's comparison of actual outcomes with those that are desired (expected, deserved, and so on). (p.1). This is similar to the classic definition provided by Locke (1969) who stated that job satisfaction is 'the pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating one's job values' (p. 317). From these definitions it becomes apparent that job satisfaction relates to how someone feels about their job and how that job compares with what they wanted it to be. A more simplified definition states that job satisfaction is a person's attitude towards their job (Brief, 1998). Such feelings could be investigated by asking people to say how happy or unhappy they are with their job as a whole (Warr, 1996).
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The above definitions of job satisfaction focus on overall satisfaction, but job satisfaction research also aims to investigate individual’s satisfaction with facets of their job. Facets of job satisfaction which are often explored in the literature are; pay, colleagues, supervisors, working conditions, job security, promotion prospects, the company worked for the nature of the work undertaken (Warr, 1996). Each of these facets are usually positively intercorrelated and correlate with overall job satisfaction (Spector, 1985; Warr, 1997).

It is important to note that all the measures of health and well-being discussed so far (the JDC model, Axes of well-being and job satisfaction) all rely on self reported quantitative data, in the form of questionnaires. Such data allows for large amounts of data to be collected from large groups and have high validity (Johnson and Turner, 2003; Warr, 1987). However, they may not capture aspects of the working environment which are relevant to particular occupations or groups within the workforce. As such, there is increasing interest in qualitative approaches to investigating work related health and well-being (Warr, 1987; Symon and Cassell, 2006). Such tools may not capture aspects of the working environment which are relevant to those working in the construction industry or those working in the architectural profession. In addition, each of these measures were developed using all male samples, suggesting that they may be androcentric.

P4: Generic measures of health and well-being may not capture factors relevant to the health and well-being of male and female architects.
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2.5.3 Levels of Job Satisfaction

Within the UK the Workplace Employment Relations Survey has been conducted between 1980 and 2004. The fifth in the series was conducted in 2004 and preliminary findings have been published (Wright, 2005). Within this survey of approximately 20 000 employees, 57% expressed overall satisfaction with their job (ibid). The largest source of job dissatisfaction was pay (65% dissatisfied) and over one half of employees felt that the relationships between managers and employees were poor (ibid).

2.5.4 Determinants of Job Satisfaction

Early theories of job satisfaction developed in response to attempts to understand worker behaviour in order to ‘best’ manage behaviour and examined workers’ attitudes towards work (Newell, 2002). One such theory was McGregor’s Theory X and Theory Y (1960). McGregor (1960) argued that managers hold to either Theory X whereby workers are assumed to inherently dislike work and will therefore avoid it, or Theory Y which assumes that workers are naturally active and enjoy their work. According to this theory, workers will be at their most effective if managers to allow employers greater challenges and freedoms (McGregor, 1960). If job satisfaction is a measure of individual’s attitudes towards their work, then such a theory is clearly important.

If job satisfaction relates to productive work as suggested by McGregor (1960), then the determinants of job satisfaction need to be identified. Often such research
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examines work characteristics in relation to job satisfaction. According to Danna and Griffin (1999), job satisfaction is a measure of health and well-being in the workplace, and accordingly has the same determinants as overall health and well-being as seen in figure 2.2.

2.6 The impact of well-being.

The impact of well-being is often discussed in terms of the consequences of poor well-being. This is particularly true in work/industrial psychology literature. The impact of poor and positive well-being can be assessed at a number of levels, namely costs to society, the individual and their family and to an organisation, the latter being of prime importance to employers and industrial psychologists. Danna and Griffin’s framework (1999) focuses on the impact of health and well-being to the individual and the organisation.

Within work psychology, the impact of poor well-being is often assessed by relating stress to performance at work. Stress can be seen in terms of a lack of well-being where an individual is in a state of high arousal but low level of pleasure. While there are individual differences in how a person reacts to stressful situations and how this impacts their performance, some generalisations can be made. Not surprisingly high levels of stress are associated with low productivity and poor health (Arnold et al., 1991). Stress can lead to absenteeism (Newell, 2002), which causes financial problems for an organisation. Stress can lead to individuals turning to unhealthy methods of coping for example alcohol and tobacco which negatively affect physical health (Gershon et al., 2002). However, some research has suggested that complete
alcohol abstinence during times of stress is associated with increased sickness absence (Vasse et al., 1998). It could be that an individual's reason for choosing to drink are important, for example, if individual's use alcohol as a coping mechanism, stress is more likely to predict increased alcohol consumption (Laurent, 1997). However, there is some consistency in the research which states that increased reported work stress is related to increased alcohol consumption (Grunberg et al., 1999). Here, consequences can be seen for the individual and the organisation.

Factors linked to poor well-being are also linked to people choosing to leave their profession. There is a considerable body of evidence which suggests that high job satisfaction is associated with lower turnover intentions (for example Buchbinder et al., 2001; Spector, 1997 and Irvine and Evans, 1995). Other research has indicated that job satisfaction has only an indirect relationship on turnover intentions, rather organisational commitment is more closely related to turnover (Lum et al., 1998). As already discussed job demands (workload) are linked to poor health and well-being. There is also evidence that turnover intentions increase when individuals feel that they do not have enough time to do their work (Davidson et al., 1997). Organisations spend considerable amounts of money training their employees, so if people chose to leave the organisation or the profession altogether, then this money is a wasted investment. This is of particular concern if people are leaving a sector due to characteristics which are inherent to that sector.

The interrelationship between job and non-job related well-being means that poor well-being at work can impact how an individual experiences their non working lives, and vice versa. In light of this it is not surprising that levels of stress can be associated
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with poor levels of affective well-being with marital type relationships (Lingard and Sublet, 2002). This effect is known as ‘spill-over’ from job to home and home to work (Warr, 1996). The bi-directional nature of the relationship between work and non job related well-being being means that if work is affecting non work well-being, non work well-being will affect work well-being and there is potential for a vicious cycle of decreasing well-being. This has important implications for performance at work and the wider society. In this sense, poor work life balance is both a stressor and a consequence of poor health and well-being.

2.7 Summary

The first part of this chapter has reviewed the work related health and well-being literature. It has demonstrated the importance of work related stress research to this field and explored the seven occupational stressors identified in the extant stress literature. Theoretical models of the relationship between paid work and health and well-being were also highlighted, particularly, the Axes of well-being, The Job Demand Control Model and the Vitamin Model. The consequences of poor health and well-being were also discussed. The following section of the chapter discusses women’s experiences in the workplace. As already stated, the existing models of work related health and well-being, as well as being occupationally generic, have been based upon the experiences of men. As such they are androcentric, and may not accurately capture gender differences in health and well-being.
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2.8 Women and work

2.8.1 Introduction

The previous sections of this Chapter have detailed generic theories of health and well-being within paid employment. As indicated in Section 2.5.2 many of these theories and their associated measures do not incorporate women's experiences within the labour market. These may be relevant to their health and well-being, accordingly, the following section discusses the position of women within the labour market, leading to a discussion of its impact on women's health and well-being within paid employment.

2.8.2 The changing role of women in the workplace

The role of women in the employment market changed considerably over the duration of the 20th Century. Despite advances and equality legislation the following sections demonstrate that women still do not compete on an equal footing with their male colleagues. This section shall review the statistics related to female participation in the paid labour market, in order to provide a context for later discussions of their health and well-being within paid employment.

There is considerable evidence that girls and women are outperforming boys and men at all levels of education (EOC, 2003). This pattern can be seen in most subjects even those traditionally considered to be male domains. In 2002, while fewer girls
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undertook A Level physics, 72% achieved a passing grade of C or above, in comparison to 64% of males.

In higher education the number of women enrolling on medicine and dentistry has now overtaken the number of male students and overall there are now more female than male undergraduate students in UK universities (EOC. 2006). In contrast to this, women are still grossly under-represented in certain subject areas, namely, Engineering and Technology, where out of approximately 97 thousand students, 14 thousand are female. Similar patterns, although less stark contrasts, can be seen in Agriculture, Physical Sciences, Mathematical Sciences, Computer Sciences, Architecture Building and Planning (HESA, 2005). Considering the high achievement of women in qualifications which enable them to undertake such courses, it has to be asked why they are not continuing their education in these fields.

A women working in the UK is more likely than a man to be employed in a support role often personal service or administrative work. She is more likely than a man to work part-time, less likely than a man to be a manager and on average earn less money in every occupational group. Even in occupational groups where women are more likely to be found, for example, secretarial or administrative work a man has a higher average hourly wage (EOC, 2003). The highest pay gap between men and women exists within managers and administrators (a pay gap of 30%). A man’s weekly earnings are on average 25% higher than that of a woman (EOC, 2003). This difference in average earnings could have serious implications for a women’s ability to save for retirement leading to poverty in older age (Warren et al., 2001). This could lead to many problems in years to come as the population of the UK is ageing.
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(MacKenzie et al., 2000) and if the pay difference continues there could be a large proportion of the population unable to support themselves in retirement. In 2002, 82% of Members of Parliament were male and 76% of the Member of the European Parliament were male (EOC, 2003), indicating that positions of power where important national decisions are made rest with men.

Women are more likely than men to take advantage of flexible working arrangements, although 74% of female workers have no flexible working arrangements (EOC, 2003). Mothers are much more likely to work part time than fathers (EOC, 2003). It can be seen that women are under-represented in many fields, restricting their access to positions of power and authority. While women are reaching and exceeding parity in academic achievement, there are still considerable gaps to be overcome within the employment market, in terms of pay, promotion prospects, opportunities to develop a secure financial future and access to male dominated occupational groups. As detailed in Section 2.3 issues relating to pay, career development and role within the organisation have been identified as sources of stress for employees. As women appear to be at risk of poorer pay, reduced career prospects and restricted access to power and authority, they may be at risk of poorer health and well-being than male colleagues.

2.8.3 The legislative framework.

During the 20th century and early 21st century a number of laws were introduced which were designed to secure the equal treatment of women in the workplace.
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The Equal Pay Act (EPA) was introduced in 1970 to ensure men and women working in the same employment received equal reimbursement in terms of pay and other conditions of their contracts, for example bonuses, holidays and sick leave (Women and Equality Unit, 2004). The EPA applies only between men and women and defines same employment as:

- On like work to that of a man – that is, work of the same or a broadly similar nature to the man’s (Section 1(2)(a) and (4));
- On work rated as equivalent to that of a man – that is, in a job which a job evaluation study of her employer’s workforce has shown to have an equal value to the man’s (Section 1(2)(b) and (5));
- On work equal value to that of a man – that is, in a job which is equal in value to the man’s in terms of the demands made on her under such headings as effort, skill and decision making (although no job evaluation study has been completed) (Section 1(2)(c)).

These conditions apply only to men and women working for the same organisation or parent organisation (Women and Equality Unit, 2004).
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The Sex Discrimination Act (1975)

The Sex Discrimination Act (SDA) the discrimination on the ground of sex in respect of employment, education, the provision of goods, services and in the disposal or management of premises (EOC, 2006). The act also prohibits employment discrimination on the grounds of marriage. Since the introduction of the Civil Partnership Act 2004 such discrimination is also illegal against those in a civil partnership.

The SDA protects individuals against two types of discrimination; direct and indirect. As this research is focussed on paid work, discussion of the legal framework will be restricted to the context of employment.

2.9 Women, work and well-being

2.9.1 Introduction

The well-being literature discussed so far in this chapter has not taken into account the differing experiences of women in the workplace. The following section discusses gender differences in work related health and well-being.

As already detailed women's workplace contribution is increasing and employees are protected through a range of relevant legislation. Much of the existing literature argues that women and men experience many of the same sources of stress (a measure of well-being), but women are vulnerable to additional stressors namely, discrimination, prejudice, being a token woman, lack of role models, gender
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stereotyping, performance pressure, sexual harassment and isolation (Iwasaki et al., 2005). Even when men and women experience the same stressors, women may be more vulnerable to them for example, women are more likely to experience lack of learning opportunities and monotonous work (Hobfoll et al, 1994). In addition women who work in professional and managerial careers are more vulnerable to stressors associated with organizational politics, barriers to achievement, work overload, social-sexual behaviour and work home conflict (Nelson and Burke, 2000).

Iwasaki et al (2005) argue that work related stress may be an androcentric concept as it is often defined and operationalised according to male dominated view of the workplace. Friedan (1997) argued that ‘all our maps in every field were defined by men and women were defined in relation to men’ (p.4). Accordingly women’s experiences in the workplace are often defined and discussed in comparison to men’s experiences which are taken to be the norm. Hence they are androcentric.

Iwasaki et al (2005) identified home life as an important source of stress for professional women because many women face a ‘double day’ in terms of a full time job and responsibilities at home. In contrast male professionals reported work as the greatest source of stress, however, both men and women found that work related stress negatively impacted their experience of family life.

In contrast Rogers and May (2003) reported no significant gender difference in the experience of work life conflict and well-being. Given the wealth of evidence suggesting that women do experience greater difficulty in the work life interface and poorer well-being, Rogers and May (2003) argue that their lack of support for the
Chapter 2 The relationships between paid employment and health and well-being

extant literature may be due to a lack of sensitivity in their research tool. This is an important point, as it illustrates the importance of the research methods utilised, as they may be insensitive to the experiences of women and therefore mask gender differences in health and well-being in the workplace.

2.9.2 *Women and job satisfaction*

The relationship between gender and job satisfaction is complicated as considerable conflicting evidence exists. Given women's discrimination and segregation in the labour market, it is perhaps surprising that there are many studies showing women reporting higher job satisfaction than men (Sousa-Poza and Sousa-Poza, 2000a, Clarke, 1997 and Hodson, 1989) or no significant difference (Fotinatos and Cooper, 2005).

Explanations of this apparent paradox have focussed on three main areas. Clark (1997) argues that women in the workforce have lower expectations of paid work which are more easily met and therefore experience high job satisfaction. While, Hodson (1989) argues that men appear to be more willing to express dissatisfaction and that most women will judge their apparent success against female reference groups and therefore have lower expectations. Given that stress measurement tools are androcentric and defined around male ideas of stress (Iwaski et al., 2005), it may also be possible that standard measures of job satisfaction fail to take into account women's experiences in the work place and therefore may not truly access their job satisfaction.
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Clark (1997) used the British Household Panel Survey to investigate gender differences in job satisfaction. He reported that men and women have different work values and this can be used to explain differing job satisfaction. Male workers place more value on extrinsic aspects of work, for example, promotion prospects, pay and job security. Female workers are more concerned with intrinsic aspects of their job, for example, relationships with their manager, the actual work that they do and their working hours (Clark, 1997).

Sousa-Poza and Sousa-Poza (2000a) explored gender differences in job satisfaction across twenty countries including UK, the USA and European countries. They found that women in the UK reported higher job satisfaction than men because they also perceived their jobs to be more secure, interesting, useful to society and reported better relationships at work. As already discussed job security and relationships at work are important influences on health and well-being and therefore may explain why women experience higher job satisfaction.

However Sousa-Poza and Sousa-Poza (2000a) also stated that women report poorer pay, less independence in the workplace and report feeling more exhausted by work than men. The Job Demands Control model argues that control (similar to independence) in the workplace is an important moderator of the stressors experienced by employees (Karasek, 1979). If women do experience less independence or control then it could be expected that they would experience strain in the workplace and therefore may exhibit symptoms of poor well-being.
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In addition there is evidence that employed women experience greater distress than employed men. Fotinatos and Cooper (2005) reported poorer mental and physical health amongst employed women. It appears from this research that the relationship between work characteristics, gender and health and well-being is complex. It is also important to note that the studies which report women experience higher job satisfaction than men are not occupationally specific and therefore do not consider occupationally specific factors.

Clark (1997) argues that the apparent higher job satisfaction is due to women holding lower expectations of work and will therefore be more satisfied, but this difference should disappear for women who have similar expectations particularly, those who are highly educated, professionals and those working in male dominated workplaces. In these categories there should be no significant gender differences in job satisfaction (Clark, 1997).

This runs contrary to other literature which states that women working in the professions and male dominated groups will have lower job satisfaction, precisely because they do have similar expectations to male colleagues. Zanna et al (1989) reported that professional women who judge their own success according to a male reference group are more likely to be dissatisfied with their career and work because of the gap between what they wanted to achieve and the reality. In addition they are more likely to experience job dissatisfaction, feel more deprived and be more pessimistic about the future. Occupations identified as particularly vulnerable to this phenomenon were medicine, law and architecture where professional women may find themselves surrounded by male colleagues (Zanna et al., 1989).
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Occupationally specific literature suggests that women do experience poorer job satisfaction than male counterparts. Female lawyers experience poorer job satisfaction due to a perception of less influence and poorer promotional opportunity than male lawyers (Chiu, 1998). This study illustrates that female professionals may not only experience poorer job satisfaction, but the determinants of job satisfaction may be different for men and women.

Interestingly, in a study of male and female engineers, it was found that while women reported lower job satisfaction, this was limited to women who adhered to ‘feminine’ gender attitudes (Jagacinski, 1987). Male and female engineers who expressed masculine gender role orientation were more satisfied and showed no significant gender differences (Jagacinski, 1987).

Job satisfaction is one measure of health and well-being in the workplace. There is significant evidence that working women experience poorer overall health and well-being than employed men (Fotinatos and Cooper, 2005; Nelson and Burke, 2000 and Hobfoll et al., 1994). The following section examines other measures of health and well-being in the workplace and the relationship with gender.

2.9.3 Women and Affective well-being

There is a body of evidence which suggests women are more likely to express any emotion, positive or negative (Diener et al., 1999). Usually this refers to women reporting greater distress than men both at work and outside of work (Mirowsky and Ross, 1995, Hendrix et al., 1994). This does not mean that men and women have
Chapter 2 The relationships between paid employment and health and well-being

differing emotional experiences, but that they are reported differently. Kring and Gordon (1998) reported that women express higher levels of sadness and happiness than men, but do not differ in their actual frequency of emotional response. In addition, they reported that women externalise their emotions while men internalise them. Accordingly, while women report more intense emotional responses, men show a greater physiological response to emotions. These differences are attributed to differing socialisation experiences of males and females.

2.9.4 Women and Karasek’s Job Demand Control Model

In Section 2.4.3, Karasek’s (1979) Job Demand Control (JDC) was discussed in detail. Karasek and Theorell (1990) argue that women in the workplace will experience poorer health and well-being due to lower control, but that their experience of job demands will not differ significantly. One of the criticisms of the JDC Model is that it lacks predictive validity for women because it was developed using male samples, and is therefore androcentric in its view of what constitutes the relevant work characteristics (Matthews et al., 1998, Niedhammer, 1998).

Matthews et al (1998) tested the validity of the JDC Model by considering the differing work experiences of men and women. Their findings supported the assertion by Karasek and Theorell (1990) as women reported lower skills discretion (a measure of control). Women who worked part time were more likely to report negative work characteristics than men and women in full time paid employment. Matthews et al (1998) argue that the JDC model does not take into account the extra work undertaken by women in the home. Therefore, it could be said, that generic measures of health
Chapter 2 The relationships between paid employment and health and well-being

and well-being, such as the JDC model are androcentric and do not incorporate factors relevant to women in the workplace.

2.9.5 Women and the work-life interface

There is a significant body of evidence which shows that women who work full time are at increased vulnerability due to conflict within the work life interface. There is a significant body of evidence which states that women, whatever their occupational status, dedicate more of their time to housework than men (Hersch and Stratton, 2002; Bianchi et al., 2000). There is evidence that women's increased work load in terms of household labour has a significant impact on their experience of employment. Hersch and Stratton (2002) discovered that women's increased household responsibilities account for a significant proportion of the gender pay gap. Rosenfield (1989) argued that women who undertake more housework than their partners are at increased risk of mental health problems due to occupying two spheres of work (home and paid employment) of low control.

In addition to increased workload there is evidence that women are more likely to suffer sleep problems and difficulty switching off after work. Previous work has linked women’s difficulties switching off with an increased reporting of health problems and poorer psychological well-being (Weyers et al., 2006). It has been suggested that working conditions are influential in sleep problems. Linton (2004) described the relationship between work conditions and difficulty sleeping.
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Stress at work may be a fundamental source for disturbing thoughts that become intrusive when a person attempts to sleep. Thus, while attempting to ‘relax’ and achieve Stage 1 sleep, thoughts about stressful situations at work may disrupt relaxation... conflicts at work or simply worrying about getting the work done are examples of this’ (Linton, 2004. p. 133)

2.9.6. A model of professional women's work related stress

Nelson and Quick (1985) present a model of professional women’s work related stress (Figure 2.3), which is similar to the framework presented by Danna and Griffin (1998). The model differs as it includes gender specific stressors, conceptualises stress as a mediator of well-being rather than a measure and also includes suggestions for stress prevention. This model is similar to that of Danna and Griffin (1999), but incorporates stress management techniques. Chapter Three will demonstrate that certain of these additional stressors are specifically relevant to women in the architectural profession.
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Figure 2.5 Nelson and Quick's (1985) model of professional women's stress.

2.10 Gaps in the literature

Nelson and Burke (2000) highlight future directions for research within the field of job related well-being, particularly stress. They argue that future research must cover three areas. Firstly, there is a need for more occupationally specific studies where equivalent male and female samples can be obtained. This would enable the experiences of women working in male and female dominated occupations to be explored. Secondly there needs to be a paradigm shift away from a focus on gender differences, to a focus on the similar experiences of men and women, allowing for the mediating role of gender to be investigated. Lastly there needs to be innovation in measurement and the methods used to investigate well-being in the workplace.
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Studies which are based on closed questions (i.e. questionnaires) may be based on stressors only identified by men, for example Karasek's Job Demand Control Model (Matthews et al., 1998). Therefore, further work should focus on specific occupational groups, examine not just where men and women differ but also their similarities and utilise a methodology which moves away from closed end questionnaires.

2.11 Conclusions and summary

This chapter has shown that health and well-being are complex terms which cover a broad range of concepts. Both of these terms can apply to any sphere of an individual's life. The research discussed here has focussed on the relationships between paid work and health and well-being. Often this is referred to as stress. In order to summarise the extant knowledge, Danna and Griffin's (1999) framework of health and well-being was used to structure the discussion. This framework discusses the antecedents, measures and consequences of health and well-being. Work related stress has seven antecedents relating to factors intrinsic to the job, role in the organisation, personality and coping strategy, relationships at work, career development, organisational culture and the home work interface. These are referred to as occupational stressors.

Three influential models of the relationship between paid work and health and well-being were discussed; Warr's (1987) Well-Being Axes, the Job Demand Control (JDC) Model (Karasek, 1979) and the Vitamin Model (Warr, 1987). Warr's Well-Being Axes measure emotional response to work (affect), while the JDC model argues that job demands and control interact to affect health and well-being. The JDC
Chapter 2 The relationships between paid employment and health and well-being

model has received moderate support from the extant literature, and may not be relevant to women in the workforce.

The most common measure of health and well-being in the workplace is job satisfaction, and is a measure of affective well-being. The majority of workers in the UK express job satisfaction, but pay has been demonstrated to be the biggest source of dissatisfaction.

Poor health and well-being has been linked to low productivity, absenteeism, unhealthy behavioural responses such as increased smoking or alcohol use and turnover. In addition poor health and well-being at work has been linked to difficulties in intimate relationships, demonstrating that the consequences of poor health and well-being at work extend beyond the workplace.

Women are attaining higher levels of educational achievement and marking more contributions in the workplace. Women are still not competing at parity with men in the workplace and appear to experience poorer health and well-being. Existing tools to measure health and well-being may be androcentric, as they are often developed using male samples and centre around male definitions of relevant concepts. Occupationally specific literature demonstrates that when men and women have similar expectations of work they experience poorer job satisfaction.

Further work is needed to determine occupationally specific determinants of health and well-being and any differences between men and women.
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Chapter 3 Health and well-being of men and women working in the Construction Industry

3.1 Introduction

Chapter Two reviewed the extant literature on health and well-being in the workplace, discussing influential models and gender differences. Chapter Three places this work in the context of one sector; the construction industry with a particular focus on architects. The chapter begins by discussing health and well-being in the construction industry, particular issues faced by women working in the sector. It then leads to a discussion of architects and health and well-being and the particular experiences of women.

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<td>3.3</td>
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Table 3.1 Structure of Chapter Three.
3.2 The construction industry and health and well-being

3.2.1 Introduction

A growing body of literature suggests that those working in the construction industry are vulnerable to poor health and psychological well-being. A number of themes emerge from the existing literature, namely that those working in the sector experience a variety of stressors which are potentially damaging to the individual.

The construction industry has a number of characteristics which shape the culture of the sector, which in turn affect how employees are treated. The sector is characterised by a project-based culture (Loosemore et al., 2003), fragmentation (DTI, 2004), workforce homogeneity (Langford et al., 1995) and a procurement system which hampers innovation (Blayse and Manley, 2004). Each of these factors results in stressors for construction employees, specifically; long working hours, high workload, job insecurity, poor professional role, temporary teams and poor work life balance.

3.2.2 Long working hours

The traditional competitive tender approach to construction procurement has led to pressures on those working on projects. These pressures include a need to complete the project within a given time and budget. As a consequence, employees face working long hours to meet a high workload and strict budgetary constraints. This situation can be worsened if employees need to travel long distances to reach a site, thus lengthening the working day (Loosemore et al., 2003). Many researchers have argued that time pressures and long working hours are damaging to those working
Long working hours can also affect an individual’s ability to spend sufficient time with their family (Haynes and Love, 2004) and can lead to conflict within relationships outside of work (Lingard and Sublet, 2002). Social support outside of work is an important mediator for job-related stress (Love and Edwards, 2005). If those working within the sector are unable to spend sufficient time with their family and friends then the effects of the long working hours and other stressors may be increased.

3.2.3 Workload

The need to meet the tight time and financial constraints resulting from competitive tendering means that construction employees can face a potentially damaging high workload (Sutherland and Davidson, 1993; Lingard and Sublet, 2002; Lingard, 2003; Haynes and Love, 2004). Like long working hours, workload is associated with relationship conflict (Lingard and Sublet, 2002), poor mental health (Sutherland and Davidson, 1993) and other measures of well-being (Haynes and Love, 2004). Lingard (2003) identified a relationship between high workload and burnout. Burnout can have serious consequences for an organisation, as it has been associated with high staff turnover (Lingard, 2003), a matter which needs to be taken seriously in an industry which is experiencing a skills shortage and possibly a recruitment crisis (Dainty and Edwards, 2003).
3.2.4 Fragmentation and job insecurity

One of the key characteristics of the construction industry is that it is project based, which results in a number of problems, such as fragmentation, temporary teams and job insecurity (Loosemore et al., 2003). The industry’s fragmentation is demonstrated by the high number of small firms and self-employed people carrying out work (DTI, 2004). Haynes and Love (2004) have demonstrated that those working on small projects and presumably working for small companies experience poorer levels of well-being. They argue that this may be due to the extra responsibility placed on one person, as the company’s future may rest on the success of the current project. This situation highlights the issue of job security, which is necessary for well-being (Warr, 1996). If organisations are surviving from one project to the next then those working within such organisations are unlikely to experience job security. In addition, reliance on subcontracting (Langford et al., 1995) further diminishes opportunities for job security as people may only be employed for as long as they are needed on one project. While job security has been alluded to in reference to job-related stress (Ng, et al., 2005) there appears to be a need for further investigation.

3.2.5 Fragmentation and professional worth

Fragmentation is also the result of the increasing number of occupational groups within the sector. For example, project managers have taken over some of the roles traditionally occupied by architects and it has been argued that the architect’s role is being eroded (Emmitt, 1999a). This erosion may lead to a reduction in professional worth, which has been associated with well-being among civil engineers (Lingard, 2003). Social status and professional worth has been demonstrated as an important
Chapter 3 Health and well-being of men and women working in the Construction Industry

influence on health and well-being. Warr's (1987) argument builds on that of Bradburn (1969) who reported that men working in white collar jobs which they believed to offer high social status experienced greater context free (i.e. not job specific) well-being and higher self esteem.

Terkel (1972) undertook qualitative research examining the relationship between social status and happiness, finding that a person's own assessment of their occupation's social status is an important mediator on their happiness. Those who view their occupation as low status, may view the product of that occupation as of low social value. More interestingly, those working to produce products which contravene an individual's moral or political beliefs have lower views of their personal and social worth. A recent survey with a range of construction industry professionals reported public misconceptions as an important cause of stress (CIOB, 2006) suggesting that the issue of social status may be relevant.

Further work is needed to understand how the social status of construction workers affects their well-being. If such work demonstrates that low professional worth is associated with poor well-being then the industry must work to improve the sector's image if it is to have a healthy workforce.
Chapter 3 Health and well-being of men and women working in the Construction Industry

### 3.2.6 Temporary teams

A further consequence of the industry’s project-based nature is the forming of temporary teams, brought together to carry out one project and then separating to work elsewhere (Loosemore et al, 2003). The dynamics of the relationships between team members on construction projects have been shown to affect the well-being of the individual (Sutherland and Davidson, 1993; Sommerville and Langford, 1994; Lingard, 2003; Love and Edwards, 2005). For example, a lack of support from line managers can be a significant stressor (Sutherland and Davidson, 1993). In addition, if construction workers are working on temporary teams then they may not be able to form the relationships which are necessary to help cope with difficult situations. The relationships between team members can also affect the flow of communication (Emmitt, 1999a), which is a mediator of stress and well-being (Sutherland and Davidson, 1993) and may have an impact on the final product.

### 3.2.7 Work/life balance

Working on a project-by-project basis may make it difficult for employees to take time off. This difficulty can affect their well-being (Lingard, 2003) and thereby exacerbate the work/life balance issues created by a culture of long working hours. A recurrent theme in the literature is the relationship between poor work life balance and well-being within construction (Sutherland and Davidson, 1993; Lingard, 2003, Ng et al., 2005 and Haynes and Love, 2004). Like job satisfaction, poor work life balance can be seen as both a stressor and the result of other stressors, such as long hours and heavy workload.
3.3 Architects and health and well-being

3.3.1 Introduction

The previous section detailed health and well-being within the construction industry. The following section explores these issues within the context of one occupational group; architects. It details the role of an architect and measures of health and well-being within the profession.

3.3.2 The role of an architect

Many professional groups are involved in the construction process, for example, civil engineers, surveyors and architects (Poon et al., 2000). Traditionally the architect held responsibility for two areas; the design of the building and the administration of the project, this was achieved through co-ordination of consultants and the administration of the building contract (Poon et al., 2000). However, there is evidence that architects are losing their leadership role within a project, and now act as a design manager (RIBA, 1992). This loss of leadership, may mean that architects have lost their position of influence over the rest of the construction process (RIBA, 1992). Smith and Morris (1992) argue that of the 44 services listed in the Standard Form of Agreement (SFA/92) for the Appointment of an Architect, 39 are undertaken by competing profession. It has been argued that, as a result of these changes, architects are moving towards a purely design role (RIBA, 1992).
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Unlike other professional groups, the architecture occupies a unique position in that it relies on one market; the construction industry making it particularly vulnerable to changes in the economy (Emmitt, 1999a). It may be that those running practices feel they have to take on all work offered to them in order to survive. If this is the case then those working in practices may face high workloads. As described in Chapter Two heavy workloads are linked to poor health and well-being, therefore architects may be vulnerable to poor health and well-being.

Unlike other professional groups within the construction industry who are able to charge a fee in exchange for their knowledge and skill, architects also claim to be a professional group who contribute to the artistic culture of society (Symes et al., 1995). In addition, the architect is often the main point of contact for clients (Salisbury, 1998).

An architect has a number of preliminary duties, including the identification of potential problems with a project and a site. They undertake the initial design, may recommend the rest of the project team, for example, quantity surveyors. In addition all communications regarding the project go through the architect and in short the architect ‘manages and co-ordinates the project’ (p. 31). It is interesting to note that Salisbury (1998) consistently refers to the architect and the client as male throughout his book, highlighting gender biased assumptions.

Table 3.2 provides a detailed description of the responsibilities of an architect according to Salisbury (1998). From this table it is clear that the architect has a wide range of responsibilities. However, with the introduction of new types of building
Chapter 3 Health and well-being of men and women working in the Construction Industry

counts the role of the architect may be changing and being eroded. Emmitt (1999a) argues that the introduction of new contracts (for example, Design and Build) and the rise of groups such as project managers are undermining the position of the architect.

The increasing commercialisation of clients in all sectors and their use of different procurement routes such as design and build, has shifted the designer's contractual position of project leader to one of consultant, with a resultant decline in influence over the development process. pp. 33-34

The design and build contract enables a contractor to offer design services, thereby circumventing the architect (Symes et al., 1995). This may benefit the health and well-being of other occupational groups in construction, as it may help to reduce some of the job insecurity which is characteristic of a contract by contract approach (Symes et al., 1995). However, such contracts erode the traditional professional role of the architect. As detailed, a sense of professional worth is linked to health and well-being (see section 3.2.5). Therefore, the decline of traditional contracts, and the associated erosion of the architects' role might lead to a reduced sense of professional worth which may impact health and well-being.
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<table>
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<th>The architect's specific responsibilities</th>
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<tbody>
<tr>
<td>• Give client initial advice</td>
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<td>• Provide reliable plans for the proposed site</td>
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<td>• Advise the client about the other consultants needed</td>
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<tr>
<td>• Revise and accept the commission</td>
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<tr>
<td>• Clarify their position as the client's agent</td>
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<tr>
<td>• Act for the client's interests</td>
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<td>• Ensure that the client is commissioning the appropriate consultants</td>
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<tr>
<td>• Receive the project brief</td>
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<td>• Record all alterations / additions to the brief</td>
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<tr>
<td>• Provide outline designs to be approved by the client</td>
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<tr>
<td>• Provide scheme design drawings</td>
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<tr>
<td>• Obtain the client's permission to proceed with the working drawings</td>
</tr>
<tr>
<td>• Know the laws applicable to the services given</td>
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<tr>
<td>• Exercise a duty of care to the client and society in general</td>
</tr>
<tr>
<td>• Exercise a high degree of skill</td>
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<tr>
<td>• Moral responsibility for the architecture produced and its effect on the environment</td>
</tr>
<tr>
<td>• Be qualified and registered to practice as an architect</td>
</tr>
<tr>
<td>• Interpret and administer the building contract impartially</td>
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<tr>
<td>• Act in a competent manner</td>
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<tr>
<td>• May take the role of a project manager</td>
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</tbody>
</table>

Table 3.2 The specific responsibilities of an architect (Salisbury, 1998).
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3.3.3 Architects and measures of health and well-being

The literature examining the health and well-being of those working in the architectural practice is sparse. The majority of research exploring the architectural profession has focussed on its history, major influences and the relationship between the built environment and the behaviour of users (Blau, 1984). The following section will detail the extant literature in this area, highlighting gaps in current knowledge.

Symes et al (1995) undertook a large scale survey of principals of the architectural practices in the UK during the early 1990s. While the survey did not directly examine health and well-being, it covered a range of areas which are of importance to the topic. It was identified that the long working hours prevalent in practice had been adopted during university education, where working through the night was common place. The survey also asked respondents to discuss their personal satisfaction with their chosen career. Nearly 70% reported that, despite a range of concerns, they would not leave the profession even if offered greater financial reward elsewhere and would choose the profession again if they had to (Symes et al., 1995). It is important to note that this study focussed on principals in practice who have achieved a degree of success and as such the findings may not apply to those at more junior levels. In addition, while nearly 70% expressed career satisfaction, approximately 30% (nearly one third) did not indicating that a sizeable proportion of the sample were dissatisfied. The authors also note that the survey was conducted in 1991 before the full impact of the 1990 recession could be felt. They note that changes had occurred within the practices they studied between 1991 and 1995 and this should be borne in mind when considering their findings (Symes et al., 1995).
Another important examination of the experiences of architects was published over 20 years ago. Blau (1984) conducted a large scale survey and interview study of the experiences of 400 'rank and file' architects working in New York. Blau (1984) focussed on architectural practices and the influence of their social context, arguing that although architecture can be viewed as a profession, it suffers due to its inability to monopolise its knowledge base. The rise of professions and occupations which have successfully vied for the same market as architects, such as engineers and interior designers, have eroded the social status of architects (Blau, 1994; Emmitt 1999a).

Blau (1984) discovered that for the vast majority of architects (98%), creativity, was the skill which made architecture different to other professions. Importantly the majority (80%) of her sample felt that they lacked opportunities to use their creative skills. Given that architects appear to value their profession's relationship to creativity and do not feel they are able to be creative, there may be a significant conflict here between individuals' expectations of the profession and the reality.

_The paradox is that with its exclusive emphasis on individual expression and in the absence of many opportunities to be designers, most architects are anonymous craftworkers; yet they lack the dignity accorded some craftworkers_ (Blau, 1984)

Emmitt (1999a) suggests that this conflict is present within the UK due to the gulf between an architect's university education and what is expected of them when they leave practice. Symes et al (1995) reported similar findings within UK architectural
practices, where design was reported as the most important feature of the architectural profession. More recent work has indicated that creativity is considered the core of the architectural profession and architects' feel that they lack opportunities for creativity (Cohen et al., 2005). This is particularly interesting given the assertion that the architect's role is shifting towards one which is design orientated (RIBA, 1992). If architects are entering the profession out of desires to be creative, then this shift in role may be beneficial to them. The existence and possible consequences of this conflict within the UK architectural profession needs further investigation.

Previous literature suggests that architectural students have inaccurate perceptions of the role of an architect and this can lead them to doubt their career choice. Nelson (1974) reported that architectural students who did not personally know architects and had no work experience within architectural practices were more likely to experience doubt over their career choice. In addition, Nelson (1974) reported that a desire to be creative and undertake design influenced the vast majority of architectural students in their decision to choose the profession. While this research was carried out over 30 years ago in the United States, the data presented here suggests that in regards to career choice, misperceptions of the profession are still prevalent and may be associated with attrition of people from the profession. As Nelson (1974) states; 'A better understanding of what architecture is about ... would perhaps save students time, money and mental anguish' (p. 83). If as respondents in the current study argued, even once in education, students are still not exposed to the realities of the profession, those entering the workplace may experience similar mental anguish to that described by Nelson (1974).
More recently Cuff (1991) argued that the architect is perceived by the public and architectural students as an autonomous individual engaged in the artistic design of buildings. Cuff argues that this view, while not wholly inaccurate, is naive as it portrays the architect as the sole actor in the design process. Cuff also argues that these misperceptions are what attract individuals to the profession.

While architects' reasons for choosing the profession may affect their health and well-being, it has also been suggested that the education process itself may influence health and well-being during and after education. RIBA (2005) has argued that architectural degree content often does not reflect the realities of working in the profession. Therefore, it is possible that entrants to the profession do not find their misconceptions corrected at university. Earlier work by Symes et al (1995) reported that principals of architectural practices in the UK felt that while their education had provided adequate design education, but often did not provide the necessary management training. This would suggest that architectural education has not changed in order to match the needs of practice.

While at university, architectural students' design work is publicly examined and judged, sometimes called 'critiques' or 'crits'; (Lewis, 1998). There is some controversy regarding the usefulness and consequences of critiques. Anthony (1987) argued that critiques are not an effective teaching tool and are damaging to the health of architectural students, as they can lead to anxiety and burnout. However, CABE (2004) suggests that the 'critique' process is beneficial to students as it helps them to develop public speaking skills. In addition, there is evidence that architectural education in the UK fosters a culture of 'all nighter's' where students work through
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the night to complete projects and that this is perpetuated in architectural practices (Symes et al., 1995). Given the relationship between long working hours and health and well-being, architects may be at increased risk if they continue this when they enter professional practice. There is a need to further explore the impact of practices with architectural education and their long term impact of the health and well-being of architects once they are in employment.

The data presented so far suggests that those entering the architectural profession do so from a desire to use their creative skills, and it is these creative skills which differentiate the profession from others. There is evidence that once within practice, architects in the USA experience dissatisfaction due to a lack of opportunity to use their creative skills (Blau, 1984). This may be exacerbated by the education process which encourages a belief that creativity is central to the work of an architect (Lewis, 1998). The evidence presented here suggests that those within the UK and USA enter the architectural profession due to inaccurate ideas about the work of an architect. Accordingly it could be expected that those entering the UK architectural profession have inaccurate perceptions of the profession and will experience a conflict between these expectations and reality, specifically focussed on lack of creative opportunity.

Research propositions:

P5: Architects will experience frustration at the lack of scope for creativity in their work.
P6: Architects enter the profession with unrealistic expectations of the profession and there may be conflict between their expectations of the profession and the reality.
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Within Blau's (1984) sample, the greatest sources of job satisfaction for architects were responsibility for diverse tasks and having power within their practices. Conversely failure to exercise a voice in professional decisions and restriction to narrowly specialised responsibilities were the greatest sources of dissatisfaction. This suggests that the tasks which an architect is responsible for and the degree of authority which they exercise are related to one measure of their well-being; job satisfaction. This is similar to the Job Demand Control model which states that there is an important link between control and measures of health and well-being (Karasek, 1979).

Cox and Hamilton (1998) produced guidance on workplace stress issues in their 1998 publication 'Architect's Handbook of Practice Management'. Cox and Hamilton (1998) identified a number of causes of stress for architects, specifically; high workload, tasks beyond the ability of the individual, poor job specification, tight project deadlines, dictatorial, distrusting and unsupportive practice partners, internal team conflict, poor practice management and dissatisfaction regarding career prospects. They emphasise the potential link between individual stress and practice performance, in terms of absence, errors and non-resolution of problems. It is important to note that the handbook also highlights that some architects may enjoy a degree of stress;
Although most architects enjoy being stretched and having to cope with the problems and challenges that arise in professional practice, some may suffer stress as they strive to match their own and the practice's expectations and to achieve the goals set them.

Cox and Hamilton (1998) p. 162

It is interesting to note that Cox and Hamilton (1998) place the 'blame' for stress on the practice and the individual and does not acknowledge any role for the RIBA in causing or managing stress.

The Cox and Hamilton (1998) report highlights the role of practice management in occupational stress. It had been argued that architects, while possessing the problem solving skills necessary for effective practice management, are known for their lack of management ability (Emmitt, 1999b). Cuff (1991) argues that problems with practice management exist because a conflict between the practice of architecture and the profession of architecture.

The social status of architects may also be an influence on their health and well-being. Over 20 years ago Blau (1984) explored the comparatively poor social status of architects. She argued that architecture, while qualifying for the status of a profession, has not been able to agree upon and protect its core domain of expertise, arguably a necessary characteristic of a profession. This may be because other professions and occupations have been successful in 'vying for the same market [and have] undercut the ability of architecture of attaining a monopoly, and hence has reduced the likelihood of achieving the social status and income comparable to those of other professions.' (Blau, 1984. p8). In contrast to Blau (1984), Lewis (1998) argues that
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architects have a high social status in the United States and this is a primary driver for those entering the profession.

Although theoretical models of health and well-being have not been explicitly explored within an architectural context, there is evidence that architects may experience high levels of job demands and control as conceptualised by the Job Demand Control Model. Kristensen et al., (2004) undertook a large cross-sectional study with those working within a range of Danish occupations. Their work revealed that architects may experience a high workload (job demands), but also have decision latitude (control). However, Kristensen et al (2004) included architects within a larger sample of white collar workers, and did not isolate the specific issues affecting architects.

The literature discussed so far has identified a number of stressors experienced by those working in the construction industry professions, namely, long working hours, workload, job insecurity, erosion of professional worth, temporary teams and poor work life balance (Emmitt, 1999a; Blau, 1984; Haynes and Love, 2004; Ng, et al., 2005). These stressors are closely linked to the structure and the culture of the sector, for example, competitive tendering and a project-based culture may result in the need to work long hours to meet tight deadlines and limited resources. There is evidence that these stressors can result in stress, poor relationship satisfaction, burnout and poor mental health. Architects are part of the construction team, and can therefore be expected to experience many of the same stressors, since they work in a similar project environment. However, there is evidence that they may experience additional stressors, in the form of the erosion of social status, misperceptions of the reality of
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the profession and frustration over the lack of creative opportunity (Emmitt, 1999a; Blau, 1984; RIBA, 1998). Therefore the following research propositions can be posited.

- **P7**: Those working in the construction industry are exposed to a range of stressors, particularly, long working hours, time pressures, work life conflict, staff shortages and high workload. It is anticipated that architects will experience similar stressors.

- **P8**: Architects will experience high levels of job demands and control.

While there is evidence that those working in construction and the architectural profession are exposed to a number of stressors which may harm their health and well-being, much of the current literature has not examined any gender differences. However, Section 3.4 details that there is significant evidence that women working in the construction industry and the architectural profession face a range of additional problems which may impact upon their health and well-being.

### 3.4 Women in the construction industry

#### 3.4.1 Introduction

The issues discussed so far affect all of those working within the construction industry and architectural profession, regardless of gender. The following section explores the experiences of women working in the construction industry, highlighting their potential for poorer health and well-being.
The lack of women in traditionally male areas of higher education is reflected in the construction industry. The construction industry is one the most male dominated of all the sectors within the UK, second only to mining (DFEE, 2000). Women comprise around 9% (figures from 2002) of the construction workforce (CITB, 2003), representing a small rise from 8.8% in 1999 (CITB, 2003). In 2002 1% of the trades and crafts employees were female (representing 14,557 women workers), making the construction trades the most male-dominated area of the sector. Within modern apprenticeships, women are under-represented in a number of areas, for example, engineering and the motor industry. The greatest under-representation is apparent in the construction trades, where only 1% of apprentice starts in 2001/2 were female (EOC, 2003). It can be seen the under-representation of women in the modern apprenticeship schemes is reflected within the workforce. Women are better represented within white collar occupations representing 11.6% of professionals and managers (CITB, 2003).

3.4.3 The causes of the under-representation of women in the UK Construction Industry.

There are many reasons why women are under-represented within the construction industry, for example its poor image and the prejudice held by recruiters. The poor image of the construction industry is perceived as deterring both men and women from entering the industry (Gale, 1994 and Fielden et al., 2001). The poor image of the sector is characterised by a number of factors. These factors include; its macho
male dominated culture, it is seen to involve dirty work, and long hours (Fielden et al., 2001). There is little awareness of the career opportunities which exist within construction amongst careers advisors and teachers, which is passed onto the children with whom they interact (Fielden et al., 2001).

While potential recruits have preconceptions which deter them from entering the sector, the under-representation of women can also be explained by the attitudes of those working in the sector who are responsible for recruitment. There is a perception amongst employers that women lack career commitment due to career breaks which have been taken or may be taken to have children (Dainty et al., 2000). This is symptomatic of preconceived gender roles which exist within Western society. Those with recruitment responsibilities in construction prefer to recruit people who fit into the model of the 'ideal' construction worker (Dainty et al., 2000b). This model is a person who is willing to display high levels of organisational commitment and is willing to work long hours and work hard (Bagilhole et al., 2000). There is a perception that women are not able to fit into this model and for those with care responsibilities it simply may not be possible (Bagilhole et al., 2000).

3.4.4 Women, health and well-being in the construction industry

This section summarises previous research which has explored the experiences of women working in the construction industry, which may relate to their health and well-being. Research explicitly exploring the health and well-being of women in the construction industry is sparse. However, there is a significant body of evidence which explores the experiences of women working in the sector. Many of these
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experiences could be classified as stressors or measures of well-being and are therefore discussed here.

Although women are better represented within construction professions than in the trades and crafts, significant problems exist for the female construction professionals, for example, barriers to entering the sector (Fielden et al., 2000, 2001) career progression (Dainty et al., 1999 and 2000b), unequal pay (Greed, 2000) and problems associated with tokenism (Whittock, 2002).

Goldenhaar et al (1998) reported that female construction workers are at increased risk of stress induced headaches and insomnia due to sexual harassment and discrimination. Social support from male colleagues was linked with increased job satisfaction, while psychological symptoms of distress were associated with skill underutilization and gender based discrimination.

Women working in the construction industry tend to be concentrated in administrative roles. Those who are working as construction professionals often work in office-based support roles (Dainty et al., 2000, Greed, 2000), rather than occupying site-based positions which aid promotion prospects (Bagilhole et al., 2000). There is an argument that women are pushed into these office based roles by managers who hold stereotyped beliefs about women (Dainty et al., 2000). Working on site requires large amounts of travel and long hours which may mean that women with children prefer to take on office-based roles which potentially allow for greater work-life balance. Promotion within construction is not only hampered by the roles women are pushed to take. Much recruitment takes place through word of mouth, which is greatly aided by
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Social networking. This ‘old-boys network’ excludes women (Pepper, 2005). A woman working in construction also faces a stereotyped belief that she will need to take time off to have children, although once she has passed a child-bearing age her promotion prospects equal that of her male counterparts (Dainty et al., 2000). This stereotyped belief also acts as a barrier to women entering the industry as employers often assume women lack career commitment due to a perceived need to take career breaks for children (Dainty et al., 1999).

Recent work by Loosemore and Waters (2004) has suggested that male construction professionals may experience greater stress than women. Using a standardised questionnaire (the Occupational Stress Indicator), this research identified similar sources of stress for men and women, which relates to the structure and culture of the sector, for example, high pressure environment due to tight deadlines. However, males reported higher stress relating to job security, risk taking and career progression. The authors argue that although men occupy the senior roles within the sector, women feel more secure in their more junior positions. This research highlights then there may be similar sources of stress for men and women and there may also be gender differences in levels of stress. However, by utilising a standardised questionnaire, it may not capture additional sources of stress for women, such as discrimination.

The work of Dainty et al (1999; 2000) has also highlighted that those entering the construction industry may receive inaccurate information about the realities of the profession. They may be mis-sold the career opportunities available to women, or not accurately informed of the discrimination experienced by women in the construction
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industry. This may impact the health and well-being of women entering the architectural profession.

3.5 Women in architecture

3.4.1 Introduction

The previous section discussed the significant body of work which has explored the experiences of women working in the construction industry. The following section focuses on the experiences of women working in the architectural profession. It reviews research from the United Kingdom and overseas. It should be noted that this research is limited in quantity and scope.

3.5.2 Statistics

In the past ten years there has been a significant increase in the number of women engaged in architectural higher education (RIBA, 2002). Statistics produced by the Higher Education Statistics Agency (HESA) demonstrate a steady increase in the number of students enrolled on architectural degree programmes, and the percentage of women engaged on such courses (see Table 3.3).

<table>
<thead>
<tr>
<th>Year</th>
<th>Male students</th>
<th>Female students</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004/5</td>
<td>8765</td>
<td>4400 (33%)</td>
<td>13165</td>
</tr>
<tr>
<td>2003/4</td>
<td>8565</td>
<td>3990 (32%)</td>
<td>12650</td>
</tr>
<tr>
<td>2002/3</td>
<td>8390</td>
<td>3755 (31%)</td>
<td>12130</td>
</tr>
<tr>
<td>2001/2</td>
<td>7610</td>
<td>3195 (30%)</td>
<td>10805</td>
</tr>
<tr>
<td>1999/2000</td>
<td>7090</td>
<td>2630 (27%)</td>
<td>9720</td>
</tr>
</tbody>
</table>

Table 3.3 Numbers of male and female students enrolled on architectural degrees (HESA, 2006; HESA 2005; HESA 2004; HESA 2003; HESA 2002; HESA, 2001), percentage of female students indicated in brackets.
Chapter 3 Health and well-being of men and women working in the Construction Industry

Although Table 3.3 shows an increase in the number and proportion of women engaged in architectural higher education, the percentage of women engaged in professional practice has remained at approximately 14% (RIBA, 2002) and has not shown a comparable increase (de Graft Johnson et al., 2005). It has been theorised that women must therefore be leaving the profession after qualification. What is not clear from the figure of 14% provided by the RIBA (2002) is whether this refers to the total number of women working in professional practice, or to those who have registered with either the RIBA or the ARB. There may be more women working in practice who have chosen not to register with either of the professional bodies.

3.5.3 Women's experiences in architecture

There is a body of research exploring women's roles in architecture (see for example, Attfield and Kirkham, 1989; Berkley and McQuaid; 1989; Hughes, 1996 and Coleman et al., 1996). Much of this research has focussed on women's history within the profession viewing them as martyrs or victims (Adams and Tancred, 2000) or philosophical approaches to design. The following section discusses work which focuses on women's experiences of working in the profession.

Kingsley and Glynn (1992) explored women's experiences within the American architectural profession and men's perceptions of gender discrimination. They reported that women architects experience discrimination on site and within practices, although the exact nature of this discrimination could be difficult to define. There was an acknowledgement that women architects earn less than their male counterparts, because the work of women is not as highly valued as that of men. Women's
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networks were seen by some as discriminatory against men, although others viewed them as essential for women's equality (Kingsley and Glynn, 1992). The profession was seen as unwilling to accommodate work life balance. Interestingly the authors discovered that few women left their jobs or the profession to satisfy family demands, rather they left to satisfy career demands, despite a perception amongst men that women left to have families. Not all issues were gender-specific. One factor which affected both male and female architects was that of age. The profession's strengths were seen to result from wisdom and experience, and as a consequence young architects may find themselves disadvantaged (Kingsley and Glynn, 1992).

Anthony (2001) conducted a large scale study to investigate the experiences of women and other under-represented groups working within the American architectural profession. Her work highlighted twelve important conclusions about women's experiences:

1) Certain rites of passage in the architectural profession can act as barriers to under-represented groups. During internships women found themselves in stifling experiences, for example, detailing toilet partitions. First jobs often involved considerable amounts of administration work. It was also during their first jobs many women experienced or saw gender discrimination for the first time. This suggests that early experiences in the profession may be particularly difficult for women.

2) Architectural practices are strongly affected by economic conditions which may make it more difficult to find a new job. This results in architects
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becoming trapped into poor working conditions which may be particularly difficult for under-represented groups.

3) Women architects are pigeon-holed into certain tasks, for example, working on interiors. This limits job opportunities and promotion prospects.

4) Women architects can find themselves training younger male architects who then over take them within the practice hierarchy. Anthony refers to this as ‘leap-frogging’.

5) Many architectural practices are small which would make confidential complaints about sexism or racism impossible.

6) The architectural profession is not family friendly and women can be faced with sacrificing family plans for their career. Part time working is perceived to damage career prospects.

7) University education does not prepare women or ethnic minorities for the realities of working within the profession.

8) Sexism is rampant within the profession.

9) Men and women architects do not have equal salaries and women experience poorer career satisfaction.

10) Under-represented groups face more challenges than white males if they are to break through the glass ceiling.

11) Those who escape private practice appear to be happier in their work, for example working in higher education.

12) For those who have succeeded in their architectural career attribute a supportive working environment to their success.
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Within the UK female architects report discrimination and marginalisation beginning during higher education where masculine ideals are perpetuated through competitions (Fowler and Wilson, 2004). Once in practice female architects find that having a child can have a dramatic impact on their career; part time work is not accepted (ibid). Caven (1999, 2005) reported that female architects may establish their own practices in order to survive the architectural profession and determine their own working practices. De Graft Johnson et al, (2005) and RIBA (2003) reported that women choose to leave the profession due to low pay, long working hours, family unfriendly working hours, sidelining, glass ceiling, stressful working conditions, paternalistic culture, sexism, job insecurity and limited areas of work. Some of these factors may also affect men working in the profession, for example, low pay and long working hours.

While the work of Caven (2005) and De Graft Johnson et al. (2005) provide useful insights into the experiences of women working in the architectural profession, they are not able to draw direct comparisons with the experiences of men. Both pieces of research used all-female samples. It is difficult to determine if the factors they discuss are specific to female architects, or would apply to men working within the profession. In addition, the work of De Graft Johnson et al (2005) focuses on those who have already left the profession. Since their sample had already made a decision to leave architecture, they are examining their experiences retrospectively, and as such they may be distorted. Similar concerns can be raised about the sample in Caven’s (2005) work. Although the women in her sample were still working as architects, they had chosen to leave architectural practice and become self-employed, as such they are viewing their employment experiences retrospectively. Individuals
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who are asked to discuss events in retrospect may not be accurate in their description of events, and may have a biased perspective. This is called 'recall bias' and is a significant area of concern in studies which rely on retrospective data (Blane, 1996). This does not mean that data collected via these methods does not reflect reality, but that there is a need to compare such phenomena with data from those currently working within the profession.

The research discussed so far indicates that women working within the construction industry are exposed to a range of stressors which are additional to those experienced by men. Those stressors include sexual harassment and discrimination, task restriction and skill under-utilisation, stereotyped beliefs and exclusion from social networks. Female architects would appear to experience similar stressors, for example, discrimination, poor work life balance and reluctance of practices to accommodate those with care responsibilities, task restriction, the glass ceiling and a paternalistic culture. These stressors can act as antecedents to work-related health and well-being, therefore, given that female architects potentially face the stressors experienced by male architects, and additional stressors, they could experience even worse impact upon the health and well-being. There is evidence that stressors are associated with increased turnover for all employees (as discussed in Chapter Two). There is additional evidence that the presence of these stressors result in female architects choosing to leave employment and become self-employed, and leaving the profession altogether. Accordingly it can be expected that female architects will report higher turnover intentions.
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Research propositions:
P9: Female architects will experience poorer health and well-being than male architects.
P10: Female architects will report higher turnover intentions than male architects

3.6 Research Propositions

A number of research propositions can be drawn from the literature discussed in this chapter and are presented here.

P4: Generic measures of health and well-being may not capture factors relevant to male and female architects.

P5: Architects will experience frustration at the lack of scope for creativity in their work.

P6: Architects may enter the profession with unrealistic expectations of the profession and there may be a conflict between these expectations and the reality

P7: Those working in the construction industry are exposed to a range of stressors, particularly, long working hours, time pressures, work life conflict, staff shortages and high workload. It is anticipated that architects will also experience these stressors.

P8: Architects will experience high levels of job demand and control.
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P9: Female architects will experience poorer health and well-being than male architects.

P10: Female architects will report higher turnover intentions than male architects.

3.7 Gaps in the research

While the issue of health and well-being in the construction industry is an emerging topic in the literature, there are a number of gaps in the extant knowledge. The following section details these gaps.

There is considerable evidence that those working in the construction industry are exposed to a number of occupational stressors. Those working in architecture maybe also vulnerable to these stressors, but there has been little research investigating this. Further work is needed to establish if those working in the UK architectural profession experience issues identified within American research, for example, frustration at their lack of creativity opportunity and if the eroding status of architects impacts upon health and well-being.

Much of the work investigating the experiences of female architects have relied on female only samples, therefore further work needs to directly compare the experiences of male and female architects to identify similarities and differences.

3.8 The research problem

Chapters Two and Three have reviewed the generic health and well-being literature, the construction literature and the architecture specific literature. They have examined
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the factors relevant to all of those working within the paid work force, and highlighted that women are at risk of poorer health and well-being due to experiencing more stressors than male employees.

Chapter Two discussed three theoretical models of work related health and well-being; Warr’s Axes of Well-Being, the Job Demand Control Model and Warr’s Vitamin Model. These three models have been influential in the study of work related health and well-being, and they illustrate two important factors. Firstly, these tools are generic, as they do not consider occupationally-specific factors. For example, they implicitly assume employed status rather than self-employment. In a sector such as construction, where the majority of workers are self-employed, important aspects of the working environment may not be captured. Health and well-being is an emerging topic in the construction management literature, but there is a paucity of literature relating to architects. It has been argued that architects occupy a unique role in the construction industry (see section 3.3.2) and may be more vulnerable to poor health and well-being. There is a need to determine the levels of health and well-being experienced by those working in the architectural profession, in order to identify if those working in the profession are at increased vulnerability.

Using generic measurements of health and well-being enables comparisons with the extant literature, for example the WERS 2004 study. However, as already stated, these tools may not capture aspects of the working environment which are relevant to architects, therefore there is a need to identify these factors. Chapter Four discusses the methodological approaches utilised to satisfy this.
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Secondly, much of the health and well-being literature has focussed on the experiences of men, which have been taken as the norm (i.e. they are androcentric). This is perhaps not surprising given that interest in work-related health and well-being began prior to the increase in women's workforce participation, for example, Locke's classic job satisfaction text was published in 1969 prior to the 1970 Equal Pay Act and the 1975 Sex Discrimination Act. As detailed in Chapter Two, this has resulted in generic measurement tools lacking predictive validity for women, for example, the Job Demand Control model. Within the architecture specific literature, the experiences of female architects have been explored through female only samples (see section 3.5.3), making a direct comparison between the experiences of male and female architects impossible. There is a need to determine which stressors identified in the extant literature affect architects, irrespective of gender, or whether they are gender-specific.

3.9 Conclusions and summary

Those working within the construction industry are exposed to a number of potentially harmful occupational stressors, namely long working hours, high workload, job insecurity and reduced professional worth resulting from the fragmentation of the industry, lack of social support due to the formation of temporary teams and poor work life balance. Architects may experience these stressors as they are part of the construction industry, however, they may experience additional stressors due to their unique position in the sector. Architecture has one client; the construction industry, making it particularly vulnerable to changes in the economy. This may lead to resourcing issues within practices possibly resulting in increased
workload. The introduction of new types of contract and new occupational groups may be eroding the status of architects. In addition, architects have expressed a lack of opportunity to use the creative skills which may have been a key reason for them choosing the profession in the first place.

Women experience a number of problems in the construction industry, which may act as additional occupational stressors. The extant literature has demonstrated that the architectural profession may be ill equipped to accommodate those with family responsibilities. In addition, women may find that they experience task restriction, poorer pay and career satisfaction. Some women have chosen to establish their own practices in order to cope with the discrimination they feel that have experienced.
Chapter Four Methodology and research design.

4.1 Introduction

Chapters Two and Three provided the context for the current research, by discussing the extant literature in the area of health and well-being in the workplace, and within the construction industry and the architectural profession. Chapter Four provides details of the research methodology and design employed in the current research. The chapter begins by reiterating the aims and objectives of the thesis. In light of these, the chapter leads to a discussion of the philosophical debates which surround research and provides a philosophical stance for the current research. Methods of data collection are described and related to the propositions raised in Chapters Two and Three. In addition, ethical issues associated with conducting research with human participants are discussed.

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<thead>
<tr>
<th>Section Number</th>
<th>Section</th>
<th>Sub section</th>
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<tr>
<td>4.2</td>
<td>Aims and Objectives</td>
<td>Philosophical considerations, epistemology and ontology, mixed methods research</td>
</tr>
<tr>
<td>4.3</td>
<td>Research Approach</td>
<td>Phase one (questionnaire), phase two (semi structured interviews)</td>
</tr>
<tr>
<td>4.4</td>
<td>Research Methodology</td>
<td>Questionnaire data and Interview data</td>
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<td>4.5</td>
<td>Data Analysis</td>
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<tr>
<td>4.6</td>
<td>Ethics in psychological research</td>
<td></td>
</tr>
<tr>
<td>4.7</td>
<td>Summary</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.1 The structure of Chapter Four.
4.2 Aims and Objectives

Aim:

1. To explore the levels, antecedents and consequences of the health and well-being of male and female architects.

Objectives:

1. To establish the levels of health and well-being experienced by architects working in the UK.

2. To explore the extent to which health and well-being is determined by gender.

3. To explore the antecedents of health and well-being in the architectural profession, focussing on understanding the interplay of structure, culture and individual circumstances/actions on well-being outcomes.

4. To identify the impact of health and well-being on performance, commitment and contribution of male and female architects.

5. To develop recommendations for addressing health and well-being issues in the architectural profession, at the professional, organisational and individual level.
Chapter Four Methodology and research design

**Research Objectives and Propositions**

O1. Establish the levels of health and well-being experienced by architects working in the UK.

P7: Those working in the construction industry are exposed to a range of stressors, particularly, long working hours, time pressures, work life conflict, staff shortages and high workload. It is anticipated that architects will also experience these stressors. (see section 3.3.3)

P8: Architects will experience high levels of job demand and control. (see section 3.3.3)

P3: There will be significant relationships between measures of job demands and control and health and well-being. (see section 2.4.3)

P4: Generic measures of health and well-being may not capture factors relevant to male and female architects. (see section 2.5.2)

O2. Explore the extent to which health and well-being is determined by gender.

P9: Female architects will experience poorer health and well-being than male architects. (see section 3.5.3)

P10: Female architects will report higher turnover intentions than male architects. (see section 3.5.3)

P4: Generic measures of health and well-being may not capture factors relevant to male and female architects (see section 2.5.2)

O3. To explore the antecedents of health and well-being in the architectural profession, focusing on understanding the interplay of structure, culture and individual circumstances/actions on well-being outcomes.

P5: Architects will experience frustration at the lack of scope for creativity in their work. (see section 3.3.3)

P6: Architects may enter the profession with unrealistic expectations of the profession and there may be a conflict between these expectations and the reality. (see section 3.3.3)

P1: Long working hours will be the most important factor in work life conflict. (see section 2.3.18)

O4. Identify the impact of well-being on performance, commitment and contribution of male and female architects.

P2: Work life conflict will be associated with job satisfaction and turnover intentions (see section 2.3.18)

P9: Female architects will report higher turnover intentions than male architects (see section 3.5.3)

O5. To develop recommendations for addressing well-being issues in the architectural profession, at the professional, organisational and individual level.

Table 4.2 The research objectives and associated research propositions (numbered according to their location in Chapters Two and Three).

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4.3 Research Approach

4.3.1 Philosophical considerations

Although it is often not explicitly stated, all research is conducted according to an ontological, epistemological and methodological philosophical position (Fitzgerald and Howcroft, 1998). When undertaking an investigation, the researcher must consider two areas; epistemology and ontology. Epistemology refers to what can be accepted as valid knowledge and the best way of enquiring into the nature of the world (Easterby-Smith, Thorpe and Love, 2002), while ontology examines the nature of reality (Hussey and Hussey, 1997). This chapter will briefly describe the various philosophical approaches to undertaking a research investigation and argue which approach is most relevant for this study.

4.3.2 Epistemology and ontology

Ontology refers to the study of the nature of existence; studying ‘what is’ (Gray, 2004). Epistemology refers to determining the kinds of knowledge which are legitimate and adequate (Gray, 2004). There are two ‘extremes’ within these two assumptions; positivism and social constructionism (Fielding and Fielding, 1986). Positivism originated in the natural sciences and argues for a belief that reality is a concrete structure (Hussey and Hussey, 1997). Positivism is often associated with quantitative methodology, as the approach assumes that all phenomena can be operationalised (measured) and statistical analysis can be carried out on resulting data. In accordance with this approach the investigator must remain distinct from the
observed and hold a neutral position. In contrast social constructionism argues that social reality cannot be separated from those being investigated and that individuals have an active role in forming reality (Easterby-Smith, Thorpe and Love; 2002). The researcher has an active role in the research process. Such assumptions contrast starkly with positivism and the natural sciences.

There are a number of philosophical approach which fall between positivism and social constructionism. Hussey and Hussey (1997) argue that there is a continuum of ontological and epistemological assumptions and in practice, research investigations can be placed on this continuum between these two extreme approaches. Hussey and Hussey (1997) argue that at one end of the continuum lies positivism, while at the other end lies phenomenology. Phenomenology seeks to understand reality by understanding the research participants' own frame of reference (Hussey and Hussey, 1997).

Crotty (1998) argues that researchers must define four areas before they undertake a research study; method, methodology, theoretical perspective and epistemology. Method refers to the mechanics of data collection and analysis. Methodology refers to the research design. Theoretical perspective refers to the philosophical stance held by the researcher which will inform the methodology and therefore the method. The theoretical perspective held by the researcher is informed by their ontological perspective. And as discussed before, epistemology refers to the theory of knowledge held by the researcher.
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<table>
<thead>
<tr>
<th>SOFT</th>
<th>HARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relativist: belief that multiple realities exist as subjective constructs of the human mind.</td>
<td>Realist: belief that the external world consists of pre-existing hard tangible structure which exist independently of an individual’s cognition.</td>
</tr>
<tr>
<td>Subjectivist: distinction between the researcher and the research situation is collapsed. Findings emerge from the interaction between the researcher and the researched.</td>
<td>Objectivist: the researcher must remain detached from the research situation. The values or biases of the researcher must not contaminate observation of reality.</td>
</tr>
<tr>
<td>Emic / Insider / Subjective: research orientation focuses on an insider's view</td>
<td>Etic / Outsider / Objective: research orientation focuses on an outside researcher who is objective.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploratory: discovering patterns in the research.</td>
<td>Confirmatory: hypothesis testing and theory verification</td>
</tr>
<tr>
<td>Induction: specific examples are used to form generalisations. Theory / hypothesis development.</td>
<td>Deduction: general results are used to explain specific examples. Theory / hypothesis testing.</td>
</tr>
<tr>
<td>Field study: realism of context in a natural situation, but variables cannot be fully controlled</td>
<td>Laboratory setting: control and measurement of variables but may not reflect real world situations</td>
</tr>
<tr>
<td>Idiographic: focus on the individual using naturalistic context and qualitative methods to recognise the unique experiences of individuals.</td>
<td>Nomothetic: Focus on the group, using quantitative methods to generalise</td>
</tr>
</tbody>
</table>

| Table 4.3 Soft versus Hard research dichotomies adapted from Fitzgerald and Howcroft (1998) |

4.3.3 The current study

The vast majority of research in the job related health and well-being literature is positivist, as it often relies on the use of quantitative measures of health and well-being (Symon and Cassell, 2006). There have been benefits to such approaches as they allow for statistical theory testing and comparisons (ibid). However, a positivis
approach may not be appropriate to fully understand the dynamics of the relationships between work environments and the health and well-being of employees. Often positivist work, while establishing the existence of relationships between variables, is not helpful in understanding causality (Fielding and Fielding, 1986). In addition, there is evidence that an individual's perceptions of their working environment can be as damaging as the reality (Sparks et al., 2001). Therefore it cannot be said that there is a reality which is completely independent of those acting within it, and an examination of how individuals perceive their reality is warranted to understand the relationships between work, health and well-being.

Given the perspective that certain realities exist independently of the actor's perception (for example, physiological stress) and that an actor's perception of reality affects their experience of it (for example, perception of job insecurity is as damaging as actual job insecurity), a mixed method approach was chosen to explore the relationships between an architect's working environment and their health and well-being. Mixed methods were also appropriate as the research aimed to identify levels of health and well-being experienced by architects and the relationships between variables, which would be difficult to establish with just one method. Mixing methods can be problematic if each method derives from a different paradigmatic or philosophical stance (Mingers and Gill, 1997). The following section briefly discusses the advantages and disadvantages of mixed method research and explores the paradigmatic stance taken.
4.3.4 Mixed Methods Research

In the context of the current study, mixed methods refers to combining quantitative and qualitative methods of data collection and analysis, while retaining one paradigmatic perspective (Tashakkori and Teddlie, 2003). Methods can be combined at any stage of the research and can occur sequentially (one method follows another), concurrently (two methods occur at the same time) or undergo a conversion (one type of data is collected but is converted, for example, qualitative data being converted into quantitative data) (Tashakkori and Teddlie, 2003). The current study utilised a sequential approach to the mixing of methods, as quantitative data was collected and analysed and the results informed a qualitative study.

Mixing methods offers a number of advantages to the researcher. Mason (2006) argues that lived realities are complex and as such probably cannot be fully understood if examined from one perspective. In addition Mason (2006) argues that combining methods allows for macro and micro levels of analysis of a situation. In the context of the current study, a quantitative survey allowed for a macro level analysis of levels of health and well-being as experienced by architects. Qualitative interviews allowed for a micro level analysis of individual dynamics.
Combining methods can combine their strengths and offset their weaknesses

- Allows for macro and micro levels of analysis
- Diversity of divergent views
- Gain greater validity of findings due to triangulation
- A more comprehensive account of an area of enquiry
- One method can be used to explain the findings of another
- Sampling - one method can provide the sample for a second method
- Quantitative data can be contextualised using qualitative data
- Qualitative data can illustrate quantitative data
- Allows for flexibility

Table 4.4 The benefits of Mixed Methods Research (taken from Bryman (2006) Mason (2006), Tashakorri and Teddlie (2003)).

Table 4.4 shows that there are a number of advantages to conducting mixed methods research. The current study employed a mixed methods approach so that the relative weaknesses of quantitative and qualitative research could be offset, a macro and micro level of analysis could be conducted, using one method to explain the findings of another, to contextualise and illustrate the quantitative data and sampling.

4.3.5 *Mixed Methods research and Pragmatism*

One disadvantage of mixed methods research is that it can require combining philosophical perspectives which are often seen as irreconcilable (Mingers and Gill, 1997). The current study chose to investigate health and well-being through a single paradigm mixed methods approach. The most commonly used paradigm in mixed method research is pragmatism (Johnson and Onwuegbuzie, 2004). Pragmatism dictates that the research question is more important than the methods chosen,
sometimes referred to as the ‘dictatorship of the research question’ (Teddlie and Tashakkori, 2003). As such it rejects the idea that methods can be incompatible because it avoids discussions of truth and reality which are central to other philosophies (Teddlie and Tashakori, 2003). Crotty (1998) argues that pragmatism focuses on choosing the method which is most suitable to the research problem. In this sense, pragmatism is problem-centred and allows for a pluralistic approach (Cresswell, 2003). In addition, pragmatism is suitable for real world research, i.e. research which is embedded in a real world setting addressing a real world problem (Cresswell, 2003). As the current work aimed to determine levels of health and well-being experienced by architects and the nature of relationships between variables, a pragmatic mixed methods approach was taken to be the most appropriate.

4.4 Research Method

4.4.1 Introduction

The term method refers to the actual research process, i.e. how data was gathered. This research involved three main phases of data collection:

1) An email questionnaire
2) Semi-structured interviews

Figure 4.1 presents the research methodology employed in this study in graphical format. Table 4.5 re states the research propositions and identifies how the chosen methodology will investigate each proposition.
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RESEARCH THESIS AND OBJECTIVES

LITERATURE REVIEW
Previous research, definitions, theories. Gaps in the extant literature

RESEARCH PROPOSITIONS.
From the extant literature

SURVEY OF METHODOLOGIES

RESEARCH DESIGN AND METHODOLOGY CHOICE
A multi-method approach chosen

PILOT STUDY

Phase one: SURVEY
Emailed to 1200 architects. 10% response rate. Quantitative measures of job related well-being.

DATA ANALYSIS.
Descriptive, correlations and comparisons of means

Phase two: SEMI-STRUCTURED INTERVIEWS

CODING AND ANALYSIS OF TEXTUAL DATA

CONCLUSIONS AND IMPLICATIONS

Figure 4.1 Overview of research methodology
Chapter Four Methodology and research design

<table>
<thead>
<tr>
<th>Proposition</th>
<th>Methodology</th>
</tr>
</thead>
</table>

P1: Those working in the construction industry are exposed to a range of stressors, particularly, long working hours, time pressures, work life conflict, staff shortages and high workload. It is anticipated that architects will also experience these stressors.

Phase one: Questionnaire (self reported measures of working hours, job demands and work life balance).
Phase two: Interviews: work load, work life balance, practice resourcing (staff).

P2: Architects will experience high levels of job demand and control

Phase two: Interview questions relating to levels of job demands and autonomy

P3: Architects will experience frustration at the lack of scope for creativity in their work

Phase one: Job satisfaction measure
Phase two: Interview questions relating to job satisfaction

P4: Architects may enter the profession with unrealistic expectations of the profession and there may be a conflict between these expectations and the reality.

Phase two: Questions relating to career choice

P5: There will be significant relationships between measures of job demands and control and health and well-being

Phase one: Questionnaire: correlations between JDC measures and measures of health and well-being

P6: Long working hours will be the most important factor in work life conflict

Phase one: Correlation of working hours and work life conflict.
Phase two: Interview: the relationship between working hours and work life conflict.

P7: Work life conflict will be associated with job satisfaction and turnover intentions

Phase one: Correlations between work life conflict, job satisfaction and turnover intentions.

P8: Female architects will experience health and well-being than male architects

Phase one: Questionnaire, self reported measures of job satisfaction, affective well-being, physical symptoms of stress, work life conflict, and JDC Model. Comparison of means for male and female architects
Phase two: Interview questions to understand the nature of any differences.

P9: Female architects will report higher turnover intentions than male architects

Phase one: Questionnaire – comparison of means between male and female self reporting of turnover intentions.

P10: Generic measures of health and well-being may not capture factors relevant to male and female architects.

Phase two: Interviews allow for respondents to discuss issues relevant to them.

Table 4.5 how the chosen methodologies will investigate each research proposition.
4.4.2 Phase one

The first phase of data collection was a self-completion questionnaire. Given the widespread use of self-completion questionnaires within job related health and well-being research, this study adopted a similar approach. The questionnaire was developed using existing research tools in common use in order to ensure validity and reliability. The questionnaire was piloted with one hundred architects, who were identified via Architects for Change (the equal opportunities forum of the RIBA). The research was also publicised in the Architects Journal. Twenty eight respondents completed the pilot questionnaire and commented on its ease of completion and relevance.

To demonstrate the reliability of each scale the coefficient alpha, the most common expression of internal reliability (Peterson, 1994), is provided. The higher the coefficient alpha, the more the reliable scale (Brown, 1998). Internal reliability refers to the extent to which a scale will yield similar results when used on different occasions (Fielding and Fielding, 1986).
4.4.3 Rationale for questionnaire use

Questionnaires are a major method of data collection in mixed method studies (Johnson and Turner, 2003).

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good for measuring attitudes and eliciting other content from research participants</td>
<td>Need validation</td>
</tr>
<tr>
<td>Can administer to probability samples</td>
<td>Must be kept short</td>
</tr>
<tr>
<td>Quick turnaround</td>
<td>Might have missing data</td>
</tr>
<tr>
<td>Can be administered to groups</td>
<td>Possible reactive effects</td>
</tr>
<tr>
<td>Perceived anonymity by respondents possibly high</td>
<td>Non responsive to selective items</td>
</tr>
<tr>
<td>Moderately high measurement validity for well-constructed and well-tested questionnaires</td>
<td>Response rate possibly low for mail questionnaires</td>
</tr>
<tr>
<td>Low drop rate for closed-ended questions</td>
<td>Open-ended items possibly resulting in vague answers</td>
</tr>
<tr>
<td>Ease of data analysis for closed-ended items</td>
<td>Open-ended items possibly reflecting differences in verbal ability, obscuring the issues of interest</td>
</tr>
<tr>
<td></td>
<td>Data analysis sometimes time consuming for open-ended items.</td>
</tr>
</tbody>
</table>

Volunteer Effect

Using a questionnaire enabled the levels of health and well-being experienced to be establish and quantified in order to compare groups, for example, men and women. It allowed a macro level ‘picture’ of the profession to be examined. In addition, the use of well established and reliable measures of health and well-being ensured that the survey was reliable. It is important to note that using a questionnaire can result in what is termed ‘volunteer effect’. Volunteer effect occurs when individuals complete questionnaires because they have an interest in the subject matter or believe it to be particularly relevant to them (Eysenbach and Wyatt, 2002). Therefore people may
Chapter Four Methodology and research design

undertake a questionnaire if they feel that health and well-being issues are particularly salient to them.

4.4.4 Sampling strategy

The questionnaire was emailed to a total of 1200 architects working in the UK. All architects whose email addresses were available via the RIBA and ARB in the following areas were emailed; London (SW1 and EC1), Norfolk, Leicestershire, Nottinghamshire, Derbyshire, Bristol, Birmingham, Newcastle, Belfast, Dundee and Aberdeen. This ensured that responses could be gathered from those working in different areas of the UK. Questionnaires were emailed as attachments in January 2004. The body of each email contained information about the purpose of the research and ensured anonymity. Two weeks later reminder emails were sent out to those who had not returned the questionnaire. A second reminder email was sent out one week later. The response rate is detailed in chapter five.

4.4.5 Email, world wide web and postal surveys

Traditionally surveys and questionnaires have been carried out either as structured interviews or have been mailed out via the postal service. Recent information technology (IT) advances have led researchers to begin to use the internet to distribute questionnaires, either by placing them on a website or using electronic mail. There are a number of advantages and disadvantages of using electronic mail or the internet, these will be discussed below, primarily focusing on their use for questionnaires.
4.4.5.1 Advantages of using the internet in research.

The internet allows a researcher to access large numbers of people for relatively minimal cost in comparison to traditional methods of data collection (Hewson, 2002). Previous research has indicated that questionnaires distributed by email are cheaper than those distributed by post and web-based surveys are cheaper still (Yun, 2000). In addition reminder emails can be sent to respondents at minimal cost, in comparison to sending reminders by post (Yun, 2000). This is a significant advantage to researchers working within limited budgets.

Surveys distributed electronically often save time in terms of distribution and data collection, for a number of reasons. Questionnaires conducted by telephone require both researcher and respondent to be synchronous in terms of time, a constraint not present with email or web-based questionnaires (Best and Krueger, 2002). Questionnaires distributed by email or the internet can produce responses significantly more quickly than postal surveys (Yun, 2000). It is also possible to configure the questionnaire responses so that they can be fed directly into a statistical software package, thus also saving time with analysis (Hewson et al., 2003).

One area of concern with electronic distribution of questionnaires is the technological expertise required by the researcher to administer the questionnaire (Hewson et al., 2003). However, if the questionnaire is to be distributed via email, only a small degree of expertise is required (Hewson et al., 2003).
Concern has been expressed over the heterogeneity of sample groups in internet surveys, however, this can also be an advantage as it allows the researcher to access a broad spectrum of people adding, providing a clearer view of the population under examination (Buchanan and Smith, 1999).

Collecting data via the net or email can help to foster an environment of anonymity which may improve response rates and levels of honesty in responses (Buchanan and Smith, 1999).

4.4.5.2 Disadvantages to using the internet for data collection

One of the main areas for concern over internet data collection concerns the validity of responses. If a questionnaire is placed on a website, care must be taken to prevent subject fraud, whereby one respondent completes the questionnaire several times (Best and Krueger, 2002). This is a problem which can be overcome through the use of email questionnaires where the researcher can record who has returned responses.

There is concern that using the internet to gather data can result in a limited sample pool, or that only certain kinds of people, in terms of gender, age, language, culture, education and socio-economic factors use the internet (Buchanan and Smith 1999). For example, women may be more likely to complete an email questionnaire than men (Eaker et al., 1998). This factor was still of concern in 2002 when Best and Krueger highlighted that email is not accessible by the entire population. They also noted that email addresses cannot be found as readily as postal addresses or telephone numbers, thus limiting the sample. Such factors mean that when analysing internet
data it is important to remember that responses may not be representative of the whole population under examination (Best and Krueger, 2002). However, as Buchanan and Smith (1999) and Best and Krueger (2002) both observe, use of the internet is expanding and as such, it is problematic to make assumptions regarding the type of people who use it.

Of particular concern to those administering psychological tests is the environmental conditions under which the questionnaire is completed. Traditionally such data has been gathered in controlled conditions, where the researcher can observe the respondent, but this is not the case with email or web based surveys (Buchanan and Smith, 1999). Researcher observation can be an important aspect of data collection, as they can record the actions of the respondent and whether they believe her or she is being sincere in their responses (Hewson et al., 2003). This could lead to differences in the quality of data collected. As discussed previously it may be possible to gather more honest information in an environment of anonymity as provided by web-based surveys (Buchanan and Smith, 1999).

When distributing a questionnaire via the web or email, researchers must be aware that respondents may be using different software packages which may lead to conflict between the format of the questionnaire and the software used by respondents (Buchanan and Smith 1999, Best and Krueger, 2002). This could potentially lead to problems in the study, should the questionnaire is to be distributed as an email attachment, if respondents use a computer package which cannot accept attachments.
There is evidence to suggest that email or internet surveys consistently lead to lower response rates than traditional postal surveys (Jones and Pitt, 1999; Couper et al., 1999) however, email reminders which can be cheaply and quickly administered to increase response rate (Yun, 2000).

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheap to administer</td>
<td>Fraudulent responses</td>
</tr>
<tr>
<td>Time savings: distribution</td>
<td>Repetition in responses</td>
</tr>
<tr>
<td>Time savings: analysis</td>
<td>Restricted sample</td>
</tr>
<tr>
<td>Can access a heterogeneous group</td>
<td>Respondent is not observed during data collection</td>
</tr>
<tr>
<td>Environment of anonymity</td>
<td>Potential software conflict</td>
</tr>
<tr>
<td>Little technological expertise required to administer and complete email questionnaires</td>
<td>Lower response rates</td>
</tr>
</tbody>
</table>

Table 4.7 The advantages and disadvantages of internet data collection (with particular reference to questionnaires).

4.4.5.3 Conclusions

There are a number of advantages and disadvantages to using the internet to gather data (summarised in table 4.6 above). Advantages focus around the pragmatic, with associated time and cost savings, ease of analysis. It may also be possible to gather more accurate data in terms of a heterogenic sample and anonymous environment encouraging sincerity of response. The disadvantages centre on sampling issues, with respondents being limited to those with access to the internet. Other concerns include technological conflict, lower response rate and fraudulent responses. The anonymity of the response environment would be of concern for both postal and internet surveys, as the researcher cannot observe the respondent. However, there does not seem to be concern over the quality of the data collected so long as sampling issues are taken into account during analysis. Existing literature advises combining data collection approaches if possible. In the current study, questionnaire findings were explored in
face to face interviews, allowing the validity of findings to be verified (see section 4.4.7.1). Of those emailed, 130 returned questionnaires, 110 of which were fully completed, indicating a usable response rate of 9%. This is a relatively low response rate. Accordingly, the following section discusses the advantages and disadvantages of using email questionnaires, including response rates.

4.4.6 Questionnaire measures

The full questionnaire can be seen in Appendix II.

4.4.6.1 Biographical data

The questionnaire collected biographical data (age, gender, job title, number of years at highest level of qualification, highest level of qualification, marital status, working status of partner, number of dependents, level of seniority within organisation, size of organization, sickness absence). Such information served two functions. Primarily it was possible to determine the age, gender etc of those who chose to participate, in addition, comparisons could be drawn between different groups during the statistical analysis phase.
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4.4.6.2 Axes of well-being

Warr (1987, 1990) argues that job related well-being can be measured along three axes; Pleasure to Displeasure, Comfort to Anxiety and Enthusiasm to Depression (Doyle, 2003). The first of these axes can be operationalised as job satisfaction.

4.4.6.2.1 Job satisfaction

Job satisfaction was measured using an amended version of Warr et al.'s (1981) scale of Global Job Satisfaction. This scale has been demonstrated to have high reliability and validity (Wall et al., 1986; Barling and MacEwan, 1992). The Global Job Satisfaction Scale (Warr et al., 1981) is a Likert type scale where respondents indicate how satisfied they are with 15 aspects of their paid employment. The Likert scale ranges from 1 (Extremely dissatisfied) to 7 (Extremely satisfied). These aspects are categorised according to whether they are an intrinsic or extrinsic part of the job and can be seen below. The coefficient alpha for this scale was $\alpha = .9104$ indicating that the scale was very reliable.

<table>
<thead>
<tr>
<th>Intrinsic features</th>
<th>Extrinsic features</th>
</tr>
</thead>
<tbody>
<tr>
<td>The physical work conditions</td>
<td>The recognition you get for your work</td>
</tr>
<tr>
<td>The freedom to choose your own method of working</td>
<td>Your rate of pay</td>
</tr>
<tr>
<td>Your fellow workers</td>
<td>Your immediate boss</td>
</tr>
<tr>
<td>The amount of responsibility you are given</td>
<td>Industrial relations between management and workers in your firm</td>
</tr>
<tr>
<td>Your opportunity to use your abilities</td>
<td>Your chance of promotion</td>
</tr>
<tr>
<td>The attention paid to suggestions you make</td>
<td>The way your firm is managed</td>
</tr>
<tr>
<td>The amount of variety in your job</td>
<td>Your hours of work</td>
</tr>
<tr>
<td></td>
<td>Your job security</td>
</tr>
</tbody>
</table>

Table 4.8 Intrinsic and extrinsic components of job satisfaction
The scale used included four additional items which relate specifically to working within the construction industry.

1. Your physical working conditions was changed to two separate items, one relating to working conditions on site and the second relating to working conditions in your office / studio.
2. Your relationship with clients
3. Your relationship with other construction professionals
4. Your relationship with sub-ordinates (if relevant)

In addition, following consultation with a number of architects, minor changes were made to the original 15 items to ensure they were architecture specific. The word 'firm' was replaced with the work 'practice' and the word 'boss' was changed to 'line manager'.

4.4.6.2.2 Affective well-being

The remaining two axes can be measured using a tool which allows respondents to rate the frequency with which they have experienced a range of emotions both at work and at home. The tool used here was developed by Warr (1987) and measures Affective well-being, which has been demonstrated to have reliability and validity (Van Horn et al., 2004; Daniels, 1993).
Respondents are asked to indicate how often in the past 30 days their job (or life outside their job) has made them feel each of the following:

1. Tense
2. Uneasy
3. Worried
4. Calm
5. Contented
6. Relaxed
7. Depressed
8. Gloomy
9. Miserable
10. Cheerful
11. Enthusiastic
12. Optimistic

Items 1 to 5 represent axis 2 (comfort to anxiety) while items 6 to 12 represent axis 3, (enthusiasm to depression). Respondents indicate using a seven item Likert Scale frequency of experience ranging from 'Never' to 'All of the Time'. In order to ensure that high to numbers represent high well-being, items 4,5,6,10,11 and 12 are coded as; Never = 1 to All of the time = 7. Items 1-3 and 7-9 were coded as Never = 7 and All of the time = 1. The coefficient alpha for job related affective well-being was $\alpha = .895$. The coefficient alpha for non-job-related affective well-being was $\alpha = .909$. From these figures it is clear that the scales were reliable.
4.4.6.3 Physical symptoms of stress

Previous work has suggested that construction industry professionals may manifest stress through physical symptoms (Sutherland and Davidson, 1993). The Physical Symptoms Inventory (PSI) was used to assess the physical symptoms of psychological distress amongst architects. This scale was developed by Spector, et al (1988) and has been shown to have a strong relationship with job satisfaction and job characteristics (Spector et al, 1999) and high validity and reliability (Spector et al., 1999; Miles et al., 2002). Respondents are asked whether they have experienced a number of symptoms in the 30 days prior to completing the questionnaire. The PSI is a causal indicator scale rather than investigating an underlying construct (such as job satisfaction), therefore internal reliability scales are irrelevant (Spector and Jex, 1998). The original questionnaire listed 19 symptoms;

1. An upset stomach
2. A backache
3. Trouble sleeping
4. A skin rash
5. Shortness of breath
6. Chest pain
7. Headache
8. Fever
9. Acid indigestion
10. Eye strain

11. Diarrhoea

12. Stomach cramps (not menstrual)

13. Constipation

14. Heart pounding when not exercising

15. An infection

16. Loss of appetite

17. Dizziness

18. Shaking

19. Tiredness or fatigue

Additional items were added which were deemed by a small groups of working architects to be relevant. These items were restless legs and pins and needles. Respondents are given three choices; ‘No’ (coded as 1), ‘Yes, but I did not see a Doctor’ (coded as 2) and ‘Yes, and I saw a Doctor’ (coded as 3). Respondents were also asked to indicate whether they had discussed these symptoms with colleagues and/or their line manager.

4.4.6.4. Work-life conflict

Work life conflict is associated with job satisfaction (Kinnunen, et al 2004) and turnover (RIBA, 2003). A seven item scale was developed, using existing tools as a template (Small and Riley; 1990 and Bacharach, Bamberger and Conley; 1991) which have both been shown to have high reliability and validity (Fields, 2002). Respondents were asked to rate the extent to which they agreed with a number of statements regarding work life balance using a five point Likert scale which ranged
from Strongly Agree to Strongly Disagree. The coefficient alpha for work life conflict was \( \alpha = .8967 \), indicating that the scale was reliable.

1. It has been difficult for me to fulfil my family responsibilities because of the amount of time I spend on my job.
2. I have arrived at work too tired to function well because of the household work I have done.
3. I have come home from work too tired (several times a month) to do the chores which need to be done.
4. My marriage/relationship suffers because of my work.
5. I feel that work prevents me from being as good a parent as I would like to be.
6. I find it difficult to switch off after work.
7. My work affects my enjoyment of my social life.

In order to ensure that low numbers indicate poor well-being, ‘strongly agree’ was coded as 1, ‘agree’ as 2, ‘neither agree nor disagree’ coded as 3, ‘disagree’ as 4 and ‘strongly disagree’ as 5. A respondent’s average work life conflict score could then be calculated.

4.4.6.5 Job Demand Control Model

As discussed earlier, job demands are a source of poor well-being for construction professionals. In order to investigate this phenomenon amongst architects, Karasek’s Job Demands and Decision Latitude scale was used (Karasek, 1979). This scale demonstrates high validity and reliability (Fields, 2002). As support for the Job Demands and Control Model (see Chapter Two) in the literature has been modest,
possibly due to subsequent research failing to accurately measure job demands (Beehr et al., 2001), it was decided to use the original measures as indicated by Karasek (1979). Responses are gained using a 5-point Likert-type scale where 1 = ‘Never’ and 5 = ‘extremely often’. The coefficient alpha for the overall scale was $\alpha = .7684$. The coefficient alpha for job demands was $\alpha = .833$. The coefficient alpha for skill discretion was $\alpha = .697$. The coefficient alpha for decision authority was $\alpha = .719$. Since skill discretion and decision authority are both measures of control, their combined reliability was calculated as $\alpha = .779$. From these figures it is clear that the JDC scale is reliable.

<table>
<thead>
<tr>
<th>Job Demand</th>
<th>Skill Discretion</th>
<th>Decision Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To what extent does your job require your working fast?</td>
<td>1. To what extent is high skill level required</td>
<td>1. To what extent do you have the freedom to decide how to organise your work?</td>
</tr>
<tr>
<td>2. To what extent does your job require your working hard?</td>
<td>2. To what extent are you required to learn new things?</td>
<td>2. To what extent do you have control over what happens on your job?</td>
</tr>
<tr>
<td>3. To what extent does your job require a great deal of work to be done?</td>
<td>3. To what extent is your work non-repetitious?</td>
<td>3. To what extent does your job allow you to make a lot of your own decisions?</td>
</tr>
<tr>
<td>4. To what extent is there not enough time to do your job?</td>
<td>4. To what extent does your job require creativity?</td>
<td>4. To what extent are you assisted in making your own decisions?</td>
</tr>
<tr>
<td>5. To what extent is their excessive work in your job?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. To what extent do you feel there is not enough time for your finish your work?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. To what extent are you faced with conflicting demands on your job?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.9 Questions on the Job Demand Control Scale.
4.467 Turnover intention

The high turnover of female architects is a source of concern amongst those in the architectural profession (RIBA, 2003) and has previously been associated with poor well-being amongst civil engineers (Lingard, 2003). Accordingly a four item scale was developed which asked respondents to state the extent to which they agreed with statements about turnover desires and active turnover intentions. The coefficient alpha for turnover intentions was $\alpha = .8349$, indicating the reliability of the scale. Items were rated along a five point Likert type scale where 1 = strongly agree and 5 = strongly disagree. Statements were;

1. I often think about leaving my job.
2. I often think about leaving the architectural profession.
3. I will be actively searching for a new job over the next 12 months.
4. I will be actively searching for a job outside of the architectural profession over the next 12 months.

These statements allowed for an analysis of respondents’ desires to leave their current employer and their desire to leave their chosen profession.

Respondents were also asked to indicate their willingness to participate in further research and if so to provide their contact details. Respondents were also asked if they would like to receive a copy of the findings and were provided with a space to note any further areas not covered by the questionnaire which they considered important to their well-being.
4.4.7 Phase two: Semi-structured interviews

The survey revealed a number of questions which could not be answered using cross-sectional quantitative data. As already discussed the current research utilised a mixed-method approach. The survey data was further explored using semi-structured interviews with practicing architects. The following section details the strengths and weaknesses of undertaking interviews and the interview protocol followed.

4.4.7.1 Interview rationale

The strengths and weaknesses of interview data are summarised in Table 7.10. Interviews allow for the collection of rich and detailed data and interesting topics can be investigated further by the interviewer during the course of the interview (Johnson and Turner, 2003). However, they can be time consuming and expensive and are subject to confounding variables such as interviewer effect. In addition data analysis can be time consuming and difficult (Johnson and Turner, 2003). Interviews can be structured, semi-structured and unstructured and each approach has its advantages and disadvantages (Gray, 2004). Given that one of the research propositions was that generic measures of health and well-being may not be relevant to architects, the adoption of a qualitative approach will be able to investigate this proposition. As discussed in section 4.3.4 qualitative data benefits from enhanced relevance to the research question, which may not be achievable from quantitative data.

The data resulting from interviews can be said to be ‘rich’ in nature. Rich data has four characteristics; relevance, impact, complexity and fluidity. Qualitative data is
often grounded in rich descriptions of individual experience and are therefore considered relevant to the research question (Richards, 1999). Such data can also be seen as ‘truthful’ and therefore have a greater impact on the reader (Miles and Huberman, 1994). Complexity and fluidity refer to the handling of the data (Richards, 1999).

<table>
<thead>
<tr>
<th><strong>Strengths</strong></th>
<th><strong>Weaknesses</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Good for measuring attitudes and most other content of interest</td>
<td>In person interviews are expensive and time consuming</td>
</tr>
<tr>
<td>Allow probing by the interviewer</td>
<td>Possible reactive and investigator effects</td>
</tr>
<tr>
<td>Can provide in-depth information</td>
<td>Perceived anonymity by respondents possibly low</td>
</tr>
<tr>
<td>Allow good interpretive validity</td>
<td>Data analysis sometimes time consuming for open ended questions</td>
</tr>
<tr>
<td>Low drop rate for closed ended questions</td>
<td>Measures in need of validation</td>
</tr>
<tr>
<td>Very quick turnaround for telephone interviews</td>
<td></td>
</tr>
<tr>
<td>Moderately high measurement validity for well-constructed and well-tested interview protocols</td>
<td></td>
</tr>
<tr>
<td>Can use with probability sample</td>
<td></td>
</tr>
<tr>
<td>Useful for exploration and confirmation</td>
<td></td>
</tr>
<tr>
<td>Relatively high response rates often attainable</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.10 Strengths and weaknesses of interviews taken from Johnson and Turner, 2003.

The use of semi-structured interviews allowed for a degree of conformity between respondents as an interview schedule of topics and questions can be used, but they also allow for flexibility in the ordering of questions and additional questions can be asked (Gray, 2004).

The extant literature and survey results revealed a number of areas which would benefit from qualitative exploration. The interviews began with ‘warm up’ questions to allow the respondents to relax into the interview process. These questions explored
Chapter Four Methodology and research design

the individual’s job description, the nature of their work, their reasons for choosing the architectural profession and the status of architects. Although these questions were originally designed to allow the respondent to relax it became clear that they were important issues to respondents.

The main body of the interviews asked respondents to discuss practice management, autonomy, skill use, working conditions, promotion, workload, work-life balance and issues affecting female architects. The full interview schedule can be seen in Appendix I.

The interview sample originated from the survey as all survey respondents were asked if they would be willing to take part in a face to face interview. Fifty survey respondents indicated a willingness to take part in the interviews. All were contacted and 24 agreed to be interviewed.

4.5 Data Analysis

4.5.1 Questionnaire data

The questionnaire data was analysed using SPSS (Statistical Package for the Social Sciences) for Windows Version 11.0. Chapter Five presents the findings from the questionnaire.

After the questionnaire data had been coded and input into SPSS it was possible to undertake statistical analyses. The first objective of the research was to establish
levels of health and well-being experienced by architects, therefore the first stage of
data analysis was descriptive analysis (mean, standard deviation and range) and
frequency analysis. The distribution of the data was determined so that appropriate
statistical tests could be conducted. Much of the data was not normally distributed
meaning that non-parametric tests were required (Siegel, 1957).

One of the objectives of the research was to explore the extent to which health and
well-being is determined by gender. In order to compare differences between male
and female respondents it was necessary to undertake comparisons of means. As the
data was not normally distributed, Mann Whitney U tests was carried out (Coolican,
1999).

Given the objectives and research propositions, it was necessary to establish the
strength of relationships between variables, accordingly, correlational analysis was
undertaken. Spearman’s Rho correlations were carried out in order to determine the
relationships between biographical data, job satisfaction, affective well-being,
physical symptoms of stress, work life conflict, job demands and control and turnover
intentions.

4.5.2 Interview analysis

4.5.2.1 Computer aided qualitative data analysis

In order to manage and work with the large amount of textual data which resulted
from the interviews all interview transcripts were coded using NVivo, a qualitative
data analysis software tool. The following section briefly discusses the use of qualitative data analysis software tools paying particular attention to NVivo.

Using software to manage and assist the analysis of textual data is seen by some as enhancing the validity of resulting findings as it makes the process of analysis more transparent and the quality of the argument can be more easily judged (Crowley, 2002). However, critics of the use of software argue that data is lost in the process of analysis and it can encourage the inappropriate quantification of textual data (Crowley, 2002).

4.5.2.2 Analytical approach

All interviews were transcribed verbatim and analysed using 'Template Analysis' a widely used technique in qualitative research (Daniels et al., 2002). Template analysis allows for textual data to be thematically organized and analysed according to a set of codes developed *a priori* (King, 2004). Template analysis is considered ideal for those who consider grounded theory too prescriptive in terms of its method and for those researchers using data sets of over 20 (King, 2004). As such it was considered an appropriate analytical tool for this research.

King (2004) provides a systematic procedure for conducting template analysis. Like grounded theory template analysis makes use of *codes* to order textual data. A code is a label attached to a portion of text, and can be descriptive or analytical in nature. The initial step in template analysis is to develop the initial template. Often this will be based around the interview schedule. For the research presented here, the interview
Chapter Four Methodology and research design

Schedule was used as the initial template. The interview schedule was developed from existing literature and findings from phase one of the research. Table 4.11 provides the high order codes (derived from the interview schedule) and their lower order codes. To ensure consistency, Chapter Six which presents the findings from the interviews, follows the same structure.

<table>
<thead>
<tr>
<th>High order codes</th>
<th>Lower order codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route into the profession</td>
<td>Reasons for choosing the architectural profession, expectations of the architectural profession, experiences of university</td>
</tr>
<tr>
<td>Practice issues</td>
<td>Size of practice, private versus public sector, employee relations and self employment</td>
</tr>
<tr>
<td>Job satisfaction</td>
<td>Promotion, physical working conditions, skill use and relationship with clients</td>
</tr>
<tr>
<td>Work life interface</td>
<td>Working hours and difficulty switching off</td>
</tr>
<tr>
<td>Issues affecting women architects</td>
<td>Lack of confidence, working relationships with clients, contractors, consultants and colleagues, childcare and maternity leave</td>
</tr>
<tr>
<td>Steps to improve well-being</td>
<td>The RIBA and ARB, employers and well-being and individuals and well-being</td>
</tr>
</tbody>
</table>

Table 4.11 High and low order codes used to analyse the interview data.

4.5.2.3 Coding of data

Using computer software allows for the coding of data according to nodes which can be descriptive or conceptual in nature (Miles and Huberman, 1994). This allows for the vast quantity of textual data to be reduced to manageable amount. As detailed above the nodes were assigned according to the template which was developed from the extant literature and the results from phase one of the research. The nodes were consistent in two ways. Firstly they are internally consistent as the node was meaningful in relation to the data (Dey, 1993). Secondly, the nodes were meaningful in relation to other nodes and this shows external consistency (Dey, 1993). Figure 4.2
Chapter Four Methodology and research design

shows how textual data can be coded using NVivo. As detailed before, the codes were derived from the interview schedule, which itself was developed from the extant literature and the results from Phase One of the research.
4.6 Ethics in psychological research

Research with people is tightly regulated according to ethical guidelines. Given the psychological nature of this research, the guidelines established by the British Psychological Society were adhered to. They are described below and measures taken to satisfy each guideline are noted. Unless otherwise stated, all information is taken from the British Psychological Society (2004).

There are six main areas with which a researcher must be concerned with when considering the ethical implications of their research; consent, deception, debriefing, withdrawal from the investigation, confidentiality and protection of participants. Details of each area and how ethics can be maintained are provided in Table 4.12.

In each stage of the current study respondents were provided with covering letters. These letters provided respondents with the objectives of the study, assured confidentiality of responses, provided information of the purposes of the study (i.e. that data would be used for a PhD thesis). In addition, respondents were informed of their right to withdraw from the research at any point.

During the interview stage of the project, all informants were assured that their recorded interviews would not be shared with anyone else, and that any published data would ensure anonymity. At the start of the interview all respondents were reminded of the objectives of the research. Respondents were also told they were free not to answer any questions they felt uncomfortable with. At the end of the interview respondents were asked how they felt about the experience of being interviewed. All
respondents were provided with a summary of the research findings. Each of these steps ensured that respondents gave informed consent, were not deceived, were assured of confidentiality and their right to withdraw from the research. Respondents were protected from mental harm (physical harm not being relevant) and fully debriefed.

The British Psychological Society also provides guidelines on giving advice to participants, stating that if the participants ask for professional advice which the researcher is not qualified to give, then such advice must not be given and alternative sources of help must be provided. During the course of the current research a small number of respondents expressed concern over their own well-being and asked for the interviewers’ professional advice. In this circumstance, alternative sources of support were suggested, for example, support groups for women architects.
<table>
<thead>
<tr>
<th>Area of Concern</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consent</td>
<td>Researchers are advised that where possible participants should be advised of the objectives of the research study, to ensure informed consent. Researchers must also realise that they may have a position of authority or superiority over their participants, and must not use this to pressure participants into taking part or remaining in a study.</td>
</tr>
<tr>
<td>Deception</td>
<td>It is considered unethical to withhold information from participants which may cause unease after the debriefing process. In addition participants must not mislead or deliberately mislead participants unless there are strong scientific or medical justifications for doing so.</td>
</tr>
<tr>
<td>Debriefing</td>
<td>If participants have knowingly taken part in an investigation, the researchers should provide them with any information that will help them to understand the research. This should occur after data have been collected. In addition, the researcher should discuss with the participants, their experiences of the research process in order to capture any unforeseen negative experiences.</td>
</tr>
<tr>
<td>Withdrawal from the investigation</td>
<td>At the start of the research all informants should be informed of their right to withdraw from the research at any time. Participants also have the right to ask for any information or data held about them to be destroyed.</td>
</tr>
<tr>
<td>Confidentiality</td>
<td>The Data Protection Act 1998 requires that information about a participation must remain confidential unless otherwise agreed. Participants also have a right to expect any published information should not provide details as to their identity.</td>
</tr>
<tr>
<td>Protection of participants.</td>
<td>All participants must be protected from physical and mental harm during the investigation. Risk of harm should not be greater than ordinary life. When dealing with issues regarded as private and personal the researcher must assure participants that they are free not to answer such questions.</td>
</tr>
</tbody>
</table>

Table 4.12 Ethical guidelines for undertaking psychological research with humans (British Psychological Society, 2004).
Chapter Four Methodology and research design

4.7 Summary

This chapter outlined the processes undertaken in collecting the primary data for this thesis. It was stated that the data collection combined a quantitative questionnaire with qualitative interviews, and therefore followed a mixed method approach. Accordingly the philosophical approach was pragmatism, which views the research questions as the driving force behind the methodological approach used. In order to explore patterns in the health and well-being of architects, the first phase of the research was a quantitative questionnaire. Phase two used semi-structured interviews to explore issues relevant to health and well-being of architects, which may not have been covered by the generic tools used in the questionnaire. In addition, the interviews helped to illustrate possible causal relationships. Data analysis techniques were described and ethical guidelines discussed.
Chapter Five: Questionnaire Findings

5.1 Introduction

This chapter presents the findings from the first stage of the study described in chapter Four, an email questionnaire distributed to individuals working in the UK architectural profession. The survey collected data on six measures of job-related well-being; job satisfaction (Warr, et al., 1981), affective well-being (Warr, 1987), physical symptoms of stress (Spector et al., 1988), work life conflict, job demands and decision latitude (Karasek, 1979) and turnover intentions. This chapter is structured around each of these measures. The survey collected biographical data from participants and this has been presented in section 5.2. For each section of the survey, descriptive statistics are provided and gender differences in responses are explored through the use of inferential statistics. Accordingly section 5.2 begins by providing the descriptive statistics associated with the measures of job satisfaction (number of responses, mean, standard deviation, range, frequencies) and leads to a comparison of the responses of male and female respondents. A similar structure is followed for each of the measures of job-related well-being. This allows for the identification of patterns within the data, for example, sources of satisfaction or dissatisfaction for respondents. Section 5.9 presents the findings of correlations between variables, allowing for any relationships between variables to be determined. Chapter Seven discusses these findings in relation to existing literature and findings from the second phase of the research.
Chapter Five: Questionnaire findings

<table>
<thead>
<tr>
<th>Section</th>
<th>Measure of job-related well-being</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.2</td>
<td>Job satisfaction</td>
</tr>
<tr>
<td>5.3</td>
<td>Job-related well-being and non-job-related well-being</td>
</tr>
<tr>
<td>5.4</td>
<td>Physical symptoms of stress</td>
</tr>
<tr>
<td>5.5</td>
<td>Work life conflict</td>
</tr>
<tr>
<td>5.6</td>
<td>Job demands and decision latitude</td>
</tr>
<tr>
<td>5.7</td>
<td>Turnover intentions</td>
</tr>
<tr>
<td>5.8</td>
<td>Relationships between variables. Correlations between job satisfaction, work life conflict, job demands and decision latitude and turnover intentions</td>
</tr>
</tbody>
</table>

Table 5.1 Structure of Chapter Five

5.2 Sample characteristics

The sample consisted of 75 males and 35 females (out of a sample of 1200 architects).
The age of respondents ranged from under 25 years to over 60 years with a mean age of 35 to 40 years (SD = 2.234). The majority of respondents identified themselves as White British or Caucasian (78%). 61% of respondents were either married or living with a partner, 36% were single and the remaining 3% had a partner that they did not live with. The majority of the sample had no dependants (57%), 41% had three or fewer dependents and the remaining 2% had four or more dependents.

The majority of respondents had achieved chartered architect status (65%), a further 26% were registered with the ARB. The remainder of the sample (9%) were qualified at Part III level or lower. The number of years holding the highest level of qualification ranged from 2 months to 45 years, with a mean of 8.6 years (SD = 10.06). 81% of respondents were not self-employed and 96% worked full-time.

Organisational size ranged from one employee (the self-employed respondents) to 900
employees. 71% of respondents had managerial responsibilities, supervising between 1 and 56 employees. Respondents were employed in a wide range of occupations, as shown in Table 5.2

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architect</td>
<td>42</td>
</tr>
<tr>
<td>Project architect</td>
<td>13</td>
</tr>
<tr>
<td>Director</td>
<td>9</td>
</tr>
<tr>
<td>Associate</td>
<td>7</td>
</tr>
<tr>
<td>Senior architect</td>
<td>6</td>
</tr>
<tr>
<td>Architectural assistant</td>
<td>5</td>
</tr>
<tr>
<td>Principal</td>
<td>4</td>
</tr>
<tr>
<td>Partner</td>
<td>3</td>
</tr>
<tr>
<td>Design manager</td>
<td>3</td>
</tr>
<tr>
<td>Head of development</td>
<td>2</td>
</tr>
<tr>
<td>Package architect</td>
<td>1</td>
</tr>
<tr>
<td>Building and design services officer</td>
<td>1</td>
</tr>
<tr>
<td>Graduate architect</td>
<td>1</td>
</tr>
<tr>
<td>Assistant director</td>
<td>1</td>
</tr>
<tr>
<td>Area technical support manager</td>
<td>1</td>
</tr>
<tr>
<td>Research architect</td>
<td>1</td>
</tr>
<tr>
<td>Head of architecture</td>
<td>1</td>
</tr>
<tr>
<td>Architectural advisor</td>
<td>1</td>
</tr>
<tr>
<td>Architectural designer</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 5.2 Job titles of respondents
Table 5.3 shows the working hours of all participants, which is below the EC Guidelines of 48 hours per week. In section 5.3.2 it is noted, that while the mean working week is less than 48 hours per week, a significant proportion of the sample work in excess of this. 64% of respondents had taken sick leave in the 12 months prior to completing the questionnaire, with a mean number of days of 3.27 (SD = 10.34).

<table>
<thead>
<tr>
<th>Hours worked on site</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours worked in the studio / office</td>
<td>5.03</td>
<td>8.76</td>
<td>0-50</td>
</tr>
<tr>
<td>Hours worked at home</td>
<td>35.5</td>
<td>12.38</td>
<td>0-80</td>
</tr>
<tr>
<td>Total number of hours worked</td>
<td>3.75</td>
<td>7.89</td>
<td>0-45</td>
</tr>
</tbody>
</table>

5.3 Job satisfaction

5.3.1 Introduction

This section presents the descriptive and inferential statistics relating to job satisfaction as measured in the survey, it then presents the statistics of the sample delineated by gender and the results of inferential statistics comparing mean scores reported by male and female respondents. Scores on each scale were rated extremely dissatisfied (1), very dissatisfied (2), moderately dissatisfied (3), not sure (4), moderately satisfied (5), very satisfied (6) and extremely satisfied (7), therefore a low score indicates poor job satisfaction.
5.3.2 Descriptive Statistics for whole sample

As not all questions could be completed by all respondents (for example, those respondents who did not work on site were unable to rate their satisfaction with on-site working conditions), these individuals were not included in mean rating for that item on the scale.

Table 5.4 shows that mean responses for all items ranged between 4.2 and 5.5, corresponding to responses of 'not sure' and 'moderately satisfied' respectively, suggesting that respondents felt moderate satisfaction with most aspects of their job. Exceptions to this were, rate of pay, opportunity of promotion and the way their practice is managed whose mean scores indicates respondents were not sure. Such a rating could indicate dissatisfaction.

In addition to the mean scores for each item on the scale, mean overall job satisfaction, mean intrinsic job satisfaction and mean extrinsic job satisfaction were also calculated. Mean satisfaction for items which are intrinsic to the job was higher than for extrinsic items. Chapter Two discussed the meanings of extrinsic and intrinsic job satisfaction in detail.

To further explore respondents' job satisfaction frequencies of responses were also calculated and are presented in bar chart format (these can be seen in Appendix VI).
<table>
<thead>
<tr>
<th>Item</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Extremely Dissatisfied (%)</th>
<th>Very Dissatisfied (%)</th>
<th>Moderately Dissatisfied (%)</th>
<th>Not Sure (%)</th>
<th>Moderately Satisfied (%)</th>
<th>Very Satisfied (%)</th>
<th>Extremely Satisfied (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical working conditions in studio</td>
<td>110</td>
<td>4.92</td>
<td>1.46</td>
<td>2</td>
<td>5</td>
<td>18</td>
<td>1</td>
<td>34</td>
<td>32</td>
<td>9</td>
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<td>Physical working conditions on site</td>
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<td>.899</td>
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<td>8</td>
<td>20</td>
<td>49</td>
<td>21</td>
<td>0</td>
</tr>
<tr>
<td>Freedom to chose method of working</td>
<td>109</td>
<td>5.11</td>
<td>1.48</td>
<td>3</td>
<td>4</td>
<td>12</td>
<td>5</td>
<td>29</td>
<td>34</td>
<td>14</td>
</tr>
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<td>Relationship with fellow workers</td>
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<td>1.106</td>
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<td>5</td>
<td>4</td>
<td>30</td>
<td>45</td>
<td>13</td>
</tr>
<tr>
<td>Recognition for work</td>
<td>110</td>
<td>4.7</td>
<td>1.392</td>
<td>0</td>
<td>8</td>
<td>17</td>
<td>7</td>
<td>38</td>
<td>22</td>
<td>7</td>
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<td>1.526</td>
<td>2</td>
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<td>9</td>
<td>28</td>
<td>32</td>
<td>11</td>
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<td>1.186</td>
<td>0</td>
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<td>1.579</td>
<td>4</td>
<td>13</td>
<td>26</td>
<td>7</td>
<td>26</td>
<td>23</td>
<td>3</td>
</tr>
<tr>
<td>Opportunity to use abilities</td>
<td>110</td>
<td>4.79</td>
<td>1.551</td>
<td>2</td>
<td>10</td>
<td>12</td>
<td>8</td>
<td>30</td>
<td>29</td>
<td>10</td>
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<td>Industrial relations between management and workers</td>
<td>104</td>
<td>4.74</td>
<td>1.414</td>
<td>1</td>
<td>9</td>
<td>13</td>
<td>11</td>
<td>34</td>
<td>28</td>
<td>6</td>
</tr>
<tr>
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<td>99</td>
<td>4.2</td>
<td>1.558</td>
<td>5</td>
<td>12</td>
<td>16</td>
<td>16</td>
<td>29</td>
<td>17</td>
<td>4</td>
</tr>
<tr>
<td>The way your practice is managed</td>
<td>109</td>
<td>4.23</td>
<td>1.659</td>
<td>8</td>
<td>10</td>
<td>17</td>
<td>7</td>
<td>36</td>
<td>17</td>
<td>5</td>
</tr>
<tr>
<td>Item</td>
<td>N</td>
<td>Mean</td>
<td>Standard Deviation</td>
<td>Extremely Dissatisfied (%)</td>
<td>Very Dissatisfied (%)</td>
<td>Moderately Dissatisfied (%)</td>
<td>Not Sure (%)</td>
<td>Moderately Satisfied (%)</td>
<td>Very Satisfied (%)</td>
<td>Extremely Satisfied (%)</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>----</td>
<td>------</td>
<td>--------------------</td>
<td>---------------------------</td>
<td>----------------------</td>
<td>-----------------------------</td>
<td>--------------</td>
<td>--------------------------</td>
<td>-------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Attention paid to suggestions</td>
<td>110</td>
<td>4.61</td>
<td>1.497</td>
<td>2</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>32</td>
<td>25</td>
<td>7</td>
</tr>
<tr>
<td>Hours of work</td>
<td>110</td>
<td>4.56</td>
<td>1.487</td>
<td>3</td>
<td>6</td>
<td>23</td>
<td>8</td>
<td>28</td>
<td>28</td>
<td>5</td>
</tr>
<tr>
<td>Amount of variety in work</td>
<td>110</td>
<td>4.98</td>
<td>1.394</td>
<td>2</td>
<td>5</td>
<td>13</td>
<td>6</td>
<td>31</td>
<td>36</td>
<td>7</td>
</tr>
<tr>
<td>Job security</td>
<td>110</td>
<td>4.98</td>
<td>1.401</td>
<td>4</td>
<td>19</td>
<td>8</td>
<td>25</td>
<td>34</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>Relationship with clients</td>
<td>108</td>
<td>5.4</td>
<td>1.076</td>
<td>0</td>
<td>4</td>
<td>3</td>
<td>8</td>
<td>27</td>
<td>52</td>
<td>7</td>
</tr>
<tr>
<td>Relationship with other construction</td>
<td>110</td>
<td>5.45</td>
<td>.944</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>6</td>
<td>27</td>
<td>56</td>
<td>5</td>
</tr>
<tr>
<td>professionals</td>
<td>73</td>
<td>5.45</td>
<td>.898</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>7</td>
<td>29</td>
<td>55</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 5.2 Descriptive statistics for items on the job satisfaction scale.
In order to determine overall percentages for the number of respondents who were dissatisfied, not sure and satisfied with aspects of their job, frequencies of response were calculated. The percentage of responses for 'extremely dissatisfied', 'very dissatisfied' and 'moderately dissatisfied' were added together and taken to represent dissatisfaction. The percentage of responses for 'extremely satisfied', 'very satisfied' and 'moderately satisfied' were added together and taken to represent satisfaction. The percentage of responses for 'not sure' were also included in calculations. These are presented in table 5.5.

25% of the sample expressed dissatisfaction about the working conditions in their office. As respondents in the sample spent an average of 35.5 hours a week working in their studio, dissatisfaction with working conditions may be a significant source of concern for some participants and is discussed in greater detail in Chapter Six.

In contrast to working conditions within the office, only 9% expressed dissatisfaction with conditions on site. This suggests that working conditions on site are not a concern to architects in this sample. This could indicate that working conditions on site are adequate or that architects spend little time on site, so conditions there are not a major source of concern.

From table 5.5 most respondents were satisfied with the level of freedom they have to choose their own method of working. Approximately one fifth of the sample expressed dissatisfaction. This suggests that most of the sample were happy with the level of autonomy they have, but a sizeable proportion were dissatisfied.
While the majority (67%) of respondents were satisfied with the recognition they received for their work, over a quarter (26%) were dissatisfied. This implies, that a significant proportion of the sample, feel that their contributions to projects are not being recognised.

The vast majority of respondents were satisfied with the amount of responsibility they are given. Nearly one quarter (24%) of the sample were dissatisfied with the opportunity they have to use their range of abilities. From these figures it is not possible to determine the abilities architects feel that are not able to use, or what prevents their use. This required further investigation.

From table 5.5 it can be seen that over one quarter of the sample (29%) were dissatisfied with the amount of attention that is paid to their suggestions. Just as a significant proportion of the sample felt that they did not receive adequate recognition for their work, a similar percentage feel that their contributions (in terms of suggestions) are not being given due attention. This once again suggests that a substantial proportion of the sample feel that their contributions are being ignored.

The majority of respondents were satisfied with the amount of variety in their work. However, nearly one fifth (19%) of the sample expressed dissatisfaction. From these figures it is not possible to determine if these respondents felt that they had too little or too much variety in their work. As a similar number of respondents (24%) felt that they were not able to use their range of abilities, it may be that respondents felt that they had too little variety in their work.
Nearly a half of respondents were dissatisfied with their rate of pay, indicating that pay is a significant area of concern for respondents. From Table 5.5 it can be seen that pay is the largest area of dissatisfaction for respondents.

While most (67%) respondents were satisfied with the industrial relations between management and workers in their practice, over one fifth (22%) were not satisfied. As a similar number of respondents were dissatisfied with their relationship with their line manager, it suggests, that management practices within the architectural practice may be a significant area of concern for respondents. A fifth of the sample were not satisfied with the relationship they have with their line manager, although over 70% expressed satisfaction. This suggests that a considerable proportion of respondents felt concern over management practices. This is explored further when satisfaction with practice management is discussed in Chapter Six.

Over one third of respondents (35%) expressed dissatisfaction over the way that their practice is managed. This further suggests that practice management is a significant area of concern and the exact nature of these issues is explored in further detail in Chapter Six. From table 5.5 it can be seen that one third of respondents were dissatisfied with their opportunity for promotion, indicating that career progression is an important source of concern for some respondents.

Approximately one third (31%) of respondents were dissatisfied with the number of hours that they worked. A similar proportion of the sample (27.3%) indicated a working week in excess of 48 hours, suggesting that respondents may feel that they are working too many hours.
Table 5.5 Percentage of all respondents who indicated dissatisfaction with items on the job satisfaction scales.

<table>
<thead>
<tr>
<th>Item</th>
<th>Percentage indicating dissatisfaction</th>
<th>Percentage indicating satisfaction</th>
<th>Percentage indicating not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate of pay</td>
<td>42</td>
<td>51</td>
<td>7</td>
</tr>
<tr>
<td>The way your practice is managed</td>
<td>35</td>
<td>58</td>
<td>7</td>
</tr>
<tr>
<td>Opportunity for promotion</td>
<td>33</td>
<td>51</td>
<td>16</td>
</tr>
<tr>
<td>Your hours of work</td>
<td>31</td>
<td>61</td>
<td>8</td>
</tr>
<tr>
<td>Attention paid to the suggestions you make</td>
<td>29</td>
<td>64</td>
<td>7</td>
</tr>
<tr>
<td>Recognition for your work</td>
<td>26</td>
<td>67</td>
<td>7</td>
</tr>
<tr>
<td>Working conditions in the office / studio</td>
<td>25</td>
<td>74</td>
<td>1</td>
</tr>
<tr>
<td>Opportunity to use your abilities</td>
<td>24</td>
<td>68</td>
<td>8</td>
</tr>
<tr>
<td>Your job security</td>
<td>23</td>
<td>69</td>
<td>8</td>
</tr>
<tr>
<td>Industrial relations in your practice</td>
<td>22</td>
<td>67</td>
<td>11</td>
</tr>
<tr>
<td>Immediate line manager</td>
<td>20</td>
<td>71</td>
<td>9</td>
</tr>
<tr>
<td>The amount of variety in your work</td>
<td>19</td>
<td>75</td>
<td>6</td>
</tr>
<tr>
<td>Freedom to chose your own method of working</td>
<td>18</td>
<td>77</td>
<td>5</td>
</tr>
<tr>
<td>The amount of responsibility you are given</td>
<td>10</td>
<td>83</td>
<td>7</td>
</tr>
<tr>
<td>Working conditions on site</td>
<td>9</td>
<td>71</td>
<td>20</td>
</tr>
<tr>
<td>Your relationship with fellow workers</td>
<td>8</td>
<td>88</td>
<td>4</td>
</tr>
<tr>
<td>Your relationship with other construction professionals</td>
<td>7</td>
<td>87</td>
<td>6</td>
</tr>
<tr>
<td>Your relationship with subordinates</td>
<td>5</td>
<td>57</td>
<td>39</td>
</tr>
</tbody>
</table>

Nearly one quarter (23%) of respondents were not satisfied with their level of job security (Figure 5.16). Respondents' satisfaction with their working relationships with colleagues, clients, other construction professionals and subordinates. These figures show that only a small percentage expressed dissatisfaction with any of these.
relationships. These figures suggest that most respondents are happy with their working relationships and they do not represent a significant area of concern.

Table 5.5 lists the items on the job satisfaction scale in descending order of dissatisfaction. Particular sources of dissatisfaction included, pay, opportunity for promotion, the way the practice is managed, hours of work, recognition for work, attention paid to suggestions, opportunity to use abilities, variety and job security.

5.3.3 Descriptive statistics by gender.

The table below presents the descriptive statistics (number, mean and standard deviation) for male and female respondents.

<table>
<thead>
<tr>
<th>Item</th>
<th>Male</th>
<th>Female</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical working conditions in studio</td>
<td>75</td>
<td>35</td>
<td>1.331</td>
<td>5.23</td>
<td>1.521</td>
</tr>
<tr>
<td>Physical working conditions on site</td>
<td>62</td>
<td>27</td>
<td>.914</td>
<td>4.87</td>
<td>.869</td>
</tr>
<tr>
<td>Freedom to chose method of working</td>
<td>74</td>
<td>35</td>
<td>1.441</td>
<td>5.24</td>
<td>1.543</td>
</tr>
<tr>
<td>Relationship with fellow workers</td>
<td>72</td>
<td>34</td>
<td>1.138</td>
<td>5.51</td>
<td>1.051</td>
</tr>
<tr>
<td>Recognition for work</td>
<td>75</td>
<td>35</td>
<td>.382</td>
<td>4.81</td>
<td>1.400</td>
</tr>
<tr>
<td>Line Manager</td>
<td>66</td>
<td>31</td>
<td>1.481</td>
<td>5.08</td>
<td>1.603</td>
</tr>
<tr>
<td>Amount of Responsibility</td>
<td>73</td>
<td>35</td>
<td>1.144</td>
<td>5.52</td>
<td>1.268</td>
</tr>
<tr>
<td>Rate of Pay</td>
<td>75</td>
<td>35</td>
<td>1.544</td>
<td>4.32</td>
<td>1.630</td>
</tr>
<tr>
<td>Opportunity to use abilities</td>
<td>75</td>
<td>35</td>
<td>1.590</td>
<td>4.89</td>
<td>1.461</td>
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<tr>
<td>Industrial relations between</td>
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<td>32</td>
<td>1.342</td>
<td>4.88</td>
<td>1.544</td>
</tr>
<tr>
<td>management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and workers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opportunity of promotion</td>
<td>67</td>
<td>32</td>
<td>1.561</td>
<td>4.49</td>
<td>1.388</td>
</tr>
<tr>
<td>Item</td>
<td>Male N</td>
<td>Mean</td>
<td>Standard Deviation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>--------</td>
<td>------</td>
<td>--------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The way your practice is managed</td>
<td>4.43</td>
<td>1.672</td>
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</tr>
<tr>
<td>Female 35</td>
<td>3.80</td>
<td>1.568</td>
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<tr>
<td>Attention paid to suggestions</td>
<td>4.70</td>
<td>1.478</td>
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<td></td>
</tr>
<tr>
<td>Female 35</td>
<td>4.43</td>
<td>1.539</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hours of work</td>
<td>4.64</td>
<td>1.439</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Female 35</td>
<td>4.40</td>
<td>1.594</td>
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<td>Amount of variety in work</td>
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<td>1.341</td>
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</tr>
<tr>
<td>Female 35</td>
<td>5.17</td>
<td>1.505</td>
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<td></td>
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<tr>
<td>Female 35</td>
<td>5.00</td>
<td>1.188</td>
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</tr>
<tr>
<td>Relationship with clients</td>
<td>5.38</td>
<td>1.094</td>
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<td></td>
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</tr>
<tr>
<td>Female 34</td>
<td>5.44</td>
<td>1.050</td>
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</tr>
<tr>
<td>Relationship with other construction</td>
<td>5.47</td>
<td>.949</td>
<td></td>
<td></td>
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<tr>
<td>Female 35</td>
<td>5.40</td>
<td>.946</td>
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<tr>
<td>Relationship with subordinates</td>
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<td>.949</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Female 17</td>
<td>5.59</td>
<td>.712</td>
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<tr>
<td>Intrinsic Job Satisfaction</td>
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<td>.954</td>
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<td></td>
</tr>
<tr>
<td>Female 35</td>
<td>4.95</td>
<td>.938</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Extrinsic Job Satisfaction</td>
<td>4.89</td>
<td>.899</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female 35</td>
<td>4.46</td>
<td>.889</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Job Satisfaction</td>
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<td>.854</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female 35</td>
<td>4.71</td>
<td>.844</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.6. Descriptive statistics (number, mean and standard deviation) of responses to items on job satisfaction scale, by gender.

From the table above it can be seen that, for most items, male respondents reported higher (mean) satisfaction with items on the job satisfaction scale. Female respondents reported higher (mean) satisfaction with four items; the amount of variety in work, job security, relationship with clients and relationship with subordinates. Male respondents reported higher intrinsic, extrinsic and overall job satisfaction than female respondents. It would seem that male respondents in this sample, experience greater job satisfaction than female respondents, with the exceptions detailed above.
5.3.4 Comparison of means for items on the job satisfaction scale.

In order to test the significance of gender differences in mean scores on the job satisfaction scale, a comparison of means was carried out. As the data was not normally distributed, non parametric Mann Whitney U tests were conducted.

<table>
<thead>
<tr>
<th>Item</th>
<th>Mann-Whitney U</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical working conditions in studio</td>
<td>810.5</td>
<td>.001</td>
</tr>
<tr>
<td>Physical working conditions on site</td>
<td>749</td>
<td>.397</td>
</tr>
<tr>
<td>Freedom to choose method of working</td>
<td>1061.5</td>
<td>.116</td>
</tr>
<tr>
<td>Relationship with fellow workers</td>
<td>1172.5</td>
<td>.710</td>
</tr>
<tr>
<td>Recognition for work</td>
<td>1129.5</td>
<td>.223</td>
</tr>
<tr>
<td>Line Manager</td>
<td>869</td>
<td>.220</td>
</tr>
<tr>
<td>Amount of Responsibility</td>
<td>1146.5</td>
<td>.365</td>
</tr>
<tr>
<td>Rate of Pay</td>
<td>1098</td>
<td>.159</td>
</tr>
<tr>
<td>Opportunity to use abilities</td>
<td>1109</td>
<td>.179</td>
</tr>
<tr>
<td>Industrial relations between management and workers</td>
<td>957</td>
<td>.156</td>
</tr>
<tr>
<td>Opportunity of promotion</td>
<td>702</td>
<td>.005</td>
</tr>
<tr>
<td>The way your practice is managed</td>
<td>994</td>
<td>.044</td>
</tr>
<tr>
<td>Attention paid to suggestions</td>
<td>1134</td>
<td>.334</td>
</tr>
<tr>
<td>Hours of work</td>
<td>1219</td>
<td>.537</td>
</tr>
<tr>
<td>Amount of variety in work</td>
<td>1099</td>
<td>.153</td>
</tr>
<tr>
<td>Job security</td>
<td>1265.5</td>
<td>.756</td>
</tr>
<tr>
<td>Relationship with clients</td>
<td>1246.5</td>
<td>.934</td>
</tr>
<tr>
<td>Relationship with other construction professionals</td>
<td>1229</td>
<td>.551</td>
</tr>
<tr>
<td>Relationship with subordinates</td>
<td>451.5</td>
<td>.723</td>
</tr>
<tr>
<td>Intrinsic Job Satisfaction</td>
<td>1182</td>
<td>.175</td>
</tr>
<tr>
<td>Extrinsic Job Satisfaction</td>
<td>987</td>
<td>.015</td>
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<tr>
<td>Overall Job Satisfaction</td>
<td>1068</td>
<td>.048</td>
</tr>
</tbody>
</table>

Table 5.7 Results of Mann Whitney U test, exploring gender differences in job satisfaction (significant differences are in bold font).
Table 5.7 shows the results of Mann Whitney U tests on gender differences in job satisfaction. Although male respondents reported greater job satisfaction for most items, only three differences were statistically significant. Female respondents were significantly less satisfied with their physical working conditions within the studio ($U = 810.5, p = .001$), with their opportunity for promotion ($U = 702, p = .005$), with the way that their practice is managed ($U = 994, p = .044$). In addition women were less satisfied with items which are extrinsic to their job ($U = 987, p = .015$) and experience lower overall job satisfaction ($U = 1068, p = .048$).

5.3.5 Job satisfaction summary

While most respondents reported satisfaction with items on the job satisfaction scale, the statistics presented here demonstrate that certain aspects of work were sources for dissatisfaction for a significant proportion of the sample. Particular areas of concern were pay, issues relating to practice management, promotion prospects, hours of work and recognition of work. Female respondents reported lower job satisfaction for most items with the exceptions of variety, job security and relationships with clients and subordinates. Few mean differences were statistically significant apart from working conditions in the studio, opportunity for promotion and the way their practice is managed. These issues warranted further investigation in the second phase of data collection (as detailed in chapter Four).

The following section details the results from the second measure of experience of work; job-related and non-job-related well-being.
5.4 Affective well-being

5.4.1 Introduction to the affective well-being scale

The job-related well-being scale asked respondents to rate how often they had experienced a range of emotions, both in relation to their job and their life outside of work, in the previous 30 days. Responses ranged from never to all of the time. As described in Chapter Four responses were reversed scored for ‘positive’ emotions, so a low score indicates poor well-being.

5.4.2 Descriptive statistics for whole sample

As can be seen in Table 5.8 mean scores for the whole sample were relatively low. For example, the mean score for ‘In the past 30 days how often has your job made you feel tense?’ the mean score was 3.07 which approximates to a response of ‘much of the time’. Other mean responses indicate that respondents felt uneasy and worried much of the time, and depressed, gloomy and miserable most of the time. Mean scores for the ‘positive’ emotions were generally higher. For example, the mean response for ‘In the past 30 days my job has made me feel contented’ was 3.65, which approximates to a response of ‘much of the time’. The mean responses for calm, relaxed, cheerful, enthusiastic and optimistic were similar. This suggests, that while respondents felt ‘negative’ emotions at work there also experienced ‘positive’ emotions. This suggests that architects’ affective (emotional) experience of work is complex.
### Chapter Five: Questionnaire findings

#### Table 5.8 Descriptive statistics for items on the job-related well-being scale (N, mean, standard deviation, minimum and maximum).

<table>
<thead>
<tr>
<th>Item on scale</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tense</td>
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<td>3.07</td>
<td>1.25</td>
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<td>6</td>
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<tr>
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<td>6</td>
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<tr>
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<td>6</td>
</tr>
<tr>
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<td>6</td>
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<td>1.36</td>
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#### 5.4.4 Non job-related well-being descriptive statistics

<table>
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<tr>
<th>Item on scale</th>
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<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
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</thead>
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Table 5.9 Descriptive statistics for items on the non job-related well-being scale (N, mean, Standard Deviation, minimum and maximum)
Table 5.9 mean responses for questions relating to life outside of work. For this sample, mean responses for non job-related well-being were generally lower than for job-related well-being. For example, the mean response for ‘In the past 30 days how often has your job made you feel tense?’ was 3.07, but for ‘In the past 30 days how often has your life outside your job made you feel tense’ was 2.27 (indicating most of the time). For all items on the scale, job-related well-being was higher than non job-related well-being. Job-related and non job-related well-being are bidirectional indicating that they interact. Therefore, it is difficult to determine if work affects experience of non work and vice versa. What is clear is that respondents in this sample experience poor well-being both at work and at home.

To further explore data patterns, frequencies were calculated for both job-related and non job-related well-being. There are presented in Tables 5.10 and 5.11 below and are presented in bar chart form to also identify the distribution of the data (see Appendix VI). This data was not distributed normally, therefore any inferential statistics would have to be non parametric.
Chapter Five: Questionnaire findings

<table>
<thead>
<tr>
<th></th>
<th>All of the time</th>
<th>Most of the time</th>
<th>Much of the time</th>
<th>Some of the time</th>
<th>Occasionally</th>
<th>Never</th>
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</table>

Table 5.10 percentage of respondents reporting experiencing job-related well-being

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<th>Much of the time</th>
<th>Some of the time</th>
<th>Occasionally</th>
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</table>

Table 5.11 percentage of respondents reporting experiencing non job-related well-being

161
5.4.5 Descriptive Statistics by gender

Table 5.12 displays the mean responses delineated by gender for items on the job-related and non job-related well-being. Female respondents had higher mean scores for every item on the scale, with the exception of 'In the past 30 days how often has your job made you feel cheerful?'. This suggests that female respondents experienced better job-related and non job-related well-being than their male counterparts, although levels for both groups were relatively low.

<table>
<thead>
<tr>
<th>Item</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
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Table 5.12 Descriptive statistics for items on the job-related well-being scale by gender (N, Mean and standard deviation)
Chapter Five: Questionnaire findings

<table>
<thead>
<tr>
<th>Item</th>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
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<td>35</td>
<td>3.23</td>
<td>.91</td>
</tr>
<tr>
<td>Optimistic</td>
<td>Male</td>
<td>75</td>
<td>2.79</td>
<td>1.24</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>3.03</td>
<td>.96</td>
</tr>
</tbody>
</table>

Table 5.13. Descriptive statistics for items on the non job-related well-being scale by gender (N, Mean and Standard Deviation).

5.4.6 Comparisons of means for affective well-being

To test the observation that female respondents reported higher job-related and non job-related well-being, it was necessary to carry out inferential statistics. As the data was not normally distributed, these statistics were non parametric. To compare the mean responses of male and female respondents a Mann-Whitney U test was conducted. A number of statistically significant differences were identified.
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Table 5.14 shows a number of significant differences in the data. Male respondents more frequently reported feeling tense (\(U = 888, p = .005\)), worried (\(U = 995, p = .05\)), depressed (\(U = 971, p = .022\)), gloomy (\(U = 1001, p = .037\)), miserable (\(U = 914, p = .006\)). Female respondents more frequently reported feeling calm (\(U = 1019, p = .054\)) and optimistic (\(U = 977.5, p = .028\)). These differences are significant at the .054 level.

Table 5.14 reports results from a Mann Whitney U test for non job-related well-being. Female respondents also reported greater non job-related well-being than their male counterparts. Male respondents reported more frequently feeling tense (\(U = 965.5, p = .018\)), uneasy (\(U = 965, p = .018\)), worried (\(U = 977, p = .020\)), depressed (\(U = 995.5, p = .028\)) and miserable (\(U = 987, p = .017\)). Female respondents reported more frequently feeling optimistic outside of work (\(U = 1117.5, p = .0194\)). All significant differences identified here were are significant at the .05 level or lower.

Overall it would seem that female respondents experience fewer 'negative' emotions and more 'positive' emotions, in both the work and non work context. This implies
that, for this measure of well-being, female architects have a more positive experience of work.

5.4.6 Affective well-being summary

Statistics reported here reveal that respondents in this sample experienced poor job-related and non job-related well-being suggesting that architects' experience of their working and non working lives is poor. Interestingly female respondents reported greater levels of job and non job-related well-being. This suggests that while female architects may experience poorer job satisfaction than male architects, they also experience better well-being.

The following section details responses to the third measure of architect's experience of work; physical symptoms of stress.
5.5 Physical symptoms of stress

5.5.1 Introduction

All respondents were asked to indicate if they had experienced a range of stress related symptoms in the 30 days prior to completing of the questionnaire. Respondents could choose from three set answers; ‘No’, ‘Yes but I did not see a doctor’ and ‘Yes and I did see a doctor’. These answers were then recorded to determine the percentage of respondents reporting symptoms.

5.5.2 Frequency of symptom reporting for whole sample

Table 5.15 details the percentage of respondents how had not experienced each symptoms, those who had but who had not seen a doctor, those who had seen a doctor about the symptom and the total number reporting each symptom. Symptoms are listed in descending order in terms of the total number reporting each symptom.

Fatigue (82.7%), headache (60.5%), trouble sleeping (58.7%) and eye strain (52.7%) were experienced by a majority of respondents. Other commonly experienced symptoms were backache (44.5%), nausea (36.3%), acid indigestion (27.3%), diarrhoea (23.6%) and restless legs (22.7%). From these data it is clear that the majority of architects in this sample were vulnerable to one or more physical symptom of stress. 70.7% of respondents did not discuss their symptoms with colleague and 79.8% did not report symptoms to their line managers. That the majority of respondents did not discuss their symptoms with either colleagues or their line managers, may imply that respondents did not view their colleagues or line managers a source of support. It could also suggest that they did felt unable to confide in their co-workers or line manager.
<table>
<thead>
<tr>
<th>Symptom</th>
<th>N</th>
<th>(%)</th>
<th>Yes but I did not see a doctor (%)</th>
<th>Yes and I did see a doctor (%)</th>
<th>Total reporting symptoms (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatigue</td>
<td>110</td>
<td>17.3</td>
<td>80</td>
<td>2.7</td>
<td>82.7</td>
</tr>
<tr>
<td>Headache</td>
<td>110</td>
<td>40</td>
<td>58.2</td>
<td>1.2</td>
<td>59.4</td>
</tr>
<tr>
<td>Trouble sleeping</td>
<td>110</td>
<td>41.8</td>
<td>54.5</td>
<td>3.6</td>
<td>58.1</td>
</tr>
<tr>
<td>Eye strain</td>
<td>110</td>
<td>46.4</td>
<td>52.7</td>
<td>.9</td>
<td>53.6</td>
</tr>
<tr>
<td>Backache</td>
<td>110</td>
<td>55.5</td>
<td>42.7</td>
<td>1.8</td>
<td>44.5</td>
</tr>
<tr>
<td>Nausea</td>
<td>110</td>
<td>63.6</td>
<td>33.6</td>
<td>2.7</td>
<td>36.3</td>
</tr>
<tr>
<td>Acid indigestion</td>
<td>110</td>
<td>72.7</td>
<td>27.3</td>
<td>0</td>
<td>27.3</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>110</td>
<td>76.4</td>
<td>22.7</td>
<td>.9</td>
<td>23.6</td>
</tr>
<tr>
<td>Restless legs</td>
<td>110</td>
<td>77.3</td>
<td>21.8</td>
<td>.9</td>
<td>22.7</td>
</tr>
<tr>
<td>Pins and needles</td>
<td>110</td>
<td>80.9</td>
<td>19.1</td>
<td>0</td>
<td>19.1</td>
</tr>
<tr>
<td>Skin rash</td>
<td>110</td>
<td>81.8</td>
<td>15.5</td>
<td>2.7</td>
<td>18.2</td>
</tr>
<tr>
<td>Infection</td>
<td>110</td>
<td>82.7</td>
<td>10.9</td>
<td>6.4</td>
<td>17.3</td>
</tr>
<tr>
<td>Dizziness</td>
<td>110</td>
<td>85.5</td>
<td>14.5</td>
<td>0</td>
<td>14.5</td>
</tr>
<tr>
<td>Constipation</td>
<td>110</td>
<td>85.5</td>
<td>13.6</td>
<td>.9</td>
<td>14.5</td>
</tr>
<tr>
<td>Loss of appetite</td>
<td>110</td>
<td>86.4</td>
<td>12.7</td>
<td>.9</td>
<td>13.6</td>
</tr>
<tr>
<td>Stomach cramps</td>
<td>110</td>
<td>85.5</td>
<td>10.9</td>
<td>2.7</td>
<td>13.6</td>
</tr>
<tr>
<td>Breathlessness</td>
<td>110</td>
<td>88.2</td>
<td>10.9</td>
<td>.9</td>
<td>11.8</td>
</tr>
<tr>
<td>Fever</td>
<td>110</td>
<td>88.2</td>
<td>10.9</td>
<td>.9</td>
<td>11.8</td>
</tr>
<tr>
<td>Heart pounding</td>
<td>110</td>
<td>87.3</td>
<td>10.9</td>
<td>1.8</td>
<td>11.8</td>
</tr>
<tr>
<td>Chest pain</td>
<td>110</td>
<td>90</td>
<td>7.3</td>
<td>2.7</td>
<td>10</td>
</tr>
<tr>
<td>Shaking</td>
<td>110</td>
<td>95.5</td>
<td>4.5</td>
<td>0</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Table 5.15 Percentage of respondents reporting symptoms in the 30 days prior to completion of questionnaire in descending order of total percentage reporting symptom
5.5.3 Frequency of symptom reporting by gender

In order to determine any gender differences in the reporting of physical symptoms of stress, the frequency of reporting for male and female respondents was calculated and tabulated below. From Table 5.16 it can be seen that for 15 of the symptoms, more female than male respondents reported experiencing them. For 6 of the symptoms (skin rash, fever, acid indigestion, dizziness, shaking and restless legs) a higher percentage of male respondents reported experiencing them.

5.5.3 Comparison of symptom frequency reporting by gender

To determine if these differences in frequency were significant, a chi square procedure was carried out. Most of the differences were not significant. More females reported difficulty sleeping and this proved to be statistically significant $\chi^2(1, \ N = 110) = 16.9, \ p > .05$. In addition, more females reported experiencing constipation $\chi^2(1, \ N = 110) = 12.87, \ p > .05$. It can then be said, that female respondents experienced more physical symptoms of stress than male respondents, and that this difference was statistically significant, for trouble sleeping and constipation. The lack of statistical significance for other symptoms could result from the difference in sample sizes. Further chi square tests revealed that there was no statistically significant difference in reporting of symptoms to colleagues or line managers by male and female respondents.
<table>
<thead>
<tr>
<th>Item</th>
<th>Male</th>
<th>N</th>
<th>Yes (%)</th>
<th>Yes but did not see a doctor (%)</th>
<th>Yes and did see a doctor (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nausea</td>
<td>Male</td>
<td>75</td>
<td>68</td>
<td>30.7</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>54.3</td>
<td>40</td>
<td>5.7</td>
</tr>
<tr>
<td>Backache</td>
<td>Male</td>
<td>75</td>
<td>57.3</td>
<td>41.3</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>51.4</td>
<td>45.7</td>
<td>2.9</td>
</tr>
<tr>
<td>Trouble sleeping</td>
<td>Male</td>
<td>75</td>
<td>52</td>
<td>44</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>20</td>
<td>77.1</td>
<td>2.9</td>
</tr>
<tr>
<td>Skin rash</td>
<td>Male</td>
<td>75</td>
<td>81.3</td>
<td>16</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>82.9</td>
<td>14.3</td>
<td>2.9</td>
</tr>
<tr>
<td>Breathlessness</td>
<td>Male</td>
<td>75</td>
<td>89.3</td>
<td>10.7</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>85.7</td>
<td>11.4</td>
<td>2.9</td>
</tr>
<tr>
<td>Chest pain</td>
<td>Male</td>
<td>75</td>
<td>92</td>
<td>5.3</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>85.7</td>
<td>11.4</td>
<td>2.9</td>
</tr>
<tr>
<td>Headache</td>
<td>Male</td>
<td>75</td>
<td>44</td>
<td>54.7</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>31.4</td>
<td>65.7</td>
<td>2.9</td>
</tr>
<tr>
<td>Fever</td>
<td>Male</td>
<td>75</td>
<td>86.7</td>
<td>12</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>91.4</td>
<td>8.6</td>
<td>0</td>
</tr>
<tr>
<td>Acid indigestion</td>
<td>Male</td>
<td>75</td>
<td>70.7</td>
<td>29.3</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>77.1</td>
<td>22.9</td>
<td>0</td>
</tr>
<tr>
<td>Eye strain</td>
<td>Male</td>
<td>75</td>
<td>48</td>
<td>50.7</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>42.9</td>
<td>57.1</td>
<td>0</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>Male</td>
<td>75</td>
<td>78.7</td>
<td>20</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>71.4</td>
<td>28.6</td>
<td>0</td>
</tr>
<tr>
<td>Stomach cramps</td>
<td>Male</td>
<td>75</td>
<td>89.3</td>
<td>8</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>80</td>
<td>17.1</td>
<td>2.9</td>
</tr>
<tr>
<td>Constipation</td>
<td>Male</td>
<td>75</td>
<td>92</td>
<td>6.7</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>71.4</td>
<td>28.6</td>
<td>0</td>
</tr>
<tr>
<td>Heart pounding</td>
<td>Male</td>
<td>75</td>
<td>89.3</td>
<td>9.3</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>82.9</td>
<td>14.3</td>
<td>2.9</td>
</tr>
<tr>
<td>Infection</td>
<td>Male</td>
<td>75</td>
<td>85.3</td>
<td>6.7</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>77.1</td>
<td>20</td>
<td>2.9</td>
</tr>
<tr>
<td>Loss of appetite</td>
<td>Male</td>
<td>75</td>
<td>89.3</td>
<td>9.3</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>80</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Dizziness</td>
<td>Male</td>
<td>75</td>
<td>85.3</td>
<td>14.7</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>85.7</td>
<td>14.3</td>
<td>0</td>
</tr>
<tr>
<td>Shaking</td>
<td>Male</td>
<td>75</td>
<td>94.7</td>
<td>5.3</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>97.1</td>
<td>2.9</td>
<td>0</td>
</tr>
<tr>
<td>Restless legs</td>
<td>Male</td>
<td>75</td>
<td>77.3</td>
<td>22.7</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>77.1</td>
<td>20.9</td>
<td>2.9</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Item</th>
<th>N</th>
<th>Yes or no (%)</th>
<th>Yes but did not see a doctor (%)</th>
<th>Yes and did see a doctor (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pins and needles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>75</td>
<td>84</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td>Female</td>
<td>35</td>
<td>74.3</td>
<td>25.7</td>
<td>0</td>
</tr>
<tr>
<td>Fatigue</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>75</td>
<td>24</td>
<td>73.3</td>
<td>2.7</td>
</tr>
<tr>
<td>Female</td>
<td>35</td>
<td>2.9</td>
<td>94.3</td>
<td>2.9</td>
</tr>
</tbody>
</table>

Table 5.16 Frequency of reporting of Physical Symptoms of stress by gender (presented as a percentage).

5.5.4 Physical symptoms summary

The statistics presented here reveal that the majority of respondents experience at least one symptom of stress. The most commonly reported symptoms were fatigue, headaches, trouble sleeping and eyestrain. Female respondents reported greater frequency of symptoms and differences were statistically significant for trouble sleeping and constipation.

The following section details findings from the fourth measure of architects’ experience of work; work life conflict.

5.6 Work-life conflict

5.6.1 Introduction

Work-life conflict was scored on a scale of strongly disagree to strongly agree. Each point on the scale was coded numerically for analysis; strongly agree (1), agree (2), neither agree nor disagree (3), disagree (4) and strongly disagree (5). Consequently a low score indicates work life conflict. The following sections detail descriptive statistics for the whole sample, exploring the existence of work life conflict. The results of further analysis, examining gender differences in work life conflict is then reported.
5.6.2 Descriptive Statistics for whole sample

Table 5.15 provides the mean, minimum, maximum, standard deviation and number of responses for each question on this scale. For single respondents and those without caring responsibilities questions relating to children and intimate relationships were not relevant. Examining the mean responses on each item (see table 5.17) revealed that for all items with the exception of 'I often arrive at work too tired to function because of household work I have done', the mean response was 3 indicating 'Neither agree or disagree'. As with job satisfaction and job-related well-being, the frequency of each response on each item was also analysed.

<table>
<thead>
<tr>
<th>Item</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>% agreement</th>
<th>% disagreement</th>
<th>% neither agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>It has been difficult for to fulfil my family responsibilities because of the amount of time I spend on my job</td>
<td>110</td>
<td>3.12</td>
<td>1.07</td>
<td>32</td>
<td>31</td>
<td>37</td>
</tr>
<tr>
<td>I have arrived at work too tired to function well because of the household work I have done</td>
<td>110</td>
<td>3.75</td>
<td>1.02</td>
<td>15</td>
<td>20</td>
<td>65</td>
</tr>
<tr>
<td>I have come home from work too tired (several times a month) to do the chores which need to be done</td>
<td>109</td>
<td>2.57</td>
<td>1.13</td>
<td>62</td>
<td>17</td>
<td>21</td>
</tr>
<tr>
<td>My marriage / relationship suffers because of my work</td>
<td>87</td>
<td>3.25</td>
<td>1.93</td>
<td>33</td>
<td>25</td>
<td>42</td>
</tr>
<tr>
<td>I feel that my work prevents me from being as good a parent as I would like to be</td>
<td>47</td>
<td>3.38</td>
<td>1.22</td>
<td>32</td>
<td>21</td>
<td>47</td>
</tr>
<tr>
<td>I find it difficult to 'switch off' when I finish work</td>
<td>110</td>
<td>2.71</td>
<td>1.21</td>
<td>54</td>
<td>14</td>
<td>32</td>
</tr>
<tr>
<td>My work affects my enjoyment of my social life</td>
<td>110</td>
<td>3.18</td>
<td>1.17</td>
<td>35</td>
<td>19</td>
<td>46</td>
</tr>
<tr>
<td>Work life balance mean</td>
<td>110</td>
<td>3.11</td>
<td>0.844</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.17 Descriptive statistics for items on work life balance scale (N, mean, standard deviation, percentages indicating agreement, disagreement and neither agreement or disagreement with items). Minimum for all items was 1 and maximum for all items was 5

The mean scores reported in the table above seem to suggest that respondents did not experience any difficulties with their work life balance. To further explore the validity
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of this status, frequencies of responses were calculated. Scores for each question were aggregated to determine agreement, disagreement and neither agreement nor disagreement. Percentage of responses to strongly agree and agree were combined to represent agreement and the percentage of responses for strongly disagree and disagree were combined to represent disagreement. These figures have been represented table 5.17.

Table 5.17 reveals that approximately one third (32%) of respondents agreed that their job affects their ability to fulfil their family respondents. This indicates that respondents experience work to life conflict. In contrast, only 15% of respondents felt that their household commitments affected their ability to function at work. This suggests that for the vast majority of respondents, life to work conflict was not a concern. It can be seen in table 5.17 that the majority of respondents felt that their work made it difficult to carry out household chores. This indicates that respondents experience work to life conflict.

Approximately one third of respondents felt that their working life negatively affected the quality of their marriage / relationship. Although it is not possible to determine the underlying factors involved here, it seems that a significant proportion of the sample feel that their working life damages their intimate relationships. Approximately one third of respondents felt that their work negatively affected their relationship with their children. As with the question relating to relationship quality, it is not possible to understand the nature of this concern.
The majority of respondents reported difficulty ‘switching’ off after work. This is a significant finding as it suggests that work to life conflict is a significant concern for the majority of respondents.

Approximately one third of respondents felt that their work affects their enjoyment of their social life. As already discussed, a similar proportion of the sample express concern over the impact their work has on their relationship with partners and children. This suggests that, for this sample, working as an architect has potentially broad ranging consequences for an individual’s family and their support outside of work.

Having determined descriptive patterns in the data, further statistical tests were conducted to explore any gender differences in the data.

5.6.3 Descriptive statistics by gender

The mean and standard deviations for male and female respondents to items on the work life conflict scale were calculated and are presented in Table 5.18.

Table 5.18 reveals that for every item on the work life balance scale, female respondents reported greater agreement with statements than male respondents. This suggests that female architects in this sample, experience greater work life conflict than male architects in this sample. Mann Whitney U tests were carried on the data to determine the statistical significance of these differences. The results are presented in table 5.18.
5.6.4 Comparisons of means for work life conflict

<table>
<thead>
<tr>
<th>Item</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>U</th>
<th>Significance (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>It has been difficult for to fulfil my family responsibilities because of the amount of time I spend on my job</td>
<td>Male 75</td>
<td>3.17</td>
<td>1.10</td>
<td>1197</td>
<td>.224</td>
</tr>
<tr>
<td></td>
<td>Female 35</td>
<td>3.00</td>
<td>1.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have arrived at work too tired to function well because of the household work I have done</td>
<td>Male 75</td>
<td>3.79</td>
<td>1.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female 35</td>
<td>3.69</td>
<td>1.05</td>
<td>1253</td>
<td>.344</td>
</tr>
<tr>
<td>I have come home from work too tired (several times a month) to do the chores which need to be done</td>
<td>Male 74</td>
<td>2.70</td>
<td>1.19</td>
<td>1063.5</td>
<td>.054</td>
</tr>
<tr>
<td></td>
<td>Female 35</td>
<td>2.29</td>
<td>.957</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My marriage / relationship suffers because of my work</td>
<td>Male 62</td>
<td>3.31</td>
<td>1.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female 25</td>
<td>3.12</td>
<td>1.20</td>
<td>693.5</td>
<td>.218</td>
</tr>
<tr>
<td>I feel that my work prevents me from being as good a parent as I would like to be</td>
<td>Male 36</td>
<td>3.24</td>
<td>1.27</td>
<td>185.5</td>
<td>.392</td>
</tr>
<tr>
<td></td>
<td>Female 11</td>
<td>3.27</td>
<td>1.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I find it difficult to 'switch off' when I finish work</td>
<td>Male 75</td>
<td>2.91</td>
<td>1.18</td>
<td>912</td>
<td>.003</td>
</tr>
<tr>
<td></td>
<td>Female 35</td>
<td>2.29</td>
<td>1.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My work affects my enjoyment of my social life</td>
<td>Male 75</td>
<td>3.28</td>
<td>1.16</td>
<td>1114</td>
<td>.094</td>
</tr>
<tr>
<td></td>
<td>Female 35</td>
<td>2.97</td>
<td>1.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work life balance mean</td>
<td>Male 75</td>
<td>3.22</td>
<td>.83</td>
<td>998.5</td>
<td>.022</td>
</tr>
<tr>
<td></td>
<td>Female 35</td>
<td>3.89</td>
<td>.84</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.18 Descriptive statistics (N, Mean, Standard Deviation) for items on the work life balance scale, by gender and results of Mann Whitney U test comparing the responses of male and female respondents, to items on the work life balance scale (significant results in bold)

It can be seen that for two items on the work life balance scale (difficulty doing household chores and difficulty switching off) the increased work life conflict expressed by female respondents was statistically significant at the .05 level. Female respondents indicated greater agreement with the statement that 'I have come home from work (several times a month) to do the chores that need to be done' (U = 1063.5, p = .05). Female respondents also indicated greater agreement with the statement 'I find it difficult to 'switch off' when I finish work' (U = 912, p = .003). This may relate to female respondents reporting greater difficulty in sleeping. In addition,
female respondents expressed significantly greater overall work life conflict than male respondents ($U = 998.5, p = .022$). From these data and statistics it can be said that female respondents within the sample presented here experience greater work life conflict than male respondents.

5.6.5 Work life conflict summary

The preceding section has demonstrated that work to life conflict was a concern for an important proportion of the sample. With work to life conflict more prevalent than life to work conflict. Female respondents reported greater work life conflict, particularly switching off and work impacting household chores.

5.7 Job Demand control model

5.7.1 Introduction

The job demands and decision latitude scale is divided into three subscales; job demand items, skill discretion and decision authority. Accordingly analysis is divided into these three subscales. Items on each scale were rated ‘never’ (1), ‘rarely’ (2), ‘frequently’ (3), ‘often’ (4) and ‘extremely often’ (5). The following section presents descriptive statistics from the scale and explores any gender differences.

5.7.2 Descriptive statistics for whole sample

Table 5.19 reports the descriptive statistics for items on the job demands and decision authority scale. Items 1 to 7 refer to job demands, items 8 to 10 represent skill
discretion and items 11 to 15 represent decision authority. Each subscale (job demands, skill discretion and decision authority) is discussed separately below.

**Job demand items:** For all items with the exception of conflicting demands and not enough time, which had a mean rating of 3.19 (SD = 1.01) and 3.05 (SD = .99) respectively, respondents had a mean rating which indicated they faced job demands often. Indicating that respondents often felt that their job had excessive work, there was too little time for them to carry out their work and that their jobs had a high workload.

**Skill discretion:** The mean score on each item indicated that respondents often felt that their jobs required a high skill level (mean = 3.83, SD = .833). In addition respondents indicated their jobs frequently required them to learn new things (mean = 3.49, SD = .798), work in a non-repetitious way (mean = 3.38, SD = .846) and required creativity (mean = 3.22, SD = .999).
Chapter Five: Questionnaire findings

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Never (%)</th>
<th>Rarely (%)</th>
<th>Frequently (%)</th>
<th>Often (%)</th>
<th>Extremely often (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Work fast</td>
<td>3.61</td>
<td>0.83</td>
<td>0</td>
<td>6</td>
<td>42</td>
<td>36</td>
<td>16</td>
</tr>
<tr>
<td>2. Work hard</td>
<td>3.82</td>
<td>0.78</td>
<td>0</td>
<td>2</td>
<td>36</td>
<td>42</td>
<td>21</td>
</tr>
<tr>
<td>3. Lots of work</td>
<td>3.72</td>
<td>0.91</td>
<td>2</td>
<td>6</td>
<td>30</td>
<td>44</td>
<td>19</td>
</tr>
<tr>
<td>4. Not enough time</td>
<td>3.4</td>
<td>1.1</td>
<td>2</td>
<td>23</td>
<td>29</td>
<td>26</td>
<td>20</td>
</tr>
<tr>
<td>5. Excessive work</td>
<td>3.24</td>
<td>1.12</td>
<td>4</td>
<td>27</td>
<td>26</td>
<td>29</td>
<td>15</td>
</tr>
<tr>
<td>6. No time to finish</td>
<td>3.19</td>
<td>1.02</td>
<td>3</td>
<td>25</td>
<td>35</td>
<td>27</td>
<td>11</td>
</tr>
<tr>
<td>7. Conflicting Demands</td>
<td>3.05</td>
<td>0.99</td>
<td>5</td>
<td>26</td>
<td>38</td>
<td>25</td>
<td>7</td>
</tr>
<tr>
<td>8. High skill level</td>
<td>3.83</td>
<td>0.83</td>
<td>0</td>
<td>5</td>
<td>31</td>
<td>42</td>
<td>23</td>
</tr>
<tr>
<td>9. Learn new things</td>
<td>3.49</td>
<td>0.8</td>
<td>0</td>
<td>10</td>
<td>40</td>
<td>41</td>
<td>9</td>
</tr>
<tr>
<td>10. Nonrepetitious</td>
<td>3.38</td>
<td>0.85</td>
<td>0</td>
<td>14</td>
<td>45</td>
<td>31</td>
<td>10</td>
</tr>
<tr>
<td>11. Creative</td>
<td>3.22</td>
<td>0.99</td>
<td>2</td>
<td>26</td>
<td>29</td>
<td>34</td>
<td>9</td>
</tr>
<tr>
<td>12. Allows freedom</td>
<td>3.52</td>
<td>1.06</td>
<td>4</td>
<td>12</td>
<td>31</td>
<td>34</td>
<td>19</td>
</tr>
<tr>
<td>13. Control</td>
<td>3.26</td>
<td>1.06</td>
<td>3</td>
<td>25</td>
<td>29</td>
<td>31</td>
<td>13</td>
</tr>
<tr>
<td>14. Make one's own decisions</td>
<td>3.5</td>
<td>1.01</td>
<td>2</td>
<td>13</td>
<td>38</td>
<td>27</td>
<td>19</td>
</tr>
<tr>
<td>15. Assisted in making</td>
<td>2.83</td>
<td>0.91</td>
<td>4</td>
<td>36</td>
<td>39</td>
<td>17</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 5.19 Descriptive statistics for items on the job demands (items 1 to 7) skills discretion (items 8 to 10) and decision authority (items 11 to 15) scale (Mean, Standard Deviation, percentage of respondents reporting never, rarely, frequently, often and extremely often) Note for items 1 to 13 N = 110, for item 14 and 15 N = 109)

Decision authority: Mean scores indicated that respondents frequently felt assisted in making decisions (mean = 2.98, SD = .911), they frequently had control over their job (mean = 3.26, SD = 1.05), they often had the freedom to organise their own work
(mean = 3.52, SD = 1.056) and they were often allowed to make their own decisions
(mean =3.50, SD = 1.006).

5.7.3 Descriptive statistics by gender

In order to explore any gender differences in the data it was necessary to compare the
mean responses from male and female respondents for each item on the scale. Bar charts revealed that the data was, for the most part, normally distributed (bar charts can be seen in Appendix VI), therefore it was possible to conduct a parametric t test.

5.7.4 Comparisons of means for Job Demand Control Model

Table 5.20 presents the results from t tests, exploring the significance of differences in
mean responses from male and female respondents to items on the job decision, skill
discretion and decision authority scale. From this table, it can be seen that there were
no statistically significant differences in mean responses from male and female respondents.
<table>
<thead>
<tr>
<th>Item</th>
<th>Gender</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>df</th>
<th>significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work fast</td>
<td>Male</td>
<td>3.53</td>
<td>.81</td>
<td>-1.416</td>
<td>108</td>
<td>.160</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>3.77</td>
<td>.84</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work hard</td>
<td>Male</td>
<td>3.87</td>
<td>.76</td>
<td>.954</td>
<td>108</td>
<td>.342</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>3.71</td>
<td>.83</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lots of work</td>
<td>Male</td>
<td>3.75</td>
<td>.84</td>
<td>.389</td>
<td>108</td>
<td>.698</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>3.67</td>
<td>1.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not enough time</td>
<td>Male</td>
<td>3.32</td>
<td>1.04</td>
<td>-1.156</td>
<td>108</td>
<td>.250</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>3.58</td>
<td>1.21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excessive work</td>
<td>Male</td>
<td>3.25</td>
<td>1.07</td>
<td>.232</td>
<td>108</td>
<td>.817</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>3.20</td>
<td>1.23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No time to finish</td>
<td>Male</td>
<td>3.11</td>
<td>1.01</td>
<td>-1.274</td>
<td>108</td>
<td>.205</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>3.37</td>
<td>1.03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conflicting Demands</td>
<td>Male</td>
<td>2.99</td>
<td>.94</td>
<td>-.911</td>
<td>108</td>
<td>.364</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>3.17</td>
<td>1.10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High skill level</td>
<td>Male</td>
<td>3.83</td>
<td>.80</td>
<td>-.011</td>
<td>108</td>
<td>.991</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>3.83</td>
<td>.92</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learn new things</td>
<td>Male</td>
<td>3.43</td>
<td>.76</td>
<td>-1.238</td>
<td>108</td>
<td>.218</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>3.63</td>
<td>.88</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonrepetitious</td>
<td>Male</td>
<td>3.33</td>
<td>.81</td>
<td>-.879</td>
<td>108</td>
<td>.381</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>3.49</td>
<td>.92</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creative</td>
<td>Male</td>
<td>3.17</td>
<td>.95</td>
<td>-.688</td>
<td>108</td>
<td>.493</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>3.31</td>
<td>.11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allows freedom</td>
<td>Male</td>
<td>3.59</td>
<td>1.05</td>
<td>.996</td>
<td>108</td>
<td>.321</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>3.37</td>
<td>1.06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>Male</td>
<td>3.32</td>
<td>1.06</td>
<td>.819</td>
<td>108</td>
<td>.415</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>3.14</td>
<td>1.06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make one's own decisions</td>
<td>Male</td>
<td>3.52</td>
<td>1.02</td>
<td>.378</td>
<td>107</td>
<td>.707</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>3.44</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assisted in making own decision</td>
<td>Male</td>
<td>2.81</td>
<td>.95</td>
<td>-.209</td>
<td>107</td>
<td>.835</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>2.85</td>
<td>.82</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.20. Results of t test exploring gender differences in responses on items on the job demands, skill discretion and decision authority scale.
5.7.4 Job Demand Control Model Summary

The data presented here reveals that architects in this sample experience high levels of job demands, high skill discretion and high decision authority. This suggests that respondents scored highly on this measure of experience of work, indicating a good level of job-related well-being. There were no statistically significant differences on any item on the scale, suggesting that male and female architects experience similar levels of job demands, skills discretion and decision authority.

5.8 Turnover intentions

5.8.1 Introduction

Responses to items on the turnover scale ranged from strongly agree to strongly disagree. These responses were coded so that ‘strongly agree’ was coded as 1, ‘agree’ was coded as 2, ‘neither agree nor disagree’ coded as 3, ‘disagree’ coded as 4 and ‘strongly disagree’ coded as 5. Therefore the closer a person’s rating to 1, the stronger their turnover intention. As with job satisfaction and work life balance, scores have been combined to indicate respondents’ agreement, disagreement and neither agreement or disagreement.

5.8.2 Descriptive statistics for whole sample

Descriptive statistics for each item on the turnover intention scale were calculated and are presented in Table 5.21.
Chapter Five: Questionnaire findings

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Agree (%)</th>
<th>Neither agree nor disagree (%)</th>
<th>Disagree (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I often think about leaving my job</td>
<td>3.12</td>
<td>1.30</td>
<td>36</td>
<td>16</td>
<td>48</td>
</tr>
<tr>
<td>I often think about leaving the architectural profession</td>
<td>3.33</td>
<td>1.30</td>
<td>37</td>
<td>9</td>
<td>54</td>
</tr>
<tr>
<td>I will be actively searching for a new job over the next 12 months</td>
<td>3.29</td>
<td>1.32</td>
<td>30</td>
<td>22</td>
<td>48</td>
</tr>
<tr>
<td>I will be actively searching for a new job outside of the architectural profession over the next 12 months.</td>
<td>3.97</td>
<td>1.10</td>
<td>10</td>
<td>17</td>
<td>73</td>
</tr>
</tbody>
</table>

Table 5.21 Descriptive statistics for items on the turnover scale (Mean, Standard Deviation, Minimum and Maximum, percentages indicating agreement, disagreement and neither agreement or disagreement with items) Note. N = 110

The mean responses for each item on the turnover intention scales, indicated that for all items respondents neither agreed with the statements, with the exception of 'I will be actively searching for a job outside of the Architectural Profession over the next 12 months' where the mean response indicated that respondents disagreed (3.97). This would suggest that turnover intentions were low for the sample.

Frequency analysis was conducted to further understand patterns within the data. The percentage of respondents indicating strongly agree and agree were combined to indicate agreement. Strongly disagreement and disagreement were combined to indicate disagreement. This data is presented in table 5.21. It can be seen that over a third of the sample indicated that they often think about leaving their current job. Over a third of the sample were considering leaving the architectural profession. This suggests that in addition, to a significant proportion of the sample considering leaving their current job, a similar percentage are considering leaving the profession completely.
Chapter Five: Questionnaire findings

Approximately one third of the sample indicated intentions to find a new job. This is a similar percentage to those who were considering leaving their current job. This suggests that for these individuals, turnover intentions are strong, as they intend to find another position. Figure table 5.21 presents the percentage of respondents indicating intentions to leave the architectural profession. It is clear that in contrast to the 37% considering leaving the profession, only 10% actually intend to leave the profession. From the data presented here, it is not clear why this difference exists.

5.8.3 Descriptive statistics by gender

The table below presents the descriptive statistics for items on the turnover intention scale delineated by gender. From Table 5.22 it can be seen that for each item on the turnover intention scale, female respondents reported greater agreement, indicating greater turnover intentions. Mean turnover intentions were also greater for female respondents. These figures suggest that female respondents in this sample experienced a significantly greater desire to leave their current position and the profession than male respondents. A Mann Whitney U tests was conducted to test the statistical significance of these gender differences (results presented in table 5.23).

5.8.4 Comparison of means for turnover intentions

From Table 5.22 it can be seen that female respondents were significantly more likely to be searching for a new job ($U = 1003, p = .021$) and that female respondents had significantly higher mean turnover intentions ($U = 1008, p = .025$).
Chapter Five: Questionnaire findings

<table>
<thead>
<tr>
<th>Item</th>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>U</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>I often think about leaving my job</td>
<td>Male</td>
<td>75</td>
<td>3.40</td>
<td>1.28</td>
<td>1108</td>
<td>.089</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>3.17</td>
<td>1.34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I often think about leaving the architectural profession</td>
<td>Male</td>
<td>75</td>
<td>3.23</td>
<td>1.31</td>
<td>1192.5</td>
<td>.214</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>2.89</td>
<td>1.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I will be actively searching for a new job over the next 12 months</td>
<td>Male</td>
<td>75</td>
<td>3.45</td>
<td>1.35</td>
<td>1003</td>
<td>.021</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>2.94</td>
<td>1.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I will be actively searching for a new job outside of the architectural profession over the next 12 months.</td>
<td>Male</td>
<td>75</td>
<td>4.07</td>
<td>1.04</td>
<td>1127.5</td>
<td>.106</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>3.77</td>
<td>1.19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean turnover intention</td>
<td>Male</td>
<td>75</td>
<td>3.20</td>
<td>.825</td>
<td>1008</td>
<td>.025</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>2.89</td>
<td>.839</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.22 Descriptive statistics for items on the turnover intention scale by gender and results of Mann Whitney U test, determining the significance of gender differences in responses to items on the turnover intention scale.

5.8.5 Turnover intentions summary

Statistics presented here reveal that approximately one third of the sample consider leaving their current job, consider leaving the profession and intend to actively search for a new job. While the majority of the sample were not considering these options, one third of the sample having turnover intentions represents a significant proportion. On all items, female respondents reported greater turnover intentions and these were statistically significant for intentions to actively search for another job and for mean turnover intentions.
5.9 Relationships between variables

5.9.1 Introduction

Having explored patterns within the data for each scale on the survey, it was then necessary to explore any relationships which may exist between variables. This involved correlating variables to determine the existence of any relationships and their strength. It is important to remember that correlations do not express cause and effect, but do allow for relationships to be determined.

5.9.2 Correlational analysis

Table 5.23 presents the results on a non-parametric correlations analysis (Spearman’s rho) conducted on items from the job satisfaction scale. It reveals a number of significant correlations within the scale.

Further correlational analyses were conducted to explore the relationship between job satisfaction and other measures of job-related well-being. These are presented in tables below. In order to simplify analysis, intrinsic and extrinsic measures of job satisfaction were calculated and correlated with other variables. This allowed for an exploration of the relationship between factors which are intrinsic and extrinsic to the job, and other measures of well-being.

Table 5.24 reveals a number of important patterns in the data. It can be seen that intrinsic and extrinsic job satisfaction are strongly positively correlated ($r = .795$), meaning that they have a strong inter-relationship. Both intrinsic and extrinsic job satisfaction are very strongly positively correlated with overall job satisfaction ($r = .940$ and $r = .952$ respectively). Given that items on the job satisfaction scale measure
aspects of one construct, it is perhaps not surprising that they should be so strongly and positively correlated.

The data presented in Table 5.24 demonstrates that job satisfaction is strongly related to two other measures of job-related well-being; turnover intentions and work life conflict. Intrinsic job satisfaction positively correlates with both turnover intentions ($r = .433$) and work life conflict ($r = .429$). Extrinsic job satisfaction positively correlated with turnover intentions ($r = .504$) and work life conflict (.493). From these correlations it can be seen that as job satisfaction increases, disagreement with statements on the work life conflict and turnover intentions scales increased (i.e. increased job satisfaction is accompanied by decreased work life conflict and decreased turnover intention). Table 5.24 reveals a very strong relationship between turnover intentions and work to life conflict ($r = .973$), indicating that as work life conflict decreases, turnover intentions decreases (or vice versa). Whilst these correlations do not indicate cause and effect, it can be stated that strong relationships exist between these variables.

To further explore these relationships, correlations were conducted on individual items on the job satisfaction scale and turnover intentions.
## Table 5.22

<table>
<thead>
<tr>
<th></th>
<th>I will be actively searching for a job outside of the Architectural Profession over the next 12 months (0.05 level)</th>
<th>I will be actively searching for a new job over the next 12 months (0.05 level)</th>
<th>I often think about leaving my job (0.01 level)</th>
<th>I often think about leaving the Architectural Profession (0.01 level)</th>
</tr>
</thead>
<tbody>
<tr>
<td>office / studio</td>
<td>.061</td>
<td>.296**</td>
<td>.085</td>
<td>.262**</td>
</tr>
<tr>
<td>site</td>
<td>.178</td>
<td>.000</td>
<td>.187</td>
<td>.017</td>
</tr>
<tr>
<td>freedom to</td>
<td>.155</td>
<td>.383**</td>
<td>.348**</td>
<td>.549**</td>
</tr>
<tr>
<td>fellow workers</td>
<td>.354**</td>
<td>.323**</td>
<td>.403**</td>
<td>.389**</td>
</tr>
<tr>
<td>recognition</td>
<td>.216*</td>
<td>.352**</td>
<td>.475**</td>
<td>.557**</td>
</tr>
<tr>
<td>line manager</td>
<td>.239*</td>
<td>.465**</td>
<td>.402**</td>
<td>.546**</td>
</tr>
<tr>
<td>responsibility</td>
<td>.179</td>
<td>.347**</td>
<td>.316**</td>
<td>.402**</td>
</tr>
<tr>
<td>Your role of pay</td>
<td>.218*</td>
<td>.319**</td>
<td>.267**</td>
<td>.458**</td>
</tr>
<tr>
<td>abilities</td>
<td>.175</td>
<td>.376**</td>
<td>.370**</td>
<td>.547**</td>
</tr>
<tr>
<td>Industrial relations</td>
<td>.324**</td>
<td>.530**</td>
<td>.418**</td>
<td>.629**</td>
</tr>
<tr>
<td>Your opportunity of promotion</td>
<td>.245*</td>
<td>.434**</td>
<td>.326**</td>
<td>.443**</td>
</tr>
<tr>
<td>The way your practice is managed</td>
<td>.239*</td>
<td>.548**</td>
<td>.340**</td>
<td>.558**</td>
</tr>
<tr>
<td>The attention paid to the suggestions you make</td>
<td>.176</td>
<td>.478**</td>
<td>.371*</td>
<td>.614**</td>
</tr>
<tr>
<td>Your hours of work</td>
<td>.095</td>
<td>.195*</td>
<td>.174</td>
<td>.228*</td>
</tr>
<tr>
<td>The amount of variety in your work</td>
<td>.219*</td>
<td>.385**</td>
<td>.365**</td>
<td>.493**</td>
</tr>
<tr>
<td>Your job security</td>
<td>.153</td>
<td>.141</td>
<td>.299**</td>
<td>.231*</td>
</tr>
<tr>
<td>clients</td>
<td>.232*</td>
<td>.311**</td>
<td>.280**</td>
<td>.390**</td>
</tr>
<tr>
<td>construction professionals</td>
<td>.087</td>
<td>.155</td>
<td>.147</td>
<td>.198</td>
</tr>
<tr>
<td>subordinates (if relevant)</td>
<td>.154</td>
<td>.245*</td>
<td>.292*</td>
<td>.232*</td>
</tr>
</tbody>
</table>

Table 5.23 correlations between job satisfaction items and turnover intentions. * Correlation is significant at the 0.05 level ** correlation is significant at the 0.01 level (2-tailed).

Table 5.22 shows a number of significant positive correlations between job satisfaction and turnover intentions, the strongest is .629 between; industrial relations and considering leaving current job. These correlations demonstrate that issues
relating to working methods and relationships between managers and employees are more strongly associated with turnover considerations. Of these practice management is most strongly correlated with actual intentions to leave a practice, followed by the level of satisfaction with attention paid to suggestions and line manager. Correlations between job satisfaction and desires to leave the profession are moderate.

Table 5.24 revealed the very strong positive correlation between work life conflict and turnover intentions. This was further explored by correlating responses to each item on both scale.

<table>
<thead>
<tr>
<th>Item</th>
<th>Thinking about leaving my job</th>
<th>Searching for a new job</th>
<th>Thinking about leaving the profession</th>
<th>Searching for a job outside the profession</th>
</tr>
</thead>
<tbody>
<tr>
<td>It has been difficult for me to fulfill my family responsibilities because of the amount of time I spend on my job</td>
<td>.324**</td>
<td>.199*</td>
<td>.171</td>
<td>.141</td>
</tr>
<tr>
<td>I have arrived at work too tired to function well because of the household work I had done</td>
<td>.405**</td>
<td>.316**</td>
<td>.241**</td>
<td>.167</td>
</tr>
<tr>
<td>I have come home from work too tired (several times a month) to do the chores which need to be done</td>
<td>.333**</td>
<td>.332**</td>
<td>.314**</td>
<td>.185*</td>
</tr>
<tr>
<td>My marriage relationship suffers because of my work</td>
<td>.482**</td>
<td>.409**</td>
<td>.380**</td>
<td>.332**</td>
</tr>
<tr>
<td>I feel that my work prevents me from being as good a parent as I would like to be</td>
<td>.429**</td>
<td>.226</td>
<td>.313*</td>
<td>.109</td>
</tr>
<tr>
<td>I find it difficult to switch off when I finish work</td>
<td>.302**</td>
<td>.125</td>
<td>.216*</td>
<td>.140</td>
</tr>
<tr>
<td>My work affects my enjoyment of my social life</td>
<td>.324**</td>
<td>.236**</td>
<td>.286**</td>
<td>.209**</td>
</tr>
</tbody>
</table>

Table 5.24 correlations between work life conflict and turnover intentions. ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).
Chapter Five: Questionnaire findings

Table 5.24 reveals a number of significant correlations between work to life conflict and turnover intention. Given the strong correlation between the means of these two scales, significant correlations between individual items would be expected. As Table 5.24 shows, correlations are strongest when examining desire to leave current job, rather than leaving the profession. This is perhaps not unexpected, given the strong correlations between extrinsic job characteristics and turnover intentions. This relationship suggests that it is not the actual work of an architect that causes dissatisfaction, rather it is other factors associated with the organisation which are causes for concern.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Job-related</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>affective</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>well-being</td>
<td></td>
<td>.401*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Non job-related</td>
<td>-.003</td>
<td>-.015</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>affective</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>well-being</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Job Demands</td>
<td>.227*</td>
<td>.076</td>
<td>.070</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discretion</td>
<td>.418*</td>
<td>.234*</td>
<td>.068</td>
<td>.505**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skill</td>
<td>.309*</td>
<td>.309*</td>
<td>-.100</td>
<td>.321*</td>
<td>.564*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision Authority</td>
<td>.594*</td>
<td>.346*</td>
<td>-.137</td>
<td>.444*</td>
<td>.690*</td>
<td>.940**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>.594*</td>
<td>.375*</td>
<td>-.086</td>
<td>.253*</td>
<td>.496*</td>
<td>.952**</td>
<td>.795**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intrinsic</td>
<td>.559*</td>
<td>.420*</td>
<td>-.105</td>
<td>.076</td>
<td>.277*</td>
<td>.488*</td>
<td>.429**</td>
<td>.93**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>.558*</td>
<td>.398*</td>
<td>-.126</td>
<td>.072</td>
<td>.271*</td>
<td>.496**</td>
<td>.433**</td>
<td>.504**</td>
<td>.973**</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 5.25 correlations between job-related affective well-being, non job-related affective well-being, job satisfaction, work life conflict and turnover (* significant at .001 level).
Table 5.24 details the relationships between all of the measures of health and well-being on the questionnaire. It can be seen that Job-related affective well-being positively correlates with job control (skill discretion and decision authority), job satisfaction, work life conflict and turnover. The strongest relationships can be seen between work life conflict and turnover intentions (0.973), indicating a strong relationship between the two. Items on the job demand control model (items 3, 4, and 5 in table 5.24) were related to outcomes of health and well-being, for example, work life conflict and turnover intentions. These relationships were particularly strong for items measuring control, suggesting that control may be the more important influence on health and well-being.

5.9.3 Summary of relationships between variables

The data presented here reveals a number of strong relationships between variables. Intrinsic and extrinsic job satisfaction were highly correlated. Extrinsic job satisfaction showed a strong correlation with turnover intentions, suggesting that satisfaction with factors extrinsic to the job are more strongly linked to desires to leave either their current job or the profession. The strongest correlation was between turnover intention and work life conflict, suggesting a strong link between these two variables which needs further investigation to understand the dynamics of this relationship.
5.10 Conclusions and summary

The data presented in this chapter reports the results from the first phase of data collection, a survey which assessed six measures of job-related well-being or experience of work. Results for the sample as a whole were reported and any gender differences discussed.

The first measure of experience of work was job satisfaction. Most respondents reported satisfaction with each item. However, certain items on the scale caused dissatisfaction for a significant proportion of the sample, namely, pay, the way their practice was managed, their opportunity for promotion, their hours of work and the attention paid to the suggestions they make. In addition, approximately one quarter of the sample expressed dissatisfaction with the recognition they get for their work, the working conditions in their studio and the opportunity they have to use their abilities. Around one fifth were dissatisfied with their job security, their line manager, the amount of variety in their work and their freedom to choose their own method of working. It appears that issues relating to recognition for work and practice management are a potential source of concern for architects.

Female respondents reported lower job satisfaction for most items and these differences were significant for three items, physical working conditions in the studio, opportunity for promotion and practice management. This data suggests that female architects may experience poorer job satisfaction than their male counterparts.
Chapter Five: Questionnaire findings

A number of questions arise from these findings, namely:

1. Which aspects of physical working conditions cause dissatisfaction?
2. Which abilities do architects feel that they are unable to use?
3. What are the issues which cause concern with practice management?
4. Why do women report lower job satisfaction?

Job-related and non job-related well-being was low for the whole sample. Interestingly respondents appear to experience high levels of positive and negative emotions during the same 30 day period both in their working and non working environments. This seems contradictory and warrants further investigation. Female respondents reported consistently higher job-related and non job-related well-being and these differences were significant for a number of items on both scales. This indicates, that female architects may experience poorer job satisfaction than male architects, but conversely better affective well-being.

Further work is needed to establish why affective well-being was low, why do architects experience high levels of positive and negative affect and why do women report higher affective well-being?

The majority of respondents reported at least one symptom of stress with fatigue, headaches and trouble sleeping being reported by over half of the sample. Most symptoms were more frequently reported by female respondents, but only trouble sleeping and constipation showed a statistically significantly higher frequency. Further work needs to establish why this is the case.
Work life conflict was experienced by approximately one third of the sample, with over half reporting difficulty switching off. Further work needs to establish why this is so. It would appear that working as an architect potentially has a negative impact on an individual’s experience of their life outside of work. This may be explained by the relationship identified in section 5.8 where a positive correlation was found between work life conflict and non job-related well-being. Female respondents reported greater work life conflict than male respondents and these differences were significant for two items; ‘I have come home from work too tired several times a month to do the chores which need to be done’ and ‘I have difficulty switching off’.

Job demands and decision authority scale revealed that while architects experience high job demands they also experience high skills discretion and high decision authority. This suggests that, for this measure of job-related well-being, architects score highly, indicating a high level of well-being. There were no significant gender differences on this scale. Further work needs to establish how control and demands manifest in an architect’s role and job experience.

Turnover intentions were expressed by approximately one third of the sample, with a similar proportion intending to search for a new job within the profession, indicating that the majority of the sample were not considering leaving either their current job or the architectural profession. Further work needs to establish why one third of architects were considering leaving the profession. Female respondents expressed higher turnover intentions and these were statistically significant for intentions to search for a new job and overall turnover intentions.
Many of the measures of architects' experience of work were positively correlated. Factors extrinsic to the work of an architect were most strongly correlated with turnover intentions. Work life conflict was strongly linked to turnover intentions.

The following chapter presents the findings from the second phase of data collection, semi-structured interviews which explored issues raised in the survey.
Chapter Six Research Interviews

6.1 Introduction

This Chapter presents findings from in-depth semi-structured interviews with practicing architects, which aim to further explore and verify findings from the literature review and survey.

Data was gathered through face to face interviews with 23 practicing architects. A profile of respondents was provided in Chapter Four. In addition, Chapter Four provides details of data collection (semi-structured interviews) and analytical techniques (template analysis). The interview schedule is provided in Appendix I and a profile of respondents is provided in section 6.1.1.

The face to face interviews were analysed according to seven categories developed from the existing literature, the survey findings presented in Chapter Five and issues emerging from the interview data. Table 6.1 shows the categories used for analysis and each subcategory. These categories formed the template for analysis as described in Chapter Four. Each category is described, with direct quotes from respondents used to illustrate the findings. The chapter concludes by summarising the significant findings.
Chapter Six Research Interviews

<table>
<thead>
<tr>
<th>Section</th>
<th>Category</th>
<th>Sub-categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.2</td>
<td>Profession wide issues</td>
<td>The RIBA, regulatory issues, the status of architects regional issues</td>
</tr>
<tr>
<td>6.3</td>
<td>Route into the profession</td>
<td>Reasons for choosing the architectural profession, expectations of the architectural profession, experiences of university</td>
</tr>
<tr>
<td>6.4</td>
<td>Practice issues</td>
<td>Size of practice, private versus public sector, employee relations and self-employment</td>
</tr>
<tr>
<td>6.5</td>
<td>Job satisfaction</td>
<td>Promotion, physical working conditions, skill use and relationship with clients</td>
</tr>
<tr>
<td>6.6</td>
<td>Work life interface</td>
<td>Working hours and difficulty switching off</td>
</tr>
<tr>
<td>6.7</td>
<td>Issues affecting women architects</td>
<td>Lack of confidence, working relationships with clients, contractors, consultants and colleagues, childcare and maternity leave, local authority, university education and promotion.</td>
</tr>
</tbody>
</table>

Table 6.1. The seven main categories and their sub-categories used to form the basis for template analysis.

6.1.1 Interview Sample

A total of 23 architects were interviewed, 10 women and 13 men. 16 of the sample were registered with the Royal Institute of British Architects, 6 were registered with the Architects Registration Board and two were Part II qualified. Respondents ranged from 25 years old to 60 years plus. The majority were white British (18 respondents), employed (18 respondents) and all but one worked full-time. Practice size ranged from one employee to 280. Fourteen respondents had supervisory responsibilities. Working hours ranged from 24 to 80 hours a week with a mean working week of 43 hours. Fourteen respondents did not have dependants. Most were married or in a relationship (14 respondents). A profile of respondents can be seen Appendix III.
6.2 Profession wide issues

6.2.1 Introduction

The following section details issues which apply across the architectural profession, particularly, the role of the Royal Institute of British Architects (RIBA), regulatory issues, the status of architects, the role of the government and regional variations. Each factor is discussed here, with illustrative quotes from respondents.

6.2.2 The RIBA

Respondents expressed a concern that the RIBA was not acting as a leader for the profession. Most respondents expressed a negative view of the RIBA, believing it not to be relevant to them and not doing enough to justify its fees.

'Nothing it all, it is a club. I mean I am a member of RIBA, but I don't know what I get from them apart from a magazine and some emails...Oh, I don't know what RIBA do, I think that they do schemes with private health insurance, I am sure that they do. I am not into RIBA at all...' (HEB).

Five of the respondents had chosen not to join the RIBA and were members of the Architect's Registration Board (ARB) because they felt that the RIBA was not relevant to them. It is interesting to note, that four of this five were female, suggesting that joining the RIBA may have less relevance to female architects. In addition, being
a member of the RIBA was not seen to be relevant to those who worked outside London,

‘I’m not a member [of the RIBA]. . . the ARB is the only governing body I have anything to do with, but no, I don’t seem the point in the RIBA.’ (KL).

‘I am not a member, I think that most of their work is down South. There is no help in the North East’. (MM).

Three chartered architects had previously been involved with the RIBA by membership of regional groups, but had chosen to resign their posts due to dissatisfaction with RIBA actions.

‘I raised this issue of architect’s dissatisfaction with their career in the context of this recent survey where architects were found to be most unhappy. The leadership of the RIBA just laughed and said that it was a meaningless survey and that architects who weren’t happy were whingers and moaners and weren’t to be taken seriously. That defies belief. I have subsequently resigned from the RIBA, I am not willing to be part of a governing body that treats its members with such contempt’ (CR).

RIBA’s lack of leadership was argued to occur in two areas. Firstly, it was argued that the RIBA does not represent its members during conflicts between architects and their employers or their clients.
Chapter Six Research Interviews

'I know people who have been treated appallingly by their employers and have even gone to the point of taking it an employment tribunal and haven't gone through with it as they have believed that would be the end of their career... if someone is getting to that point then I think that the RIBA are the independent body who should be in a position to step in and say this isn't the way to treat your employees and this is not was what we expect of our member practices... I think that the RIBA don't have the teeth or the courage to do that' (HT).

This quote illustrates that there is a belief that the RIBA should have a role in mediating in employer/employee disputes, but that it lacks the means to do so.

Another area of conflict is between an architect and his or her client. One respondent expressed the view that, in such circumstances, the RIBA should defend its members.

'I think in practice they just don't support you, you hear of these cases where some has reported an architect... and all the RIBA want to do is prosecute the architect... I would say that in a lot of cases probably 70% if not more is probably to do with money and the client does not want to pay... I think that the RIBA should be much more defensive of its members rather than say 'oh yeah, it's his fault and lets strike him off.' (NB)

Secondly the RIBA was seen as not doing enough to publicise the work of architects or raise the status of the profession (discussed in section 6.2.4.)
'I think that the problem lies with the lack of management of the perception of the role of an architect within society by the RIBA...it has been suggested before that they could stop navel gazing for a start and start communicating to non architects...they need to get out there and make architecture more relevant to other people' (CR)

This quote illustrate a concern that the RIBA may not be acting as an ambassador for the architectural profession. If the status of architects is a factor in well-being then the RIBA may have a role in improving the status of the profession and thereby the well-being of its members. This is discussed in further detail in section 6.8.2.

6.2.3 Regulatory issues

Another issue seen to apply across the profession were concerns over regulatory factors. These included legislation, insurance and planning issues. Statutory legal responsibilities of architects were seen to be an extra burden on individuals who were already experiencing a high workload. One respondent felt that the RIBA and the ARB added to the burden experienced by architects in relation to regulatory issues.

'There is so much legislation, such rapid changes in legislation, so much bureaucracy and increasingly further demands are being put upon architects by the ARB and the RIBA and erodes further and further the time available to do your job which is to design buildings and that is essentially what we are being paid for...the RIBA should be doing more to make it less burdensome and talking to the government and placing those responsibilities back where they belong, either with the client or the contractor' (CR)
This quote demonstrates that legislative and regulatory issues are considered a burden to architects and that they may take time away from design. Later in this Chapter, architects’ expectations of the profession are discussed. It becomes clear that many architects felt that they would be designing buildings, but in reality much of their work is administrative. As such, the real work of an architect is not design, but managing administrative tasks associated with the project therefore it could be argued that this is what they are paid for and not design. This relates to well-being as these regulatory issues are a source of occupational stress.

6.2.4 The status of architects

During the initial interviews, it became clear that respondents were concerned about the status held by architects. Accordingly this issue was incorporated into all interviews. A number of key issues arose, namely, that architects may have a different status within the construction industry than in society in general, that architects’ status has been eroded over time and that RIBA is not doing enough to improve the status of its members. Some respondents indicated that architects may have a higher status outside of the construction industry than they do within it, due to a misunderstanding among the general public about the role of an architect.
'That's a really interesting one because if you tell people that you are an Architect they are always really impressed and they are like Wow and they think that you do a glamorous, exciting and well paid job, but those are people generally outside the construction industry but people that I know that are within the construction industry know that Architects are just another consultant along with anyone else. I think it depends on who you speak to’ (SA)

Several respondents felt that their social status was lower than other professional groups such as lawyers or doctors.

'Well the average Joe tends to put us quite high up, not quite to the same level as doctors, even though in terms of the number of years at university and training we actually train, I think for another two years more than they do...’ (VQ)

In contrast, architects were often seen to have a low status within the construction industry.

'People who don't understand what we do think we have a high status, but within construction the status is low. Everyone thinks they can do our job, especially contractors and project managers’ (MM).

While some respondents felt that the architectural profession has a high status outside of the construction industry, others felt that its status was very low. The relationship between perceived social status and health and well-being is discussed in further detail in Chapter Seven.
Another respondent said he felt that the status of architects was 'lower than a snake’s belly' and he felt that this low status was closely linked to psychological health,

'you've got to get other people to dot your 'I's and cross your 'T's both in planning and building control applications, then you know it is very demeaning and it's not worth it...you know, why not just scrub the profession and let anybody do drawings anyway, because Joe Bloggs doesn't care about design that's for sure' (NG).

The apparent low status of the profession within the industry was linked by three respondents to new types of contract, for example, PFI, and the rise in new occupations such as project managers who are taking on many of the responsibilities of architects.

'you have these new professions, like construction managers and project managers who can do the work that we used to do. That is eroding the status of an architect.' (SMcT).

As discussed earlier, it was felt by some respondents that the RIBA could take a lead role in improving the status of architect and as such influence the well-being of those working within the profession.
6.2.5 Regional issues

The majority of respondents were based in London and this was seen to have advantages as well disadvantages. Working in London was seen to provide greater opportunities in terms of the amount of work available and the variety of work.

'London tends to be more vibrant, I guess; there's more work in London, bigger practices in London and I think it's quite a different lifestyle in London...' (VQ).

However, working in London was seen to place additional stressors on architects due to higher cost of living and greater pressures placed on architects.

'There are some [problems] which are specific to London. If you are being paid £20 000 then housing is a nightmare. People leave [the profession] because of that. Poor living can have a dreadful impact on people...' (DW).

'I don't know whether it is a London thing to be extremely competitive and you know delegating so much that you are putting so much responsibility on junior people, that they can't cope. But that seemed to happen in all the other [London based] practices I was in, whenever anything went wrong, or there were problems there was always a sense that directors or the managers were saying 'what have you done wrong? Why didn't you sort this out?' (HT).

These two quotes illustrate that the relatively low pay of architects (discussed in Chapter Seven) may be more problematic in London due to the high cost of living, creating a source of concern which is non work based – living arrangements. In
addition, there is a perception that London based practices are competitive and have a blame culture.

Several respondents had worked both outside of London and within London. They felt that working hours were longer in London than in the regions,

'Up in Edinburgh I used to do 9 'til 5, that was nice. I think it's a London thing, this working 'til 6' (KL).
6.2.6 Summary

This section detailed findings relevant at the profession-wide level. It focussed on the role of the RIBA, regulatory burden, the status of architects and regional issues. The RIBA was seen by the majority of respondents as not doing enough to support its members or promote the profession. Many felt that it did little to warrant its membership fees. There were also suggestions that the RIBA was not relevant to women architects and that it is more relevant to those working in London than those working in the regions. Regulatory issues such as legislation and insurance were seen to be burden to many respondents and a source of stress.

Many felt that, due to a misunderstanding of the role of an architect, the status of the profession is higher outside the construction industry than within it. Some respondents felt that architects have a low status within and outside the construction industry and one felt this had a significant impact on his well-being.

Those working within London were seen to have access to a greater number of opportunities and more interesting projects, but these benefits may be offset by a higher cost of living in London. Given the low salaries of architects, it was felt this could be a source of poor well-being particularly to those working in London.

The following section discusses respondents' route into the architectural profession, examining their reasons for choosing the profession, their expectations of the profession and their experiences at university.
6.3 Route into the profession

6.3.1 Introduction

All respondents were asked questions relating to their route into the architectural profession. Questions focussed on reasons for choosing the profession and experiences in University. During the course of the interviews, it became apparent that individual’s routes into the profession appeared to affect their experience of working in practice and their well-being. The following sections detail respondents reasons for choosing the architectural profession, their expectations of the profession and their experiences at university.

6.3.2 Reasons for choosing the architectural profession

Respondents’ reasons for choosing the architectural profession were complex and varied. Several respondents argued that they did not know why they have chosen to enter the profession: an interesting assertion given the degree of commitment required by individuals to qualify as architects. One female architect felt that she had been ‘pushed by forces I didn’t really understand towards what I should be doing’ (AS). Another male architect stated that it was ‘something I just kind of fell into.... I didn't have an ambition to do it from a young age like some people do, but it sounded like a fun degree to do.’ (DH).
One male architect working in a local authority in London had undertaken his original architectural training in Egypt and had chosen it because ‘They told me that in the architectural division you don’t have to any work at all and you will pass’ (HEB).

For those respondents who were able to recall their reasons for entering the profession, there were seven broad categories; a family member in the construction industry, an interest in drawing, an interest in combining science and art, an interesting degree, a practical career, an interest in social issues and the influence of childhood toys. Most respondents reported a combination of reasons for entering the profession.

Three of the female respondents reported the influence of male family members who worked in the construction industry on their career choice.

'I had an uncle who was a very successful architect... and I loved his house and I think that was a big influence, not that he ever spoke to me, but I just loved the way he lived. Another uncle was a site manager and I went on site once and thought it was the most exciting thing I had ever seen.' (AS)

Another reason for entering the profession cited by respondents was an interest in drawing and art as they had believed studying and working in architecture would require artistic skills.

'When I was at school I liked drawing and that kind of thing and then when I went to college I thought it was more about design than it is... ' (SA).
This is an interesting quote as it illustrates a conflict between individuals’ expectations of the profession and the reality. This is discussed in further detail later in this section. For some respondents who had an in interest in art, they had chosen a career in architecture as they had felt it would combine artistic skills with science.

'I think it combines a couple of different areas that I am interested in like the artistic side and creative inside of me and then anchoring that is the pure discipline anchoring that in a science and technology aspect through to the structural engineering of how things work the way that they do' (IH)

In addition to combining art with scientific principles, architecture was also considered to provide a practical career which allowed for application of knowledge.

'I think also the fact that it’s applied for me is also important, its not theoretical, its something once you dream these things they do actually get built and you can walk around them and there is quite a buzz walking into and around a building that they have designed and seeing people interact with it' (IH)

This quote suggests that being able to see a tangible outcome was an important influence on career choice.

Other reasons for choosing the profession included a desire to improve the environment and affect social issues;
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'I was always interested in the climate and poverty and things like. Big social issues'

(HT)

'I thought well actually it's not such a bad career really because you're doing something which will actually better the environment, well hopefully' (VQ)

These quotes suggest that individuals may enter the architectural profession due to a desire to better the environment for themselves and others, indicating a belief that a career in architecture will enable them to achieve this.

6.3.3 Expectations of the architectural profession

Given the range of reasons for entering the profession respondents were asked if they felt their expectations of the profession had been realistic. The vast majority of respondents felt that they had unrealistic expectations of the profession, particularly in terms of what their role as an architect would include.

'I had no idea what percentage of the work would be design and what would be management' (MM)

This quote illustrates a view held by many of the respondents, that they had believed a career in architecture would involve design and creativity. In reality all the architects spoken to spent little time designing and most of their working time was spent on project management and administration.
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It is interesting to note that the three female architects who had been influenced to join the profession by family members who were working in the construction industry also felt they did not have realistic expectations of the profession, suggesting that these family members had not communicated the realities of working in the construction industry or in the architectural profession.

*I knew what I was going to be doing at the end of it, which quite a few of the others didn’t, and I think it made it much more difficult for them.* (NG)

This architect felt that he had realistic expectations of the profession as he had worked in an architectural practice for two years before attending university, which helped him to understand the real work of an architect.

*‘Even when I finished my degree and went into my first year of experience in the office it was quite a re-awakening... You have no concept of the fact that if you are lucky you maybe spend 5 to 10% of your time designing and the rest of the time you are doing mundane things’* (IH)

This quote illustrates an interesting point, that even after completing a degree in architecture this respondent still had an unrealistic expectation of the profession, suggesting that higher education may not prepare students sufficiently for the working life of an architect.
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6.3.4 Experiences of university

When asked how well university had prepared respondents for working life, a number of issues arose. For many respondents university had failed to prepare them for the realities of working in the architectural profession.

‘Most of the time [at college] you are doing projects on your own and that’s not really the reality of it, you are always working with someone else...’ (MG)

This respondent felt that the experiences gained by architectural students are artificial because they don’t represent the realities of working life where the architect is part of a project team, rather than working in isolation. In addition, he felt that architectural students work on unrealistic projects.

‘I mean it’s great because everyone wants to design a museum or an art gallery, but in reality there are only a few people who get to do that’ (MG)

This sentiment was echoed by another respondent who felt that university had failed to properly prepare him for working life.

‘They [students] go to college and are designing wonderful buildings, but they find themselves doing so much boring work with bits of paper, legal issues, dealing with people. If they are designing, it’s not a grand building, it is a small bit of detailing’ (SMcT)
This respondent felt that this conflict between experience in university and the reality of the profession results in 'broken dreams', disillusionment and bitterness towards the profession. Other respondents felt that their experience at university had not prepared them for the balance between design and project management / administration.

'The job you end up doing is different to what you think it's going to be and when you are in college you end up spending 80% of your time designing and when you get into practice it isn't. I went into it [architecture] because I wanted to design buildings and I was interested in the drawing side of it' (SA)

This quote demonstrates that for some architects, university experience focuses around design, but within their working lives, they spend little time designing. This could be problematic if a career in architecture was chosen because of an interest in design. This conflict may be a reason for people choosing to leave the profession.

'I know a lot of people have gone off after the first year out [in practice] because they have reawakened in the office and seen what it was actually about' (IH)

Some respondents felt that their degrees has adequately prepared them for working life as an architect, but emphasising the realities of architecture.

'I went to Liverpool Poly and they prided themselves in 'we're nuts and bolts architects' ...so they certainly weren't teaching us really to be flash designers, they
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were more into detailing...and so in theory I was ready to go out into the working world.' (AS)

This quote illustrates that respondents' experience of university and how well it prepared them for their working life was affected by degree content and how closely it related to the actual work of an architect.

One feature of university education which most respondents had strong opinions about is the ‘Critique’ (referred to here as the ‘crit’) or Jury process, whereby students present their ideas and designs in front of tutors and other students (RIAS, 2006). For some respondents the ‘crit’ process was seen to be a very difficult experience which could have damaging effects on the students.

'I have seen it [the ‘crit’ process] destroy a lot of people. It is really tough training. You often saw grown men in tears and work ripped off the wall by some overzealous teacher. It's a strange way to teach someone. I certainly saw that a few times and I certainly saw a few people leave' (NB)

For some respondents their ‘crit’ experience was traumatic as illustrated above. However, other respondents argued that this was necessary practice for working life as architects have to be able to defend their ideas to clients.

'I think that [the crit] can be good preparation, you will never come across anyone who is worse than they are in my experience, like you have to be able to justify what you have done and I think you know, in cases where you had a really tricky client you
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would probably draw on those experiences because really you have been through it before and I think you have to be quite thick-skinned’ (RE)

One respondent felt that the crit process fostered a working pattern that many architects took from university into practice and this may be a cause for poor job related well-being.

‘I think, you know, there are young architects who are in either in their year out or just finished their diploma and they have just been doing that [all night preparation for a crit] and so they don’t think anything of carrying on with that.’ (RS)

This respondent felt that young architects get into the habit of working very long hours to prepare for ‘crits’ at university and this is then carried into practice, so that young architects are prepared to continue working very long hours to meet deadlines. The issue of working hours is discussed in further detail in this Chapter. At this point it is important to note that the education process may have a role to play in developing a long working hours culture which is damaging to architects.
6.3.5 Summary

This section detailed respondents' routes into the profession, focusing on their reasons for choosing the profession which was closely linked to their expectations of the profession, which was in turn linked to the experiences at university.

Respondents' reasons for choosing the architectural profession were varied, some had been inspired by male family members, while others had felt that a career in architecture would allow them to combine creative and technical skills in designing buildings. Most felt that they had unrealistic expectations of the profession as they had felt that it would involve more design. The one exception to this was the respondent who had worked in an architectural practice prior to entering university. Many respondents felt that their university education had not adequately prepared them for working life. The projects worked on were seen to be unrealistic and too little time on the course was devoted to the real work of architects, for example, project management. The 'crit' process was seen to be traumatic but beneficial as it helped respondents develop a 'thick skin' which would help them in dealing with clients. However, there was also a concern that the 'crit' process fostered a working practice whereby students stay up late working on projects. This attitude is then taken into practice and encourages long working hours which may be damaging to architects' well-being.
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6.4 Practice issues

6.4.1 Introduction

Architects’ job related well-being is also influenced by practice issues. The following section details these issues, particularly, size of practice, public versus private sector, employment relations and support within the practice.

6.4.2 Size of practice

The size of the practice architects work in appears to influence their well-being. Working in large practices was seen to provide greater opportunities in terms of specialising.

'Maybe I need to re-evaluate my current role and reconsider going back into bigger practice where there is a shared responsibility for administration and a greater opportunity for specialisation' (CR)

For this participant, the administrative burden associated with a small practice was a significant influence on his well-being. In contrast, other respondents felt that working in large practices could damage their well-being, precisely because they were expected to specialise.
'I think that large practices are probably worse because they like to pigeon hole people, you know, such and such is good at site, so and so if very good at detailing etc...bigger practices are even worse because you do get stereotyped. To an extent that does happen in this office...you don't get the chance to develop different skills...you are not being shown any other aspects of architectural work...' (MG)

For those working within larger practices there may be difficulty in undertaking a range of work which enable the individual to develop their skills. Those working within small practices felt that they were more able to utilise their skills.

'we're a small firm so I work on the project from beginning to end' (KL)

This respondent felt that working in a small practice (four people) enabled her to develop her skills as she managed each project from beginning to end, which she may not have been able to in a large practice. Another respondent felt that working in a small practice allowed him greater control and freedom of expression.

'I found I'm much happier in a small office where I've got more control over what I'm doing...I didn't feel there was much freedom of expression there [in the large practice]...I started working in this one particular project and they had very set ideas about how it should be...it's the sense of having gone through a long training period and I didn't do that to be someone else's monkey...' (WS)

For this respondent, working in a large practice restricted his freedom of expression and problem solving skills, skills he felt more able to use in the small practice he
moved to. In addition he felt that larger practices have strict hierarchies which he found unsatisfactory because he felt restricted the sense of ownership he felt about his work.

While this respondent felt that working in large practices was damaging for his well-being due to restrictions placed on his skill use and ownership of his work, other respondents felt that the strict hierarchy in large practices had benefit for their well-being.

'The HR manager keeps a check on what hours everyone does in a weekly basis... and then she will come round and say, oh you did so many hours and we are going to give you so many days back' (SA)

Larger practices are able to implement formalised human resource policy, such as monitoring employees' working hours or carrying out regular staff appraisals where architects can raise problems with senior management. Such policies may mediate well-being.

6.4.3 Private practice versus public sector

Most respondents worked in private practice, with three working for local authorities. Two of these three had previously worked in private practice. Working for a local authority was seen to have benefits due to formalised human resource policies.
This respondent felt that his employer, a local authority, took care over the physical well-being of its employees by insisting upon physical check ups. In addition, he felt that his well-being was maintained due to the nature of the projects he worked on.

'Council work is very constant, there is very little variables apart from the design side of things, you don't have unpredictable clients' (HEB)

Working as an architect in a local authority appears to involve a steady workload, something which may not be guaranteed in private practice; and as such, local authority work may result in greater job security.

6.4.4 Employee relations

The relationship between managers and employees has been demonstrated to be a key influence in job satisfaction and in turn well-being (Warr, 1996). The interview respondents echoed this idea. In particular issues of management practices, trust, support and appreciation from managers were seen as important to job related well-being.
Trust between management and architects was seen to be an important mediator of well-being. Those architects who felt that their manager trusted them reported satisfaction with their managers. There was an indication from respondents that those running practices must trust their employees to get on with their jobs and this was seen as one of the pleasures of being an architect.

'One of the great joys about our field and certainly the practice I'm working in is that each architect is left to look after and run their own project' (VQ)

This is an important statement as it illustrates that trust between those in management and employees can result in a degree of autonomy for the individual. This trust was seen as a contrast to a blame culture which some respondents felt existed in some practices.

'It is the first practice I have worked in and I have worked in quite a few over the past few years, where there hasn't been a sort of blame culture going on. But what seemed to happen in all the other practices I was in, when ever anything went wrong, or there were problems there was always a sense that the directors or the managers were saying 'What have you done wrong?' 'Why didn't you sort this out?' (HT)

This respondent felt that the blame culture she had been exposed to made it difficult for young architects to cope with their workload, implying a link between a blame culture and well-being.
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Not all respondents felt that their managers were trusting. Two female respondents felt that their managers were distrustful and this was a source of concern for them.

'Now I have got one [line manager] who over looks and drives me mental' (AS)

'I think that the management has a tendency to get too involved in the day to day running of a project which doesn't leave them time to do some of the things that management should be doing' (RS)

These two quotes suggest that a lack of trust can have a negative impact on the well-being of the individual but also may impact the practice. Interestingly two respondents (RS and HT) worked for the same practice and were working on the same project. They had differing views on the level of trust expressed by their line managers. One respondent (the second quote above) felt that the managers were too involved in the day to day running of the project. In contrast the HT stated that;

'they threw me in from the first week, they were like 'Right you are doing a presentation in front of a new client next week get on with it'. I thought 'wow they trust me, they are testing me, but they are trusting me to be able to deliver this' (HT)

As both of these respondents were working in the same practice, on the same project for the same line managers it is interesting to note that two people can have very different interpretations of similar situations.
Respondents indicated that feeling appreciated by their manager was an important influence on their well-being. This appreciation was expressed in two ways; either verbally or financially.

'Yes I think it would be verbal recognition also they are quite good at celebrating when people get planning permission or if you win an appeal...' (RE)

One respondent in a large practice stated that her immediate line manager would express appreciation but it would rarely come from one of the directors.

'They do say thank you, although that does quite often come from the Associate who runs the office rather than the Directors which I think is a shame' (SA)

In section 6.7.3 women's experiences of working relationships are discussed. Interestingly the respondent quoted above described an incident where the client had expressed appreciation for the work done on a project to her Director but his thanks had not been passed on to her.

Appreciation for work was also seen to be expressed in financial terms; 'Well you might expect a higher pay rise at the end of the year' (RE)
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6.4.5 Self-employment

Six of the interview respondents were self-employed. All were asked their reasons for leaving private practice to set up their own practices and how they felt this affected their well-being.

'It has always been an ambition. Although the practice I worked at before was great...we decided to set up this practice so that we could have the freedom to express our own creativity' (TM)

This quote illustrates that one reason for architects to establish their own practice is to ensure autonomy over their work, in terms of creativity and working conditions. Given the importance of these factors to job related well-being, self-employment may offer an opportunity for architects to improve their well-being. However there are difficulties associated with self-employment.

'There is a good deal more insecurity in terms of the sustainability of work, the sustainability of cash flow and income' (CR)

For those who are self-employed there appears to be a considerable degree of insecurity and pressure associated with bringing in work. This insecurity could potentially be harmful to the individual's job related well-being. Another pressure associated with self-employment was managing employees.
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'It's [managing staff] what I like least about working for myself. The buck stops with me, you have to deal with people you want to sack. I have never sacked anyone and I don't want to.' (DW)

This quote illustrates that self-employed architect may face difficulties in managing staff and this may impact their job-related well-being.

6.4.6 Summary

This section reviewed the findings relating to practice issues. Those working in small practices were seen to benefit from greater well-being due to more opportunities to use a range of skills, having more involvement with projects and a greater sense of ownership over their work. Those working in large practices benefited from formalised human resource policies, but may be vulnerable to pigeon holing which may damage well-being. Those working in the public sector also benefited from formalised human resource policies which monitored physical health and equal opportunities. Those working in the public sector also had a steady flow of work and may therefore experience greater job security than those working in the private sector.

Practice management issues were seen as important to the well-being of individuals, particularly the level of trust between management and employees and appreciation shown by managers. It was noted that two individuals working within the same office can view management relations differently and that female architects may be less likely to receive appreciation from their managers.
6.5 Job Satisfaction

6.5.1 Introduction

The data presented in Chapter Five demonstrated that significant areas of job satisfaction were of concern to respondents. In Chapter Five areas of poor job satisfaction amongst respondents to the survey were identified. These were; rate of pay, the way your practice is managed, opportunity for promotion, hours of work, attention paid to suggestions you make, recognition for your work, physical working conditions, opportunity to use your abilities, issues relating to practice management and autonomy. These issues were all discussed during the interviews. Practice-related issues (practice management issues) were discussed in section 6.4. Hours of work are discussed in section 6.6. The following section discusses pay, promotion, recognition for work, physical working conditions, skill / ability use, and relationship with clients.

6.5.2 Pay

Chapter Five revealed that 42% of the sample were dissatisfied with their rate of pay. Interview respondents echoed this dissatisfaction and it was seen as an important contributor to well-being. The poor pay of architects was seen as applying across the whole profession, and as such could have been included in section 6.2, however, Warr (1996) highlights the important role of pay in job satisfaction, therefore it is discussed in this section.
Most architects I have met are incredibly dedicated, incredibly honest, incredibly professional in what they do and their pay is crap, and that is not the basis of a good quality of life or a good family life or a good relationship, unless your partner, male or female, is very understanding and has a good wage’ (HT)

This quote illustrates that the poor pay can have a broad impact on an individual’s life. This pay received by architects was not seen to reflect the amount of work done or their level of qualification.

‘I think in view of all the effort you have to go to achieve your qualifications and so on and so forth you don’t end up with much of a wage at the end of the day’ (DH)

6.5.3 Promotion

The results of the survey presented in Chapter Five showed that one third of respondents were dissatisfied with their opportunity for promotion. All respondents were asked what factors they felt affected their chances of promotion. A range of responses were given, focussing around issues of personality, presence in the office and quality of work.

Issues around the personality of the individual were cited as an important factor in promotion.
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'I think if you're a nice person it helps, if people like being around you, actually, and that might be rather naïve, but I think if you're a bit of a pain and people don't like you, then everyone knows that and bosses know that... ' (WS)

This quote illustrates a view held by many respondents, that an individual’s ability to get along with other people was an important influence on promotion prospects. This was articulated by two respondents as the ability to co-operate or 'muck in' with other people’s work. One respondent felt that being ‘pushy’ was an important factor in promotion.

Being seen as present in the office was also considered an important factor in promotion.

'The other barrier within architecture is presence in the office and your ability to drop everything and work on things... if you are somebody who can be seen to do overtime and they come in at weekends, then that is good value for money for an employer... you are likely to be given more opportunities then I think.' (HT)

'I think to get promoted you have to put in more than you are expected to put in in your job descriptions, the extra 10%' (RS)

It is interesting to note that these two quotes were given by female respondents. In section 6.7 women’s need to work harder than men to be accepted is discussed and these two issues may be related. If being present in the office and willing to work
extra hours is necessary for promotion, then those with childcare responsibilities and those unwilling to work extra hours may face difficulties.

'We've a colleague here who has just gone off to have a baby, a girl obviously, and who also worked part-time teaching and that, those two factors were quite a difficulty for a small practice to deal with, and sort of, I could foresee difficulties for her when she wants to progress.' (WS)

This quote suggests that women with childcare responsibilities may not be able to maintain the presence in the office necessary for promotion and therefore may be disadvantaged.

The quality of work produced by the architect was also considered an important factor in promotion, but it was not considered sufficient in itself.

'It isn't just the quality, it is how you would tackle a problem. I think there is an element of, even if you achieve the same result, if you were to do it a completely different way then they might think that there is something going on that I am not sure about, not sure it is what I want.' (MG)

This respondent felt that the quality of output was as important how an architect approached the problem and if they utilised a similar method as their line manager would have used in a similar situation.
6.5.4 Recognition for work

The following section details the recognition architects receive for their work and the feedback they receive. This was often described as ‘feeling appreciated’. This is an important component of job satisfaction (Warr, 1996) and highlighted as a potential area of concern in Chapter Five.

'We have good relationships with clients after contracts and that leads to repeat contracts, which is the best way to know that our work is valued' (TM)

'We have a bonus scheme which is basically a profit sharing scheme at the end of the year...there are other kinds of events and things that the office lays on during the year' (IH)

'Every time I do a school and I go on the opening day and the head teacher says ‘here is the architects who designed that’ and the kids asks me questions it is that sort of feeling' (HEB)

These three quotes illustrate that respondents felt there were three sources of appreciation, from the client, from the practice and from the end user. If a client returns to the same practice for work then this is seen to be an indication that the work carried out by that practice has been valued. Practices can indicate appreciation to their employees through financial measures and organising social events and the end user, for example, school children can indicate appreciation.
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Not all respondents felt that their work was appreciated and this was seen to be source of stress.

'I suppose I was feeling very under appreciated and overloaded with my big building and I think I became stressed' (AS)

For this architect she expressed a belief that architects' work is never appreciated and that good feedback is never forthcoming. Another architect argued that he was not concerned with getting good feedback.

'I'm not too bothered really, whether they like it or not...obviously it would be nice if they like it, I mean I wouldn't go out of my way to make an awful building.' (VQ)

6.5.5 Physical working conditions

Approximately one third of survey respondents reported dissatisfaction with their physical working conditions within their practice. Accordingly all interview respondents were asked to describe their physical working conditions and how they felt about them. The following section details areas in which respondents expressed satisfaction and dissatisfaction with their physical working conditions.

All respondents worked in open plan offices which was seen to have advantages and disadvantages.
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'There is more of a team spirit, I mean I would hate to think that I would have to work within one office all by myself' (VQ)

As this quote illustrates, some respondents felt that open plan offices helped to foster a friendly environment within the workplace. In addition open plan offices were seen to provide natural light and space. However, they were also seen to be noisy which could make concentrating on work difficult.

'It does have its drawbacks, you know, you are having a 'phone conversation and they might be on their mobile and you have to raise your voice a bit and you are disturbing people at the other end' (MG)

In addition, physical safety was of concern in terms of working conditions.

'In winter when you are working late all the time and working in the office on your own sometimes, having to the leave the office and it is not well lit...most architects don't work in the west end [of London] most work in up and coming areas...so there is concern over personal safety and I have heard some horror stories of things that have happened to architects working late or working in relatively dangerous parts of London...it's another potential area of stress' (HT)

This quote highlights two issues, firstly, the location of architects' practices in London, for example they may be in dangerous areas. Secondly it highlights the working hours of architects which are discussed later in this Chapter.
6.5.6 Skill use

The issue of skill use is interesting in the case of architects, as many choose to enter the profession believing they would be using a range of artistic and creative skills. Most respondents indicated that they were able to use a wide range of skills in their work and this was one of the aspects of their job which they enjoyed the most. There were skills which respondents felt they were unable to use, often creative skills such as design.

'No, I would like to do more design work because that is quite nice to do. It's quite nice to be able to sit at a drawing board or a computer and create things' (RM)

'I would prefer to spend more time designing than I do. I spend a lot of time on admin.' (TM)

These quotes illustrate a desire amongst some participants to spend more of their time utilising their creative skills. Given that many respondents chose the architectural profession in order to use their creative skills this may indicate a source of concern.

'Jobs come in and it's the partners who get them initially, so most of us don't get the work until it's a bit further down the line so you haven't been able to have that initial creative input into it. So in a sense you are taking something on board which has already been mapped out, which in some respects is not too satisfactory as it would be nice to be in from the outset. You know, knowing what the client needs, that sort of thing' (MG)
In larger practices respondents indicated some concern at their lack of involvement at the development phase of the project.

6.5.7 Relationship with clients

'The clients can be the worst thing in your life!' (AS)

The survey results presented in Chapter Five indicated that the majority of respondents were satisfied with their relationship with clients. Interestingly many of the interview respondents expressed frustration when discussing clients, but there was agreement that this relationship varied between clients, particularly between professional and one off clients. Professional clients were seen to have a good understanding of the building process and have reasonable expectations of time and budgetary constraints.

'individuals who are well acquainted with the building process and don't expect that these things get fed into a computer and come out the other side in 10 minutes' (DH)

'Quite a lot of clients are serial builders – they seem to have realistic expectations. One off clients are totally unrealistic. There is a tendency to think what we want and what we can afford are the same' (DW)

These two quotes illustrate views expressed by respondents that working with professional (or serial) clients is less stressful because the client has a good understanding of what is achievable. In contrast, one off clients were seen to have
unrealistic expectations. These one off clients could be domestic clients or small business owners. They were seen to have unrealistic expectations regarding cost and time.

'I would never go back to working on private houses for people with too much money because I think as clients they are incredibly demanding and treat you like dirt' (RS)

This last quote suggests that those working for domestic, one off clients are not treated well and made to feel undervalued. As discussed previously, feeling valued and appreciated is an important contributor to well-being, therefore a lack of appreciation may mean those working for such clients are at increased risk of poor well-being.

In addition to having unrealistic expectations, one off clients were characterised as ignorant of the building process and therefore requiring much more of the architects' time.

'I think they are the clients when we have to put in the most amount of work to explain to them why they can't have what they want or why they can't afford what they want or why there don't really want what they want' (IH)

Clients' misunderstanding of time and budgetary constraints, in addition to what architects can achieve was seen to be a source of stress as they may make unreasonable demands on the architect.
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'They want something done by tomorrow or early next week and sometimes you will say yes because it is a client and they are paying and you want to keep them happy' (MG)

Clients expecting work returned within short deadlines was seen by respondents as a source of stress and adding to their long working hours (discussed in greater detail in section 6.6).

6.5.6 Summary

This section has revealed that job satisfaction for architects in this sample was linked to issues relating to pay, practice management (for example, promotion prospects), long working hours, appreciation shown for work and skill use. The following section explores respondents' perceptions of the work-life interface, examining the impact of working hours and respondents' ability to switch off after work.

6.6 The work-life interface

6.6.1 Introduction

The interface between an individual's work and non-work life has been demonstrated as a significant influence on well-being in the workplace. Results reported in Chapter Five showed that work-life conflict was of concern for many respondents. The majority of respondents felt that they had come home from work too tired to do chores, while approximately one third felt that work had a negative impact on their
non working lives. In addition one third expressed dissatisfaction with their working hours. The following section discusses respondents experience of their work-life interface, focussing on issues of working hours and their impact on non-work life and difficulty switching off, issues which were raised by most respondents.

6.6.2 Working hours and their impact on non working life

For many respondents working hours had the biggest influence on their work-life interface (often called work-life balance by respondents). Long working hours result from the quantity of work and also travel to and from sites.

'I think that work-life balance can be a real struggle. We don't work on one project at a time, we have parallel projects. It can mean that we have to stay late to get work done.' (MM)

For this respondent, long working hours arise as a result of working on multiple projects. For other respondents, working long hours were necessary to catch up on work which could not be done during normal working hours.

'I would do an additional hour generally, because once those phones stop ringing it gives you time to tie up loose ends, get ready for the next day...it means an additional 5 to 10 hours a week anyway, just on average' (MG)

'I tend to spend a lot of time working in the evening because if you go out on site during the day, or go to meetings, just running a business, filling in forms etc takes
time and the only thing you can do is catch up in the evenings. Sometimes you are with clients in the evenings until 10pm.' (NB)

For these respondents, working past normal working hours was necessary to catch up on certain administrative tasks which cannot be carried out during the day. This may be particularly problematic for someone who is self-employed, working with domestic clients, as illustrated by the second quote. This respondent spent much of his working day in meetings and needed time in the evenings to run his business and carry out design work. Consequently, being self-employed may add extra pressures on to an architect, in addition to those experienced by employed architects.

The culture of long working hours remained unquestioned by most respondents and some saw it as an integral part of the work of an architect and necessary for a successful career.

'if you say let us know if you can’t work those hours, that’s just a fallacy, anyone in architecture knows that you have to work long hours and if you do an architectural degree you will end up spending all of your time drawing and planning your next project' (NB)

This quote illustrates the idea that working long hours is a necessary aspect of the work of an architect. It also suggests that that this idea is instilled during the educational process. Another respondent echoed this concept.
'I really felt like it was going to take over my life. It was something that was said to us in our first year [at university] this is going to take over your life...' (HT)

Refusing to work long hours was seen by one respondent to have damaged her career prospects.

'I've never, never stayed late really anywhere, which is of course the kiss of death to a career...I would dare to leave at 6 o'clock; I felt terrible because you’re not supposed to...so in that sense I haven’t made a career of it [architecture].' (AS)

For this respondent not working long hours was seen as a reason for what she defined as a lack of career, although interestingly she is the second most senior architect within her organisation, suggesting she has achieved success in her career. In addition it is interesting to note that she expressed guilt at leaving work at 6 o'clock, a sentiment expressed by another architect.

'I mean I have always felt like this, throughout my career; that if I walk out of the door on time I have always felt like I am walking out early.' (RS)

While there was seen to be a culture of long working hours within practices, some respondents were keen to point out that working extra hours was not forced upon them by their line manages.

'I rarely get to go home on time and I don't get a lunch break. The director doesn't enforce it, it is our own choice' (MM).
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'I do find myself tempted to go in and finish work [at weekends]. Not that anyone is saying I have to go in...' (RS)

While these respondents may feel that they are not being overtly forced to work long hours, feeling that working long hours are necessary for a successful career may exert a pressure on architects. As such, the extent to which architects are working long hours by choice is questionable.

Long working hours may be more problematic for those who are in the early stages of their career if they are working towards chartered status.

'When I was doing my Part III it was really awkward, it was a very intense period of 4 or 5 months where every evening I was doing Part III stuff, every weekend I was working on my case study, doing bits and bobs like writing essays and stuff that completely took over everything and then running site' (RE)

'I have never let it [work] impact my weekends... except when I was doing my Part III and I was having to do lots of revision and write a dissertation and stuff and then it was evenings and weekends all the time' (HT).

Both of these architects felt that their work life balance had suffered significantly during the early part of their career when they were combining full time work with undertaking further study necessary to achieve chartered status.
The consequences of long working hours were varied, but there was an agreement amongst most respondents that it had a negative impact on their life outside of work, particularly in terms of their relationships with family, friends and partners.

'The firm that I used to work for [Practice name] you were expected to work as long as, you know, I used to drive 55,000 miles a year. I would drive to Manchester do seven hours in the brewery and then drive home again. So you tend not to see your children very much, maybe at critical periods in their lives' (NG)

This architect felt that his long working hours had a negative impact on his relationship with his children as he had missed out on significant periods in their lives. Another architect expressed a similar sentiment.

'My son would say that he’s seriously neglected because I am always on the 'phone and he does get fed up with it...he does quite often end up eating at sort of 9 o’clock at night because I’ve had something I have to do...I’ve had to take him to meetings and things like that’ (VN)

This respondent had flexible working hours to allow her to undertake the majority of the childcare for her child. Working these flexible hours meant that she had to work in the evenings and weekends and she felt this has an effect on her son. One respondent who had attempted to combine work with childcare responsibilities felt it had resulted in ill health.
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'I suffered from a depressive episode where I had to take nearly a month off work and that was because I was trying to look after my daughter and at the same time do my job by taking time off during the week and I couldn't do it.' (RM)

The impact of working hours extends beyond those with childcare responsibilities.

'I often find it difficult to plan week day evenings for example...can I plan to meet a friend that evening, can I plan to go to the cinema because I am probably going to be working late' (HT)

This respondent felt that her working hours made it difficult to maintain relationships with her friends, a feeling shared by other respondents.

'Other activities suffer, I might have to cancel meeting friends, but I don't mind, it comes with the territory' (MM)

The previous quote is interesting as it illustrates a point made earlier in this section, that working long hours is considered to an integral aspect of working as an architect and the impact of these long hours is accepted by architects rather than challenged. In addition, architects may be unable to maintain relationships outside of work and be missing out on social support.

In Chapter Five it was shown that a majority of respondents reported difficulty 'switching off' after work and that this problem may be particular acute for female architects. The following section details respondents' discussions of this.
6.6.3 Switching off

An inability to switch off was characterised as having difficulty sleeping, worrying about a project and thinking about buildings and design. Some respondents described how they felt they were never able to completely switch off from work and would often worry about projects they were working on.

'If you've got a deadline and there's a package of drawings which have got to be out and you're thinking about the detail about how the whole thing's going to go together it'll probably be ticking over in your mind to a great extent for most of the time' (DH)

'I think it impacts on my ability to relax, because if I get home from work and I am really wound up then it takes me a while to unwind and sleep' (HT)

These two quotes illustrate that some architects reported difficulty switching off after work and this manifests through worrying about projects and having difficulty sleeping.

Older respondents indicated that switching off had been more problematic in the early stages of their career.

'There is a difference between thinking about things and worrying about them. I don't worry about them now.' (NG)
'Over the years I have got better at switching off, I used to take my work home a lot more, but I have conditioned myself not to that and I am much better at it' (MG)

Both of these male respondents felt that they had learnt not to worry about work and this helped them to switch off after work, suggesting that those in the early stages of the career may be more vulnerable to this form of work to life conflict as they have yet to develop a coping strategy.

The results of the survey presented in Chapter Four revealed that female respondents experienced greater difficulty in switching off and greater difficulty sleeping. Six of the female respondents to the interviews reported significant difficulties switching off and sleeping. The reasons for women experiencing greater difficulties switching off are not immediately apparent. However, section 6.7 in this chapter discusses the additional stressors experienced by female architects. Female architects feel the need to prove their ability to others working on projects and indicated that their contributions to projects are ignored. These additional concerns may be linked to difficulty switching off and sleeping.

6.6.4 Summary

This section detailed findings relating to respondents’ work life interface. The main source of work life conflict was identified as the long working hours caused by working on multiple projects simultaneously and time taken to travel to projects. The need to work long hours was unquestioned by most respondents and seen as an integral facet of the work of an architect. A refusal to work long hours was seen as
potentially damaging to an individual’s career prospects. Working long hours affected respondents’ relationships with their family and friends. Given the importance of social support in mediating well-being, those working long hours who are unable to maintain such important relationships may find themselves at increased risk of poor well-being. Many respondent reported an inability to ‘switch off’ after work, which manifested through insomnia and constant worrying about projects. However, this was seen to improve with time as older respondents reported developing coping mechanisms to deal with this.

The following section explores the issues affecting women working in the architectural profession.

6.7 Issues affecting women working in the architectural profession

6.7.1 Introduction

Women working in the architectural profession experience many of the same issues already discussed in this Chapter, however, respondents felt that they may experience additional problems, namely; lack of role models, women lacking assertiveness and confidence, working relationships with clients, contractors and colleagues, task restriction, childcare issues, a perceived need to prove herself as competent, contributions being ignored, isolation, sexist attitudes and the RIBA. Each of these will be discussed in turn.
6.7. Assertiveness and confidence

Many respondents felt that women architects lack the necessary confidence and assertiveness.

'There is an issue about confidence. Female architects tend to be lacking in confidence when they are younger. Men who are confident can be a liability because they are not as good as they think they are' (DW)

This architect expressed a preference for employing female architects as he felt they did not know how good they really were at their jobs, whereas male architects had unwarranted confidence and often made mistakes as a result. Another female architect felt that women, due a lack of confidence, are not good architects.

'I think that a lot of female architects are not very good, just because of the way that women work generally, I don’t think that women push themselves forward very often... they are not very good at pushing themselves forward and recognising their own skills and abilities...' (HT)

This is an interesting quote as it illustrates a degree of gender bias on behalf of this respondent as she feels women work in different ways to men. Many of the respondents expressed gender bias in the characterisation of men and women and this shall become apparent in later discussion in this Chapter. A lack of confidence was seen to particularly affect young female architects.
'Even for most young male architects walking onto a building site for the first time you have got to have confidence and know what you are doing. If you don't a building site can be a very scary place to be because builders are very good at teasing and being difficult with young architects and I imagine that would be more difficult for female architects' (IH)

This quote suggests that all young architects may be vulnerable to problems on site and that young female architects may be particularly vulnerable, suggesting that young female architects may experience more stressors, making them more susceptible to poor well-being. One female respondent felt that women architects' lack of confidence may result from a lack of role models.

'I think one issue with role models is confidence...they don't have the role models there. They don't have the women tutors in college, they don't have the women architects standing up to be counted (HT)

When reviewing the interviews it became clear that a number of the female respondents (but none of the male) expressed negative opinions about their abilities as architects, suggesting that female architects may lack confidence in their abilities.

'I suppose I am aware of my weaker areas which are the more technical aspects I suppose like complicated detailing and technical detail. I find it difficult to retain a lot of technical information.' (RE)
Not all female respondents expressed a lack of confidence regarding their abilities, but that a number did, and no male architects did suggests that it may be a real concern for women working in the architectural profession.

6.7.3 Working relationships

Several respondents reported that women architects can experience difficulties in their working relationships with clients, contractors, consultants and colleagues. For instance, women architects needing to work twice as hard to be accepted on the same level as their male counterparts.

'You have to work probably slightly harder than the blokes to get even the same level of recognition, it's really frustrating actually' (SA)

'You have to prove yourself. I think the starting point for a man meeting a woman is that you're going to be fluffy and you can prove yourself quickly that you're not and that's fine...so the assumption with a man is that they're going to be a good chap unless they prove to be otherwise, if you see what I mean, so it's the inverse' (VN)

These two quotes from female architects illustrate a belief that men working in the construction industry have preconceptions about the abilities of women which place them at a disadvantage. These kinds of sexist attitudes are a significant source of stress and therefore poor well-being for women in the workplace.
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'Because the construction industry is a male dominated area, quite often, I have been to meetings where other professionals or colleagues of mine who happen to be with me have to work twice as hard to convince a client or a contractor that they have got the right answer' (IH)

This male respondent indicated that female colleagues face difficulties in getting their knowledge and skills taken seriously by male clients or contractors, suggesting that women who perceive that they need to work twice as hard are not mistaken.

Some female respondents also felt that their abilities and contributions to projects were ignored by colleagues and clients.

'It can be difficult to make yourself listened to on a site full of 50 year old men who know better than you... trying to exercise some control on site when everyone is much older than you and they definitely know much more than you 'love' can be difficult' (RS)

For this respondent, she felt contractors on site did not appreciate her technical ability and this was a hindrance to her carrying out her job and was a source of stress. In addition she had experienced difficulties with clients.

'I have a particular client... he speaks to us [female architects] like little girls. It is rather patronising as he doesn't seem to think that we know what we are talking about. That is just out and out sexist.' (RS)
Other female architects felt that their contributions had been ignored by colleagues as well as clients and contractors.

'Someone has put me on speaker 'phone and really put me on the spot in front of everyone at a meeting and I don't know if that's anything to do with being female' (RE)

This respondent felt that male colleagues had used an opportunity to 'put her on the spot' and possibly demonstrate her lack of technical knowledge. It is not clear if this happened because she is female or not, but if she believes this to be due to her gender then it may impact her well-being. Another female respondent described a situation where her contribution to a project had been ignored by the client and her line manager.

'I found out today that this client has phoned my boss, one of the directors, and said you have done a grand job, thanks a lot, we are going to take you out for a few beers to say thank you and I thought, hang on, you didn't do any of that work. I did all of that work, so it is great that the work has been recognised for the practice, but on a personal level it is quite disappointing' (SA).

This quote is interesting as it illustrates two phenomena. Firstly, this female respondent's work on a project has been ignored by the client and she is not receiving personal recognition for her work. Secondly, the client intended to take the director of the practice out 'for a few beers'.
Sexist attitudes from colleagues, clients and contractors can manifest through paternalistic attitudes, for example, the behaviour of contractors may change when they are working with a female architect.

'They don’t like swearing in front of me...the effing and the blinding is definitely less when I’m around than when I’m around the corner, I can hear it' (KL)

This female respondent felt that contractors and those working on site changed their behaviour when she was on site, for example, not swearing in front of her. She also argued that those working on site saw no difference between working with a male or female architect which is contradictory. Other female architects felt that they had been denied opportunities to carry out tasks on projects which would have helped develop their range of skills.

'We get over protected so we don’t get exposed to the same range of challenges as the men. And it certainly used to be the case that the women did all the insides of buildings and men did the outsides which I challenged relentlessly and I think that it’s now less prevalent. So I think that has been sorted.' (VN)

This quote suggests that female architects have had their access to certain tasks restricted. But this respondent feels that this may no longer be true. However, a younger female architect said that 'I wasn’t allowed to do any exteriors. All I was given was colouring in work' (MM), suggesting that this situation may still exist for some women.
Two female architects expressed a concern that they were not allowed to meet clients.

'It took me a long time realise I wasn't getting good work. I was a very good assistant, sort of doing perfect amendments to drawings and backing up someone, so I didn't really meet clients in general' (AS)

One other female respondent said she had never met the client whose project she was running. If architects are not meeting the client then it seems probable that their contributions to projects will be ignored as described previously. In addition, meeting clients and learning how to bring work into the practice was cited by several respondents as being necessary for career progression. If female architects are being denied this opportunity then it may hinder their career progression.

Being denied access to certain tasks demonstrates gender-biased attitudes on behalf of the individual who assigns work, which may have an impact on a woman's career prospects if she is not allowed the opportunity to develop necessary skills.

It is important to note that sexist attitudes regarding the abilities of female architects were not just expressed by male colleagues, clients or contractors. As already noted, some female architects expressed a belief that due to a lack of self confidence, women architects are not very good at their jobs. One other female architect described herself as an 'anti-feminist' and argued against gender equality within the profession.
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'The world isn't equal, we don't have 50% of anything as far as I know... I can't think of anything where it actually naturally occurs and I don't see why it would be a natural thing to have in architecture... we are actually built differently, we're naturally designed to do different things.

Are you part of Women in Architecture?

No I don't agree with the principle of it or the 50% thing that they were proposing... if the men started having a 'men in architecture' thing I think there would be a lot of girls who would say hang on that's not fair... I don't see that there's any benefit of going to a little girly meeting and having cups of tea' (KL)

This same respondent argued against women's networking groups as she disagreed with the principle of women's equality. This is an important finding as it demonstrates that women working within the profession are not a homogeneous group. It cannot be assumed that they are feminists or that they are all free of gender-stereotyped views of themselves or other women.

One male respondent cited an example of his female line manager expressing gender stereotyped attitudes.

'we had a really good woman apply... she was easily the best person for the job, but she never appeared in the office. I went and asked my boss, who is a woman, 'what happened to the woman you interviewed, she was really good?' My boss said 'yeah, I know but she is 36 and she is going to want babies soon' (SMcT)
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The following section of this Chapter discusses attitudes towards childcare and maternity leave, but this quote shows that it cannot be assumed that women working in the profession are free from gender bias or keen to recruit, retain and promote other women.

6.7.4 Childcare and maternity leave

Many respondents felt that issues surrounding combining a career in architecture, maternity leave and childcare were significant problems for women working in the architectural profession.

Of the female respondents, one had children and worked part-time. She was able to combine childcare responsibilities with work, by employing flexi-time. This had a negative impact on her life outside work and was discussed in detail in section 6.6.2 Other respondents felt that working part-time to combine work with childcare was damaging to the career of female architects, and many practices were unable or unwilling to accommodate part-time work.

'We don't have any mechanism in this office to bring anyone back should someone go off and have a child, in terms of training and things like that, or part-time working. There was one woman working here, she had a kid about 2 years ago, so she was away and she wanted to come back part-time and it wasn't really greeted very amicably and it took quite a lot of hard work for that to happen...there is the business argument. They say, 'oh I can't give her a job because she isn't going to be around half of the time, what happens if the baby is ill' you know, all that rubbish' (MG)
This male respondent felt that the practice he worked for was not receptive to women working part-time or returning to work after maternity leave. He felt that those running the practice used a business argument against employing a woman who had children. Another respondent felt that this argument was justified, particularly for small practices.

'I mean with maternity leave and things like that, that can cripple a small practice, and so no matter how equal opportunities everyone is, you have to, if I was a bloke or I ran my own practice I'd probably have exactly the same thought. You can't afford to pay someone when they're not there and not working and probably not going to come back. You really have to think about that when you take on a female member of staff.'

(KL)

This female respondent clearly believed that working in a small practice and having childcare responsibilities are incompatible, suggesting that she agrees with industry and professional attitudes regarding gender. One female architect without children, felt that many women choose to have children when they are gaining confidence in their abilities.

'There is also the issue that by the time women get to being more confident, in their 30s they also start having kids a lot of them...I do think women are still taking the majority of the childcare responsibility in this country and working and just fitting anything else in is really really hard. So they end up concentrating on just managing what they are doing rather than thinking about where they would like to go in the future, because they see promotion or anything with additional responsibility as
something that is going to make their current responsibility impossible to manage’

(HT)

This quote illustrates a number of points. Firstly, that women may choose to have a family at a time when they are developing confidence in their abilities as an architect. A lack of confidence was cited as a significant problem for female architects, so if they are developing this confidence at a time when they are deciding to have children then the benefits of it may be lost. Secondly, it shows a belief that women have most of the responsibility for childcare, therefore these issues would not affect men in a similar situation. Finally, it demonstrates that women working in the architectural profession who have children are ‘just managing’. They are not able to focus on activities which may help further their career, because they are having difficulty managing the two major responsibilities they already have. In addition they may not want to further their career as they would then be unable to balance work and family life.

6.7.5 Female architects and experience of higher education

Section 6.3.4 discussed architects’ experiences of university and the impact this had on their health and well-being. Namely, that university education fosters an unhealthy long working hours culture, the degree content failed to prepare architectural students for working life and that the benefits of the critique or jury system were doubted. Female architectural students may experience additional problems at university. Two female respondents reported university as a lonely experience due to a lack of female role models.
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'I was the only female; I think that was a really huge part of why it was so unpleasant really. The men just carry on as if it’s a boys’ organisation...they just ignored me and I ignored them and I listened to a lot of football talk and car talk and wondered what I had done to myself really'. (AS)

Both women said that they had considered leaving their courses due to the isolation that they had experienced. For students who may find university a difficult experience because of issues such as the critique process, this may be exacerbated for those who find they lack support from peers and tutors. This may be particularly problematic for female students if they experience the isolation indicated by these respondents.

6.7.6 Female architects and local authorities

Section 6.4.3 detailed architects’ experiences of working in local authority, indicating that local authorities have formalised human resource (HR) policies which may benefit employee health and well-being. One female respondent working in local authority felt that gender equality issues were taken more seriously there, as the two most senior architects in her department were female.

'I think working here has had a huge effect on me forgetting inequality because the top architect here is a woman...there are two of us [women] here and we’ve had the best jobs' (AS)

The formalised HR policies which benefit employees may also be beneficial to female architects.
6.7.7 Female architects and promotion

Section 6.5.3 reported the factors considered by respondents to be necessary for promotion, identifying the importance of personality factors and the willingness to work long hours. One female respondent felt that she had been denied promotion due to her gender.

'I like to think it's [promotion] on merit but I am realistic enough to know that I don't play golf at the same club, I don't play golf' (SA)

This respondent felt that gender had a significant role in promotion prospects as well attending the same golf club, indicating that she is not part of that social activity.

6.7.8 Summary of issues affecting female architects

Women working in the architectural profession experience many of the same phenomena as male architects, but may also experience additional problems. The respondents here identified a number of issues experienced by female architects, particularly, a lack of confidence, difficulties in working relationships, task restriction, childcare, needing to prove herself and sexist attitudes. It is also important to note that women working in the profession are not immune from sexist, or gender biased attitudes and may perpetuate them. Female architects may also benefit from the formalised HR policies utilised in local authorities. Female architectural students, in addition to being exposed to the long working hours culture, misrepresentations of the profession and the 'crit' process, may also feel isolated due to a lack of female contemporaries. This may make them more vulnerable to poor health and well-being.
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There is some evidence here that female architects may feel that their opportunities for promotion are hampered by their gender.

6.8 Conclusions

This Chapter detailed the findings from the semi-structured interviews carried out with twenty three practicing architects. The interview transcripts were analysed using a method called ‘Template Analysis’ whereby data is coded according to broad categories developed from the data and extant literature. Seven broad categories were identified in the literature and in the data; profession wide issues, route into the profession, practice issues, job satisfaction, work-life interface and issues affecting women architects. This section summarises the main findings.

A number of issues were seen to apply across the whole Architectural Profession, namely, the role of the RIBA, regulatory issues, the status of architects and regional issues. Many respondents felt that the RIBA was irrelevant to their lives and did little to warrant their membership fees. It was felt that the RIBA was not taking a leadership role in promoting the profession and supporting its members in disputes with clients and employers. There was also a suggestion that the RIBA held less relevance to those working outside of London and women members.

Regulatory issues, such as insurance and legislation, were seen as an extra burden on architects who were already experiencing high workloads. Those working in London were seen to have greater opportunities in terms of work and types of projects,
however, due to the higher cost of living in London, they may face additional pressures.

The status of architects was seen to be higher outside the construction industry than within it, as the general public do not have an accurate understanding of what architects do. The RIBA was seen to have a potential role in improving the status of architects, which may be beneficial to the well-being of individuals. It may also make clients more aware of reasonable time and budgetary constraints which may help to reduce the long working hours of architects.

The long working hours of architects were seen as a major contributor to conflict within the work and home interface. Respondents were not able to spend time maintaining relationships with friends and family which may be an important mediator of well-being.

An individual’s route into the Architectural profession may act as a mediator to their well-being. As detailed in section 6.3 many respondent had unrealistic ideas of what their role as an architect would be. Many had believed they would be using creative skills and designing, an idea which for many was encouraged at university. In reality, most respondents spent very little of their time designing and spent the majority of their time on project management and administration. This conflict between expectations and reality was identified as a possible reason for people leaving the profession and as a source of poor well-being. This suggestion was further echoed when respondents discussed their skill use. Many felt that they were unable to use their creative skills which were important to them.
Universities were seen to encourage an unhealthy work ethic, which was then taken by young architects into practice. In order to prepare for 'Crits' many architectural students would work very long hours, often through the night. As already discussed long working hours are damaging to the individual and negatively affect their work life interface.

A number of issues relating to the Practice were identified by respondents as impacting their well-being. Those working in large practices were able to benefit from formalised human resource (HR) policies, but risked specialising in areas they found uninteresting. Those working in small practices benefited from using a broader range of skills and a sense of ownership over their work, but lacked access to formalised HR policies where working hours could be monitored and formal staff appraisals carried out. Those working in the public sector expressed higher well-being as they also benefited from formal HR policies and equal opportunities policies and a steady workload ensuring greater job security than may be experienced within the private sector.

Trusting and appreciative relationships between managers and architects were seen as essential for employee well-being as respondents felt able to carry out their work with a degree of autonomy.

Self employed respondents had chosen to leave employment to ensure their autonomy, through expressing their own creativity and determining their own
working conditions. However, self-employment could be harmful to well-being due to the extra administrative load and longer working hours.

Pay was seen as an important mediator of architects’ well-being. Those who felt they were poorly paid argued their salary did not reflect the amount of work they did or the level of qualification that they had. This is important, as some respondents felt that pay was one way in which their employer expressed positive feedback. Recognition from employers and clients was seen as an important influence on well-being. Those not receiving positive feedback felt it was a source of stress.

Promotion prospects were seen as affected by an individual’s ability to ‘get on’ with others and choose a method of working which was approved of by others. In addition, it was seen as necessary to work extra hours and be willing to ‘drop everything’ to meet deadlines. Those who were unwilling or unable to do so were seen to be damaging their career prospects.

All of the issues above affected men and women in the sample, however, there were seen to be additional problems which may affect women working in the architectural profession. These issues include, lack of confidence and assertiveness, the need to work harder than male counterparts to be accepted, task restriction, lack of acknowledgement of contributions to projects and child care responsibilities. Some women also expressed gender biased attitudes towards female architects. These may be additional stressors experienced by female architects.
Chapter Seven will discuss integrate the findings from the survey presented in Chapters Five and from the semi-structured interviews. It will relate these findings to extant construction management and broader literature.
Chapter Seven: Discussion

7.1 Introduction

Chapters Two and Three of this thesis explored the existing knowledge in the area of health and well-being in the workplace and the role of gender. Chapter Four presented the chosen methodology and Chapters Five and Six presented the findings from the quantitative and qualitative phases of the research design. Chapter Seven draws together the findings from the two phases of the research and discusses them in the context of existing literature, highlighting aspects of the architectural profession which may be particularly relevant to the health and well-being of the men and women working within it. It concludes by presenting a reworked version of Danna and Griffin’s (1998) framework of health and well-being in the workplace. This modified framework includes gender specific sources of occupational stress and factors which influence the health and well-being of architects.

7.1.1 Structure of the chapter

Table 7.1 shows the structure of this chapter. As with previous chapters, Chapter Seven is divided according to particularly relevant areas; factors which apply across the architectural profession, practice issues, job satisfaction, physical symptoms of stress, job demands and decision latitude, affective well-being, the work life interface and turnover. Each topic is discussed according to the experiences of all architects. In order to prevent repetition of issues, gender differences and the experiences of women are discussed in a separate section towards the end of the chapter. The chapter
concludes by relating these categories to the framework proposed by Danna and Griffin (1998).

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Table 7.1. The structure of Chapter 7.
7.2 Profession-wide issues

7.2.1 Introduction

This section discusses issues which potentially affect the health and well-being of all of those working in the architectural profession. The data discussed here partially addresses objective three of the research which was ‘To explore the antecedents of health and well-being in the architectural profession, focussing on understanding the interplay of structure, culture and individual circumstances / actions on well-being outcomes’. In particular it addresses issues of culture, by examining profession-wide concerns. Issues discussed are the role of the professional bodies which regulate and represent architects, the social status of architects and the route taken into the profession by members. Issues particularly affecting women across the architectural profession are discussed separately near the end of this chapter.

7.2.2 The role of the RIBA and ARB.

Section 6.6.2 revealed that most respondents had reservations about the role RIBA and its effectiveness. Many felt it was not fulfilling a leadership role or adequately representing its members. These arguments are not new. A small body of extant literature has argued that the architectural profession must change if it is to serve its members and its clients (RIBA, 2005). Respondents in the current study felt that the RIBA is not acting as an ambassador for the profession. This is important given that the majority of the sample were members of the RIBA and were therefore discussing their representative body.
Chapter Seven: Discussion

The RIBA has an important role in the health and well-being of its members. It can act to represent their best interests to clients and determines the educational route which architects must follow to achieve full recognition. Later in this chapter the role of education is discussed in more detail, however, it appears that the content of degree courses often does not reflect the reality of architectural working life and this may lead harmful misconceptions amongst new entrants to the profession. The RIBA validates architectural degree courses. If these courses do not represent the real working life of an architect and this misrepresentation of the profession damages the health and well-being of the profession, then the RIBA is in part responsible.

7.2.3 Social status of architects

Section 6.2.4 revealed that the social status of architects was of concern to many respondents. In particular it was felt that architecture is misunderstood amongst the general population and leads to a confused status. This echoes the Cuff's (1991) argument which suggested that the public and architectural students perceive architects as autonomous individuals with creative control over the design process. It was also felt that those working within the construction industry view architects of having a lower social status. Perceived social status is an important influence on the health and well-being of individuals (Warr, 1987, Newell, 2002, Emmitt, 1999a, Lingard, 2003) and the low status of the profession has been reported before (see section 3.2.5). Individuals who perceive their work to be of low value experience lower levels of health and well-being (Bradburn, 1969).
The low social status of architects was also linked to another aspect of health and well-being. Architects felt that status of the profession is being mismanaged by the RIBA. As discussed in the following section, this may lead to people entering the profession with inaccurate expectations. In addition, the mismanaged perception of the realities of the work of architects may impact another area of health and well-being; namely pay. As argued by one interview respondent, clients seem unwilling to pay architects a suitable fee. As pay was an area of considerable concern to architects (see Chapters Five and Six) the public perception of the profession is important to the health and well-being of architects. This suggests that the perceived social status of an occupation is an important environmental influence on health and well-being.

7.2.4 Route into the profession.

The following section discusses the impact of individual’s route into the architectural profession on their health and well-being. Areas explored are; reasons for choosing the profession and university education.

7.2.4.1 Reasons for choosing the profession

An important aspect of architects’ route into the profession is their experience at university. As described in section 6.3 many architects had chosen to enter the profession from a desire to design and be creative, but this was felt to have been an unrealistic expectation of the profession. This finding is supported by the extant literature which states that people choose to enter the architectural profession from a desire to be creative (Blau, 1984; Nelson, 1974, Lewis, 1998), but may conflict with
assertion made by RIBA (1992) which stated that architects' main role is shifting towards design management. It is possible, that despite architects' reduced responsibilities for programme and financial control (RIBA, 1992) and they are still able to undertake the type of design work they envisaged when entering the profession. Exploring architects' route into the profession and its influence on their job-related well-being was not an aim of this thesis, but appears to warrant further investigation and is discussed in further detail in Chapter Eight.

Architects' reasons for choosing the profession appeared to be an important influence on their well-being. Architects who had entered the profession out of a desire to be creative and design buildings often found themselves disillusioned when they entered practice. Many felt that, instead of designing building, they were undertaking tasks related to project management and administration. For many architects, the realities of the profession were not meeting their expectations, and they discussed feeling 'disillusioned'. Such disillusionment could have serious implications, for example, one respondent had chosen to leave the profession and others expressed doubts over their career choice.

If people are choosing to enter the profession due to misperceptions about the role of an architect then it suggests they are not receiving adequate information about the profession prior to entry. Previous literature has suggested that women entering the construction industry professions receive poor careers advice (Dainty, 1998). The work presented here is partially supported by this, as it appears that both male and female architects may be misinformed about the realities of working in the architectural profession.
Propositions 5\textsuperscript{1} and 6\textsuperscript{2} are supported by the data presented here, as it appears that architects do experience frustration at the lack of creativity in their work and many enter the profession with unrealistic expectations.

7.2.4.2 University education

Section 6.3.4 described how many respondents felt that university had not prepared them for the realities of the profession and had instilled unhealthy working practices. Such views are supported by the extant literature. For example, the RIBA (2005) argued that the educational system is failing students as it encourages negative attitudes and behaviours, but it does not define what is meant by 'negative behaviours and attitudes'. As suggested by respondents here, negative behaviours and attitudes could reflect working practices encouraged at university and then taken into practices by young architects. The interviews revealed that these working practices may centre around long working hours, which are encouraged at university and then taken by young architects into practices. This is supported by Symes et al (1995) who report that working through the night (known as all nighters') is encouraged at university. It would seem, that despite this issue having been raised in 1995 the long working hours culture at university has not changed. CABE (2004) reported that the long working hours culture of the studio are enjoyed by many students as they promote a sense of camaraderie, but that this may not apply to female students. It would appear that long working hours are a stressor in the architectural profession, as suggested by

\footnotesize
\begin{itemize}
\item \textit{Architects will experience frustration at the lack of scope for creativity in their work.}
\item \textit{Architects may enter the profession with unrealistic expectations of the profession and there may be a conflict between these expectations and the reality}
\end{itemize}

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Proposition 7.\(^3\) and that universities may have a role to play in improving the health and well-being of architects.

Many architects felt that their degree content had not reflected the realities of work and this is also supported by the extant literature which states that degree courses focus on designing new buildings (RIBA, 2005). This situation was also reported by Symes et al (1995) indicating that little had changed in the intervening years. From the data presented here, the majority of architects will not focus on designing new building when they enter practice. If degree content does not reflect the realities of the profession, then it may further add to young architects' misperceptions of the profession. As discussed before, these misperceptions may be damaging to architects' health and well-being.

While degree content may influence the health and well-being of architects, another aspect of architectural education which was often mentioned by interviewees was the 'critique' process, discussed in further detail in section 6.3.4 The 'critique' process referred to by respondents is an integral part of the architectural education (Lewis, 1998). However, the data reported here suggests that critiques can be damaging to students despite their usefulness in preparing the student for architectural practice. A finding which is partly supported by the extant literature (for example, Anthony, 1987). From the data presented here, the critique process may help architects' develop skills which will help them to effectively communicate their designs to clients, a finding which is supported by CABE (2004) (discussed in section 3.3.3). However,

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\(^3\) Those working in the construction industry are exposed to a range of stressors, particularly, long working hours, time pressures, work to life conflict, staff shortages and high workload. It is anticipated that architects will also experience these stressors.
some architects felt that the critique process could be harmful due to the criticism received. It is important to note that the sample in the current study were no longer part of the education system and were therefore discussing their experiences of education retrospectively, therefore their comments may have been influenced by recall bias. Further work is needed to explore the benefits of the 'critique' system and its potential harm to architectural students, possibly with those currently engaged in the education system.

Issues relating to the educational experiences of architects were not covered by the standardised tools used in the survey data, once again suggesting that such tools may not be relevant to those working in the architectural profession. The current data and existing literature suggest that aspects of architectural education need reviewing if it is to be most effective and promote the health and well-being of architects. Recommendations for this are presented in Chapter Eight.

7.3 Practice issues

7.3.1 Introduction

This section explores issues within practices which are relevant to the health and well-being of those working within them. As with Section 7.2, this section addresses Objective three of the research as it examines issues relating to structure and culture. Issues explored are resourcing, self-employment and size of practice.
7.3.2 Resourcing

A number of issues arose in section 6.4 relating to practice management. One important area is that of the workload taken on. Some respondents argued that, due to economic uncertainty, architectural practices are unwilling to turn down work. As such, they take on workloads which are difficult for their employees to meet. This links with previous arguments about the architectural profession’s dependence on the construction industry as its only client, therefore making it vulnerable to changes in the economy (Emmitt, 1999a). It may be that those running practices feel they have to take on all work offered to them in order to survive. Those working within the practice can face difficulties meeting the workload required of them. As discussed in sections 2.3.1.2 and 3.2.3 high workloads are associated with poor well-being both within (Sutherland and Davidson, 1993; Lingard and Sublet; Haynes and Love, 2004) and outside the construction industry. In this sense, architects share a stressor experienced by many of those working in the construction industry and other professions, and Proposition 7 has received support from the data.

Adequate resourcing within architectural practices relates to the management of the practice. Previous work has suggested that architectural practices may be poorly managed due to conflicts between the business and the practice of architecture (Emmitt, 1999b; Cuff, 1991). Cox and Hamilton (1998) suggested that those managing architectural practices have an important role to play in managing the occupational stress of those they employ. The data presented here would suggest, that

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5 Those working in the construction industry are exposed to a range of stressors, particularly, long working hours, time pressures, work to life conflict, staff shortages and high workload. It is anticipated that architects will also experience these stressors.
despite calls for better practice management, issues relating to poor practice management may still be prevalent.

7.3.3 Self-employment

Section 6.4.5 revealed that self-employment may impact well-being due to a greater administrative burden and workload, but also increased autonomy and opportunities for creativity. Section 6.4.5 revealed that those who are self-employed may experience higher levels of health and well-being due to greater job satisfaction, work flexibility and autonomy, but may also experience more work to life conflict. The data presented here is supported by this extant literature (e.g. Clark and Oswald, 1994). For those who were self employed, autonomy was an important reason for choosing self-employment. However, self employed architects also reported difficulties balancing their work and non work lives due to their increased administrative burden, for example, meeting clients during the day and evenings spent undertaking design work. Given the high proportion of self employed architects, their health and well-being should be considered important to the profession and the construction industry as a whole. The sample in the current study was mostly employed, rather than self employed. Therefore, it may not be possible to generalise the findings reported here to all self employed architects. A larger sample of self employed architects may reveal differences between those who are employers of other architects, and those who work independently.
7.3.4 Size of practice

Section 6.4.2 revealed that those working in small practices may benefit from increased opportunities to exercise a range of skills and improved autonomy, not available to those in large practices. This is supported by the earlier work of Cuff (1991) who stated that those who work in small practices may benefit from a lack of specialisation (allowing for the individual architect to work on a range of activities). However, those in small practices may be vulnerable to poorer pay and informal management practices, which may impact their well-being. Both the construction industry and the architectural profession can be characterised by the large number of small firms and practices operating within them (Gutman, 1988). The majority of the sample worked in small practices, for example, over 50% of the questionnaire sample worked in practices of less than 27 employees. Given the small sample used in the current study it was not possible to draw statistical inference on differences in health and well-being in practice size. Further work may benefit from delineating the sample by practice size in order to identify any differences between practice size.

Previous literature has expressed concern over the fragmentation of the construction industry arguing that it is damaging to the sector and those working within it and may lead to poor well-being of those working on small projects for small firms (Loosemore et al., 2003; Haynes and Love, 2004). The findings presented in the current work may dispute this. If working in small practices can benefit the well-being of architects then this counters the argument that decreased fragmentation would improve the experience of construction employees.
Chapter Seven: Discussion

7.4 Job satisfaction

7.4.1 Introduction

The following sections explore the issues raised by respondents in respect to their job satisfaction, particularly pay, recognition and workload. This addresses objective one of the research; ‘Establish the levels of health and well-being experienced by architects working in the UK’.

7.4.2 Pay

Section 5.3.2 revealed that job satisfaction was lowest for pay and Section 6.5.2 revealed that pay was a concern for many architects. As detailed in section 2.5.3 pay is also the main source of dissatisfaction for the working population of the UK. In this respect architects perhaps share concerns expressed by the general working population in the United Kingdom.

The data presented here would suggest that many architects feel that they are not sufficiently financially rewarded for their work and this may lead to financial difficulties for some. This seems to be a problem endemic in the profession. A newly qualified architect in 2004 could expect a salary of approximately £20 000 (RIAS, 2004). This problem may get worse in the future with the increases in university tuition fees in the UK.
The work presented here reflects many of the findings of Anthony (2001) who surveyed the experiences of men and women working in the architectural profession in the United States. Female respondents here expressed dissatisfaction with practice management; Anthony (2001) revealed that all architects, irrespective of gender, were dissatisfied with their supervisors and employers. However, respondents in the current study expressed dissatisfaction with their opportunities for promotion. In addition women expressed significantly more dissatisfaction with this area of their job. Anthony (2001) argued that career prospects were an area of greatest satisfaction for architects. Here the current work differs from the extant literature, possibly reflective of international differences in the experiences of architects.

It is important to note here, that the majority of respondents in the current study reported job satisfaction (see Chapter Five). This is consistent with a previous study by Symes et al (1995) who reported that approximately 70% of their sample of architects were satisfied with their job.

7.4.3 Recognition

Section 5.3.2 revealed that the majority of architects were satisfied with the recognition they got for their work and their freedom to choose their own may of working. Interestingly both of these work conditions were positively related to turnover intentions, indicating that as satisfaction increased, turnover intentions decreased. This was supported by the qualitative phase of the research where it became apparent that satisfaction with the relationships between management and employees was important to architects. In particular, a trusting relationship was seen.
as important to employee well-being. A trusting relationship was seen by some interviewees to result in increased autonomy and in turn increased health and well-being, a finding which is supported by the extant literature (Cox and Hamilton, 1998).

7.4.4 Working hours, workload and health and well-being

Sections 5.3.2 and 6.6.2 revealed that working hours and workload were of concern to respondents and were seen to be related to the health and well-being of the individual. These findings are supported by the extant literature and support Proposition 7.6.

While working hours and workload are separate phenomena, they are closely related, as a high workload can be quantified in terms of the number of hours worked. Respondents in this study reported frequently having to work long hours due to changing volumes of work, a finding supported by the extant literature. A significant body of work has demonstrated that those working within the construction industry professions face increased risks of poor health and well-being because of their long working hours (see section 3.2.2). Unsurprisingly those working in the architectural profession would appear to share long working hours with others involved in the construction industry. Previous research has supported this, arguing that long working hours are an integral aspect of the culture of the industry and the architectural profession (Symes et al., 1995). Here, it can be seen that issues relating to job

6 Those working in the construction industry are exposed to a range of stressors, particularly, long working hours, time pressures, work to life conflict, staff shortages and high workload. It is anticipated that architects will also experience these stressors.

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satisfaction also address Objective three of the research as it relates to an apparent key aspect of construction and architectural culture; long working hours. Many respondents did not question this culture of long working hours, however, many also expressed a belief that effective time management could help to mediate the impact of working hours. In addition, some interviewees argued that they had to be disciplined in managing their own working time, as owners of practices would not discourage their employees from working long hours without pay.

The qualitative phase of the research revealed that long working hours can prevent architects from maintaining supportive relationships which may help to mediate the impact of occupational stress. This is supported by Love and Edwards (2005) who state that long working hours limit opportunities for social support which can mediate stress for construction professionals. This supports Proposition 1 which stated that long working hours would be an important factor in work to life conflict. This is discussed in further detail later in this chapter when the work to life interface is discussed.

7.5 Physical symptoms of stress

7.5.1 Introduction

Objective One of the research was to determine the levels of health and well-being experienced by architects. Physical symptoms is one way to measure health and well-

7 To explore the antecedents of health and well-being in the architectural profession, focusing on understanding the interplay of structure, culture and individual circumstances/actions on well-being outcomes
being, therefore this section addresses this objective. The majority of the sample presented here reported experiencing at least one symptom of stress, with the most commonly reported symptoms being; fatigue, headaches and trouble sleeping.

7.5.2 Computer use

Previous research has demonstrated that increased time spent using a Visual Display Unit (VDU) is associated with increased tiredness and headaches (Bachmann et al., 2001; Ho, 1999). The interviews revealed that many architects spend considerable periods of their working day using computers, as such the prevalence of headaches and tiredness amongst the sample may be attributable to time spent using VDUs. Further research would need to investigate this further in order to determine the amount of time architects spend using VDUs and any relationship with physical health.

7.5.3 Working hours

Previous research has demonstrated that long working hours are associated with physical complaints, for example, headaches (section 2.3.1.2). Accordingly it may be possible that architects’ reporting of headaches may be associated with their pace of work.

From the data presented here, it is not possible to determine the work characteristics which are related the architects’ experience of physical symptoms of stress. Further work may help to identify the specific work characteristics, i.e. working hours or VDU use, which are linked to headaches, fatigue and difficulty sleeping. If such an
identification can be made, it may be possible to implement health and safety measures to reduce this risk factor.

7.6 Job Demand Control Model

7.6.1 Introduction

Section 5.7 detailed findings from the Job Demands and Decision latitude scale, often referred to as the Job Demands – Control Model (JDC Model) or Job Strain Model in the literature (Matthews et al.; 1998). This was to satisfy Objective One⁸, The following section reports the findings and how demands and control relate to measures of health and well-being.

7.6.2 Job Demand Control Model and measures of health and well-being

Respondents indicated that they had high levels of job demands, skill discretion and decision authority (section 5.7.2), a finding which is supported by the extant literature (Kristensen et al., 2004) and satisfied Proposition 8⁹. Previous literature has asserted that architects experience high levels of quantitative demands, particularly work pace and the need to work hard (Kristensen et al., 2004). In addition the interview data presented here revealed that architects experience high demands in terms of long working hours, a stressor experienced by many working in the construction industry (section 3.2.2). The specific relationships between long working hours and health and well-being is discussed in detail later in this section.

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⁸ Establish the levels of health and well-being experienced by architects working in the UK

⁹ Architects will experience high levels of job demand and control
According to the JDC Model jobs with high demands, skill discretion and decision authority can be characterised as ‘Active’ jobs. In active jobs, individuals are argued to experience high levels of motivation for learning and personal growth (Karasek, 1979; Karasek and Theorell, 1990, Van Der Doef and Mae, 1999; De Lange, et al.; 2003). Accordingly they should experience higher levels of health and well-being.

The findings here partially support these assertions. When the relationships between variables were explored (section 5.9.2.) it became clear that there were relationships between measures of the JDC model and other indicators of health and well-being. As skill discretion and decision authority increased, so did job-related well-being and non job-related well-being, in support of Proposition 310. However, it is not possible to determine the causal nature of the relationships between these variables. In addition as job demands increased so did job satisfaction, although control was also positively related to job satisfaction. This is consistent with the extant literature as jobs with high demands and high control are associated with increased job satisfaction (Fox et al., 1993).

Job demands and control were also correlated to physiological measures of poor health and well-being, indicating that as control increased physical symptoms of stress decreased, also consistent with the extant literature (Fox et al., 1993). These findings suggest that the relationship between control and job demands is an important factor in the well-being of architects.

10 There will be significant relationships between measures of job demands and control and health and well-being
Chapter Seven: Discussion

Turnover was positively correlated to control (as control increased turnover intention decreased), which is also consistent with the extant literature (see section 2.6, for example, Davidson et al., 1997). Job demands are problematic for many working in the construction industry professions. The CIOB (2006) reported high workloads, pressure and deadlines as sources of stress, while lack of control (conceptualised as participation in decision making) was also a source of stress. As such, architects may experience similar job demands to others in the construction industry.

Love and Edwards (2005) investigated Karasek’s Job Demand Control model within the context of construction project managers, revealing that job control was related to job satisfaction and other measures of psychological well-being. Similar findings are reported here indicating that, while those working in the construction industry experience high demands, they may also experience high control mediating its effect. If architects, and others working in the construction industry, do experience poor well-being, then increasing the control they have within their job may help to improve their well-being. Further work is needed to determine which areas of their job it would be feasible for architects to control, for example control over design, or control over their day to day working patterns.

Love and Edwards (2005) highlighted the importance of social support, particularly, non work support on psychological well-being. This area is need of further investigation with architects. As already discussed, long working hours worked by architects may make it difficult to maintain non-work sources of support and therefore they may experience poor psychological well-being.
While the current study relies on correlations it seems clear that there is a relationship between perceived control and behavioural outcomes of poor well-being, such as turnover intentions and sickness absence and psychological symptoms of poor well-being (job satisfaction, job-related well-being and non-job-related well-being and physical symptoms of stress). These findings are consistent with the extant literature but also require further exploration in future research. It is necessary to understand the causal nature of the relationships highlighted here.

7.7 Affective well-being

7.7.1 Introduction

Affective well-being refers to an individual's emotional response to their life. In the current study, respondents were asked to rate the frequency with which they experienced a range of positive and negative emotions in the context of their job and the non-working life. This was to satisfy Objective One. The following section discusses these findings.

7.7.2 Job-related well-being

Chapter Five revealed that the questionnaire sample expressed poor job-related well-being in terms of reporting experiences of negative and positive affect (see section 5.4.2). Previous work has identified that those in highly skilled employment frequently experience this combination of negative and positive affect (Green and Gallie, 2002). The Workplace Employment Relations Survey 2004 (Kersley et al.,

11 Establish the levels of health and well-being experienced by architects working in the UK
2006) used a shortened version of Warr's (1987) scale of job-related well-being to measure job-related well-being. The figures from the WERS 2004 can be used to compare the responses of architects in this sample to those given by the general population. Unlike the tool used in this study, the WERS 2004 abbreviated Warr's tool and assessed frequency of experience of six emotions; tense, calm, relaxed, worried, uneasy and content, on a five point Likert scale. In contrast the current study used a six point Likert scale and assessed twelve emotions. The figures from the WERS 2004 are replicated below with responses from the current study in brackets to enable a direct comparison.

<table>
<thead>
<tr>
<th>Emotion</th>
<th>All of the time</th>
<th>Most of the time</th>
<th>Some of the time</th>
<th>Occasionally</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tense</td>
<td>4 (24)</td>
<td>15 (49)</td>
<td>42 (7)</td>
<td>27 (6)</td>
<td>12 (2)</td>
</tr>
<tr>
<td>Calm</td>
<td>3 (1)</td>
<td>30 (8)</td>
<td>29 (36)</td>
<td>27 (27)</td>
<td>11 (4)</td>
</tr>
<tr>
<td>Relaxed</td>
<td>3 (3)</td>
<td>23 (7)</td>
<td>27 (38)</td>
<td>29 (21)</td>
<td>18 (3)</td>
</tr>
<tr>
<td>Worried</td>
<td>2 (23)</td>
<td>10 (50)</td>
<td>35 (6)</td>
<td>32 (5)</td>
<td>21 (1)</td>
</tr>
<tr>
<td>Uneasy</td>
<td>2 (37)</td>
<td>8 (38)</td>
<td>28 (6)</td>
<td>33 (2)</td>
<td>29 (3)</td>
</tr>
<tr>
<td>Content</td>
<td>5 (1)</td>
<td>33 (9)</td>
<td>3 (29)</td>
<td>22 (35)</td>
<td>11 (4)</td>
</tr>
</tbody>
</table>

Table 7.2 Job-related well-being as reported in the WERS 2004 survey. Responses from the current study are provided in brackets.

From Table 7.2 it is clear that respondents in the current study experienced poorer job-related well-being than the general population as explored by the WERS 2004. For example, 19% of the WERS 2004 sample felt tense all or most of the time. In contrast, 73% of the sample here felt tense all or much of the time. It can also be seen from Table 7.2 that the sample here experienced positive affect less frequently than the sample in the WERS 2004 study. These figures suggest that architects experience poorer job-related well-being as conceptualised as the experience of positive or negative affect (or affective well-being) than the general working population. This is
an important finding: although architects may experience many of the same stressors as professionals working within other sectors, there may be particular features of working as an architect which expose those working in the profession to an increased risk of poor job-related well-being.

Job-related well-being correlated to a number of other measures of health and well-being. Significant positive correlations were found with overall job satisfaction and intrinsic job satisfaction indicating that an increase in job satisfaction was associated with an increase in job-related well-being. In addition there were significant correlations between job-related well-being and work to life conflict and turnover intentions, indicating that a decrease in work to life conflict was associated with an increase in job-related well-being. A similar pattern was identified with turnover intentions. Decreased turnover intentions were associated with increased job-related well-being. As the job-related well-being scale measured individual’s affective (emotional) response to work, it seems reasonable that decreased work to life conflict, lower turnover intentions and increased job satisfaction would be related to more frequent experience of positive affect. Job-related well-being was also negatively correlated to physical symptoms of stress (as well-being increased, physical symptoms decreased) and a positive correlation to control as measured by the JDC Model.

All of these findings are supported by the existing literature. Section 2.4 revealed that affective well-being is related to autonomy, physical symptoms and turnover intentions. That similar relationships were found further adds to the validity of the scales used and the resulting findings.
7.7.3 Non-job-related well-being

Section 5.4.2 revealed that respondents in the current study experienced poor well-being both in the work context and in the non work context. Warr (1987) argued that the relationship between job and non job-related well-being is difficult to fully understand because of its bi-direction relationship. Section 5.9.2 revealed a significant positive correlation between job-related and non job-related well-being highlighting a relationship between the two phenomena. From such a correlation it is not possible to predict the direction of such a relationship, for example, it cannot be known if poor job-related well-being causes difficulties at home or vice versa. Much research has highlighted the importance of the interface between work and home roles on well-being at home (section 2.3.1.8).

It is important to note that there were significant correlations between work life balance and job-related and non job-related well-being, indicating that as work life balance decreased, affective well-being increased. Put simply, low work to life conflict was associated with happier feelings both within the work and non work context. It is not possible to determine the direction of this relationship from correlational data, but it seems reasonable to assume that there will be a relationship between work life balance and an individual’s emotional response to their life outside of work.
7.8 Work life Interface

7.8.1 Introduction

Section 5.6 and 6.6 revealed that work to life conflict was of concern to many respondents. Work to life conflict is both an antecedent of health and well-being and a measure, therefore, examining work to life conflict satisfies Objectives One and Three of the research. The following section examines the causes of work to life conflict for architects and its possible consequences.

7.8.2 Work to life conflict

As detailed in Section 5.6, work to life conflict was a concern for approximately one third of the survey sample and over one half experienced difficulties switching off.

The long working hours and respondents' concern over their work were seen to be the main contributors to poor work life balance. This supports Proposition 1. As already detailed long working hours are seen as an integral aspect of architectural work and remain unquestioned by many (Section 7.4.4). In addition, the long working hours culture may be instilled in young architects during their university education and then carried into practice (Section 7.2.4.2).

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12 Establish the levels of health and well-being experienced by architects working in the UK and To explore the antecedents of health and well-being in the architectural profession, focussing on understanding the interplay of structure, culture and individual circumstances/actions on well-being outcomes

13 Long working hours will be the most important factor in work to life conflict
Section 6.6 revealed that long working hours result from the quantity of work and travel to and from sites, which lengthen the working day. In addition, working on simultaneous projects can result in longer working hours. Previous research supports these findings (see Section 3.2.2.), which reports that those working in construction experience long working hours as a stressor (source of poor health and well). In addition, the long working hours culture of architecture has been unquestioned in the literature (Lewis, 1998).

Importantly, long working hours may limit an architect's opportunity to seek social support (Section 6.6.2). Architects reported missing time spent with friends and partners due to work commitments. Previous construction literature supports this finding arguing that those working in construction may find it problematic to maintain health relationships outside of work (see Section 3.2.2, for example, Haynes and Love, 2004). The relationship between work and non-working life can further be seen in the relationship between job-related and non-job-related affective well-being (Section 7.7).

Work to life conflict was also linked to an inability to switch off after work (see Sections 5.6 and 6.6). This was particularly problematic for female architects and is discussed later in this chapter. Difficulty switching off was also linked to difficulty sleeping and this problem may affect those near the start of their career before architects have developed appropriate coping mechanisms (Section 6.6.3).

Section 5.9.2 revealed that work to life conflict was most strongly related to turnover intentions.
Chapter Seven: Discussion

7.9 Turnover intentions

7.9.1 Introduction

Turnover intentions are an important measure of the consequences of health and well-being (Danna and Griffin, 1999). Examining turnover intentions helps to identify the impact of health and well-being and therefore addresses Objective Four\textsuperscript{14}. The following section details the turnover intentions of respondents and its correlates.

7.9.2 Turnover intentions and related variables

The results presented in Sections 5.8.2 and 5.9.2 show that, approximately one third of the sample had organisational and occupational turnover intentions, although organisational intentions were more significant. This finding is supported by Symes et al (1995) who reported that approximately 70\% of principles in practices would not choose an alternative career, meaning that approximately one third would. Although it can be said that the majority of architects are not considering a change of job or career, a sizeable proportion are (30\%). There are approximately 28 000 chartered architects in the UK (RIBA, 2007), if one third of these is considering a change of career, then this could translate to the profession losing over 8 000 fully qualified members. If this were the case then the architectural profession may face a situation where it cannot satisfy demand, exacerbating the competition it faces from alternative professions, for example, construction management. This could further erode the status of architects, affecting social status, potentially creating further stressors for

\textsuperscript{14} Identify the impact of health and well-being on performance, commitment and contribution of male and female architects
those who remain in the profession. Therefore an examination of the factors which affect turnover may help to provide suggestions for how practices and the profession can retain employees and members, and thereby retain their competitiveness.

The strongest relationship was found between work to life conflict and turnover intentions. In support of Proposition 2\textsuperscript{15}. As work to life conflict increased, turnover intentions increased. It is not possible to understand the dynamics of this relationship from the data presented here. For example, does increased work to life conflict lead to turnover intentions, or do those with such intentions experience more conflict within the work home interface? However, it does suggest that the work life interface is an important factor in the consequences of low health and well-being.

As described in Section 5.9.2 architects' experience of control was related to a number of measures of health and well-being. It was also related to turnover intentions, a possible outcome of poor health and well-being. Increased levels of control were associated with decreased turnover intentions.

It is important to note that intentions to change job, were much higher than intentions to leave the profession. Given the misgivings expressed by many respondents about their work as an architect, it may be surprising that relatively few were actively searching for jobs outside of the profession, although over one third often considered leaving the profession. It may be that, despite the misgivings expressed by many about the realities of working as an architect, they were still committed to the profession. However, it may also be possible, that given the length of training

\textsuperscript{15} Work to life conflict will be associated with job satisfaction and turnover intentions
required to qualify, architects feel that they have invested heavily in the profession and are therefore reluctant to leave.

The current study demonstrates that both men and women experience many of the same stressors identified by de Graft-Johnson et al. (2005) in a sample of female architects, namely; low pay, lack of scope for creativity, working hours and the role of professional bodies and regulations.

7.10 Issues affecting women

7.10.1 Introduction

Section 6.7 detailed issues which were seen to affect only female architects, namely, women lacking confidence and assertiveness, women needing to work harder than men to be accepted, paternalistic attitudes leading to task restriction, contributions to projects being ignored and being denied access to clients. This addresses Objective Two of the research which was to ‘Explore the extent to which health and well-being is determined by gender’. The following section discusses the relevance of these findings in the context of existing literature.

7.10.2 Task restriction

Interview respondents reported that female architects may find their duties and tasks being restricted, for example, restriction to working on the interiors of buildings or being denied access to clients (section 6.7.3). These experiences are shared by women
working in other construction industry professions. Greed (1994) reported that women surveyors can find themselves restricted to work which makes the environment more attractive and which is deemed suitable for women. Dainty et al (2000) reported that women working in the construction industry can find themselves restricted to office based roles which may not allow women to develop the technical skills necessary for career progression. If female architects’ access to clients is being restricted then this may hamper their career progression. Respondents in the current study cited an ability to bring work into the practice as an influence on promotional prospects. Developing client relation skills would be beneficial in this area, and as such women architects may be disadvantaged.

Some women in the current study reported a belief that they had to work harder than men to be accepted, a finding which is supported by the extant literature (Section 3.4.4). If female architects are working harder than their male counterparts then they may be more vulnerable to the negative side effects of long working hours such as poor work life balance and physical complaints.

Task restriction was not captured by measures of health and well-being in Phase One of the research, indicating that generic measures may not capture factors relevant to female architects, in support of Proposition 416.

16 Generic measures of health and well-being may not capture factors relevant to male and female architects
Chapter Seven: Discussion

7.10.3 Female architects expressing sexist attitudes

Some women in the current study showed an awareness of gender issues within the profession, however, some expressed gender-biased views. Interestingly one woman involved in the promotion of women in architecture also expressed negative views of women. Previous literature has found that women working in the architectural profession and other construction professions hold gender-biased views (Greed, 1991). Work recently published by Caven (2006) has demonstrated that women working in the architectural profession do not express female solidarity. It is possible that these women had adopted the prevailing attitudes towards women held by the majority of architects. An alternative explanation is that holding sexist or gender biased attitudes is beneficial to all employees in terms of career development. Watkins et al (2006) highlighted how those holding 'modern sexism' beliefs are more likely to be promoted. It is possible that women in the architectural profession feel that it is more prudent to express gender-stereotyped views. Certainly this has been reported within other construction professions (Greed, 1991).

7.10.4 Subtle discrimination and well-being

Some female architects experienced sex discrimination which was implicit rather than explicit. As such, it could be termed 'subtle discrimination' as it would not be immediately apparent. Some female architects reported exclusion from certain activities, such as socialising with clients. These events may be important in terms of promotion and are probably linked to a lack of recognition by clients of the contribution of female members of the architectural team. As previously discussed,
recognition for work is a facet of job satisfaction, a measure of work related health and well-being. Section 3.4 revealed that subtle forms of sex discrimination are harmful to the health and well-being of women in paid employment. Therefore, it seems that female architects are vulnerable to sources of poor well-being which affect women working in other occupational fields.

Such discrimination was not captured by measures of health and well-being in Phase One of the research, indicating that generic measures may not capture factors relevant to female architects, in support of Proposition 4\(^{17}\).

\textit{7.10.5 Female architects and job satisfaction}

Section 5.3.4 revealed that female architects reported significantly lower job satisfaction than male architects, as predicted by Proposition \(9^{18}\). This finding is supported by the extant literature discussed in Section 2.9 which states that women working in the professions experience lower job satisfaction than men because they have similar expectations of work as men. Given the wealth of evidence which suggests that women experience a range of difficulties working both within the architectural profession (section 3.5.3, for example, Caven, 2006) and the construction industry in general (section 3.4.4, for example, Dainty et al., 2000) it is perhaps not surprising that women in this sample experienced poorer job satisfaction than men.

\(^{17}\) Generic measures of health and well-being may not capture factors relevant to male and female architects

\(^{18}\) Female architects will experience poorer health and well-being than male architects
One area where women respondents reported significantly lower satisfaction was their opportunity for promotion. This finding is also supported by the existing literature which has stated that women's career progression within the construction industry and the architectural profession in particular experience few opportunities for promotion. (Dainty et al., 2000).

7.10.6 Female architects and physical symptoms of stress

Female respondents reported a greater number of physical symptoms of stress than men (section 5.5.4), in support of Proposition 9. Female respondents reported greater difficulty sleeping; a finding which is supported by the extant literature. Groeger et al (2004) reported that women in the general population report greater difficulty sleeping than men. It may be possible that women are more susceptible to sleep problems and this explains female architects reporting more difficulties in this area. Messing and Reveret (1983) reported similar findings; women were more likely to report sleep difficulties, but in contrast to Groeger et al (2004) these were associated with work environments and job strain. Messing and Reveret (1983) found that women were expected to work at a faster pace than men and this was associated with the increased reporting of health difficulties.

Women's increased reporting of health problems may be associated with working in a male-dominated environment, as previous literature has reported that women working in male-dominated occupations report higher levels of sickness absence than women working in female-dominated occupations (Hensing and Alexaderson, 2004).

19 Female architects will experience poorer health and well-being than male architects
Women's increased likelihood to report physical symptoms may be linked to issues of work to life conflict and this is discussed in greater detail later in this chapter.

7.10.7 Female architects and the Job Demand Control Model

Section 5.7.3 showed that there were no significant differences between male and female respondents for items on the Job Demands and Decision Latitude Scale. This is surprising as the originators of the model argued that women in the paid workforce experience markedly lower decision latitude than men (Karasek and Theorell, 1990). They also argue that men and women's experience of psychological demands in the workplace do not differ significantly, but women do experience slightly higher demands (Karasek and Theorell, 1990). It is possible that men and women do not experience differing levels of job demands, skill discretion and decision authority, but given their differing experiences in many other areas of work, it seems unlikely. The JDC model was based on responses from all male samples and therefore may only have predictive validity for male respondents. It may be that the JDC model, as conceptualised by Karasek and Theorell (1990), does not capture additional sources of demands and stressors which predominantly affect women. The model does not account for extra demands placed on women due to commitments to non work activities, for example, childcare (Matthews et al., 1998). In addition the model proposes that the degree to which an individual faces job demands and control are the best predictors of well-being.

However, just as the model does not factor in non work demands, it also does not account for additional stressors faced by women in the workplace, such as
discrimination and harassment, in support of Proposition 4\textsuperscript{20}. Previous work, discussed in section 2.9.4 has shown such social-sexual behaviour to be closely related to women's health and well-being. As such the model and its associated measurement scale, may be flawed if attempting to understand gender differences in work-related health (Matthews et al., 1998). It may be that the JDC model as conceptualised by Karasek and Theorell (1990) does not capture additional sources of demands and stressors which predominantly affect women.

Section 2.9.4 demonstrated that significant gender differences in psychosocial work characteristics have been reported, with women reporting more negative work characteristics than men, primarily due to limited opportunities for learning and monotonous work (comparable to Karasek's concept of skill discretion). The data presented here did not support these findings, as there were no significant gender differences in either skill discretion or decision authority. This divergence from extant literature may be the result of a difference in samples. In Matthews et al (1998) women working part-time accounted for much of the gender differences as they reported more negative work characteristics than either men or women working full-time. Of the sample presented here only four women worked part-time therefore problems associated with part-time working would not be relevant for the majority of the sample.

Niedhammer et al., (1998) explored the JDC model and its consequences with a large sample of male and female employees. They did not find significant differences in levels of job demands and control, rather, they resulted in different physiological

\textsuperscript{20} Generic measures of health and well-being may not capture factors relevant to male and female architects
responses in men and women. For example, high decision latitude in males was correlated with obesity, and smoking in women (Neidhammer et al., 1998). Further work with architects may need to explore not if men and women experience different levels of demand and control, rather do they differ in terms of behavioural responses.

7.10.8 Female architects and affective well-being

Section 5.4.4 revealed that female respondents reported greater job-related and non job-related well-being. This scale asked respondents to rate the frequency of experiencing a range of positive and negative affects (emotions). As female respondents reported lower well-being in other areas (job satisfaction, work life interface and turnover intentions) this is perhaps a surprising finding. Section 2.9.4 revealed that women are more likely than men to report both negative and positive emotions. This may mean that female architects do not necessarily experience more frequent positive affect, but are simply more likely to express their emotional response.

7.10.9 Female architects and the work life interface

Female respondents reported statistically significant greater work to life conflict than male respondents (supporting Proposition 9\textsuperscript{21}), particularly in terms of coming home from work too tired to undertake household chores and having difficulty switching off (section 5.6.4). The first of these is possibly explained due to the greater number of hours dedicated by women to housework. There is a significant body of evidence

\textsuperscript{21} Female architects will experience poorer health and well-being than male architects
which states that women, whatever their occupational status, dedicate more of their
time to housework than men (section 2.8.6). The survey did not ask respondents to
indicate the number of hours they spent on household chores, so it is not possible to
determine if there is a gender difference. However, if female architects are spending
more time than their male colleagues on household chores then this could explain the
increased work to life conflict in this area. Section 2.8.6 demonstrated that working
women may be at increased risk of poor health and well-being due to imbalances in
the work life interface.

That women in the current study reported greater work to life conflict may be
symptomatic of societal gender roles in the UK. In countries where gender roles are
less rigid, there tend to fewer reported gender differences in work life balance.
Kinnunen and Mauno (1998) found that while work to life conflict was more frequent
than life to work conflict for Finnish men and women, there were no significant
gender differences in the levels experienced. This was seen to be a direct reflection of
the sharing of domestic responsibilities in Finland (Nelson and Burke, 2000).

Female respondents reported greater difficulty switching off after work than male
respondents. Section 2.8.6 demonstrated that women are more likely to experience
difficulty switching off after work and this may be linked to health problems. Some
women reported laying awake worrying about work (see section 6.6.3) therefore
linking difficulty switching off with difficulty sleeping. This finding is also supported
by the extant literature which states that worrying about work is linked to sleep
difficulties (section 2.8.6).
7.10.10 Female architects and turnover intentions.

Proposition 10 stated that female architects would report higher turnover intentions than male architects. The data presented here supports this proposition. Data presented in Chapter Five revealed that female architects reported greater turnover intentions than male architects. This pattern could be seen both for occupational and organisational turnover intentions. This finding is supported by the extant literature which suggests that, due to women in the construction professions and architecture specifically experiencing more stressors they may be more likely to report turnover intention (Sections 2.8 and 3.5.3).

Figure 2.5 presented in section 2.9.6 presented a model of professional women’s stress, identifying a number of stressors women share with male colleagues, and those which women are more vulnerable to for example discrimination, stereotyping, marriage/work interface and social isolation. The data presented here is supported by this model. There is evidence that female architects experience discrimination, for example, task restriction and their contributions being ignored. In addition, stereotyping may also explain the task restriction reported by some female respondents. While female respondents did not report greater difficulties in their marriage/work interface, they did report greater work to life conflict, for example, more difficulty in switching off after work. In addition, some female respondents did report social isolation, for example, during their education.

As reported in section 2.3.1.8, stressors and negative events are not only potentially harmful to health and well-being individually, but have a cumulative effect which
may result in increased vulnerability to negative outcomes, such as ill health. As those working in architecture are potentially at risk of a range of stressors, they may be more vulnerable to negative health and well-being outcomes due to a cumulative effect. This effect may build over time, for example, if an individual enters the profession due to a desire to be creative, but finds that they are unable to do this, they experience a stressor. This combined with long working hours (another stressor), work to life conflict (another stressor) may result in a cumulative effect, which is potentially damaging to their health and well-being. This may apply to all architects, male or female, however, female architects potentially experience another range of stressors, for example, discrimination which may result in a greater cumulative effect.

7.11 Framework of health and well-being in the architectural workplace

Figure 7.1 presents the framework of health and well-being in the workplace as developed by Danna and Griffin (1998), but is modified to include the factors explored in this thesis. The model presents antecedents of health and well-being on the left hand side of the framework. The original framework included three categories of antecedents; work settings, personality traits and occupational stress. The work presented here focussed on occupational stress, but also touched on work settings. It became clear from the data that an additional category needed to be included in the framework. This additional category can be seen on the bottom left of the framework and covers issues which are specific to the architectural profession. This covers the role of the regulatory bodies (RIBA and ARB), the route into the profession and the status of architects. These three factors emerged from the interviews with architects and appear to influence the health and well-being of architects.
Chapter Seven: Discussion

While the relationship of work settings on health and well-being were not an explicit aim of this research, it appears that it may be applicable to architects. Although the causes of the physical symptoms experienced by respondents could not be definitively stated, they may be linked to the use of computers. Respondents spent little time on site, therefore site-associated hazards are probably not relevant.

The personality traits of respondents was not investigated in this study, but given that previous literature suggests there may be relationship between an individual’s disposition and their experience of work (Judge and Larson, 2001), this may be an area in need of further work.

The focus of the current work was on the relationship between occupational stressors and health and well-being in the workplace. Danna and Griffin’s (1998) framework identified a number of stressors; factors intrinsic to the job, role in the organization, relationships at work, career development, organizational culture and climate, home/work interface and other stressors. The current work supported these findings, but also revealed that gender specific stressors need to be factored into the framework. Accordingly they are included under the category of occupational stress.
Figure 7.2 Framework of antecedents of health and well-being of architects and consequences
Table 7.3 presents the antecedents of health and well-being in the workplace, subcategories and architecture specific examples. Each relevant category has been discussed in depth during the course of this chapter, therefore a summary is provided here.

<table>
<thead>
<tr>
<th>Antecedent of health and well-being</th>
<th>Sub categories</th>
<th>Architecture relevant examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work settings</td>
<td>Health and Safety hazards</td>
<td>• Use of VDUs</td>
</tr>
<tr>
<td>Occupational stress</td>
<td>Factors intrinsic to the job</td>
<td>• long working hours,</td>
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<tr>
<td></td>
<td></td>
<td>• high demands,</td>
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<tr>
<td></td>
<td></td>
<td>• high control,</td>
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<tr>
<td></td>
<td></td>
<td>• poor pay,</td>
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<tr>
<td></td>
<td></td>
<td>• lack of creativity</td>
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<tr>
<td>Role in organization</td>
<td></td>
<td>• specialisation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• autonomy</td>
</tr>
<tr>
<td>Relationships at work</td>
<td></td>
<td>• relationships within practices,</td>
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<tr>
<td></td>
<td></td>
<td>• relationships with clients</td>
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<tr>
<td>Career development</td>
<td></td>
<td>• career progression</td>
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<tr>
<td>Organizational culture and climate</td>
<td></td>
<td>• practice management, for example, trust</td>
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<tr>
<td></td>
<td></td>
<td>• public sector / private sector</td>
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<td></td>
<td></td>
<td>• self-employment</td>
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<tr>
<td></td>
<td></td>
<td>• size of practice</td>
</tr>
<tr>
<td>Home / work interface</td>
<td></td>
<td>• work to life conflict,</td>
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<tr>
<td></td>
<td></td>
<td>• long hours,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• difficulty switching off</td>
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<tr>
<td>Gender specific stressors</td>
<td></td>
<td>• women lack confidence,</td>
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<tr>
<td></td>
<td></td>
<td>• need to work harder,</td>
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<tr>
<td></td>
<td></td>
<td>• paternalistic attitudes,</td>
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<tr>
<td></td>
<td></td>
<td>• contributions being ignored and restricted</td>
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<tr>
<td></td>
<td></td>
<td>• access to clients</td>
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<tr>
<td>Architecture-specific</td>
<td>Route into the profession</td>
<td>• misperception of creative focus,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• education content</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• not realistic,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• critiques</td>
</tr>
<tr>
<td>Role of the RIBA / ARB</td>
<td></td>
<td>• lack leadership,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• not representing members</td>
</tr>
<tr>
<td>Status of the profession</td>
<td></td>
<td>• high outside the construction industry</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• due to misperceptions, low within the industry</td>
</tr>
</tbody>
</table>

Table 7.3 Categories of antecedents of health and well-being in the workplace, sub categories and architecture specific examples
As can be seen in Table 7.3 factors intrinsic to the job which affected the health and well-being of architects were long working hours, high job demands, high levels of control (skill discretion, decision authority), poor pay and lack of creativity. Role in the organization was linked to architects being pigeon-holed into a certain role and the autonomy they had within the practice. Relationships at work which were considered important were those between management and employees and relationships with clients. Career development was linked to career progression. Organizational culture and climate was characterised by issues of practice management, for example trusting or untrusting relationships, public versus private sector, self-employment and size of practice. The home work interface was characterised by work to life conflict (rather than life to work conflict) affected by long working hours and an inability to switch off.

Gender specific factors revealed in the current study were; a perception of a lack of confidence and assertiveness of women, a need for women to work harder than men to be accepted, paternalistic attitudes leading to task restriction, contributions to projects being ignored and limited access to clients.

The centre of the framework examines measures of health and well-being in the workplace. In the current study these were operationalised as job satisfaction, job-related and non-job-related well-being and the Physical Symptoms Inventory. As already discussed the majority of respondents were satisfied with most areas of their jobs (Chapter Five), although areas of concern were pay, practice management, recognition for work, freedom to choose ways of working and opportunity to use their creative skills.
Chapter Seven: Discussion

Job-related well-being and non job-related well-being (often referred to as Affective well-being) were complicated for the sample here as respondents experienced high levels of positive and negative affect.

The physical symptoms inventory revealed that the majority of respondents experienced at least one symptom, suggesting that the physical health of architects is an area of concern.

The final part of the framework examines the consequences of health and well-being in the workplace. These are divided into consequences for the individual and for the organization. The established literature states that consequences to the individual can be physical, mental and behavioural. While the consequences for the organization can be seen in terms of health insurance costs, absenteeism and lawsuits (Danna and Griffin, 1998).

The current work identified the consequences to the individual as disillusionment (for example, due to the clash between expectations of the profession and the reality), sick leave and turnover intentions. Obviously sick leave and turnover intentions have consequences for the organization as well. Additionally evidence presented here and by de Graft Johnson et al (2005) suggests that the impact of work stressors and poor health and well-being could lead to individuals leaving the profession. As such the consequences of poor health and well-being of individuals extends beyond the individual and their employer, and impacts the profession as a whole. Accordingly the modified framework incorporates the consequences to the profession.
Chapter Seven: Discussion

It would seem that the original framework presented by Danna and Griffin (1998) presented in figure 2.2 (Chapter Two), while covering many of the aspects of health and well-being within the workplace, is generic and as such may not include factors relevant to those working in the architectural profession. As discussed in this section, those working within the architectural profession are potentially exposed to a range of additional stressors. These include an individual’s route into the profession. The data and literature discussed in this chapter has demonstrated that some of those entering the profession do not have a full understanding of what will be expected of them when they enter practice. This situation is often not rectified by the educational process, which trains students to undertake creative design, which may not reflect the working life of an architect. In addition, the educational process may introduce and perpetuate the culture of long working hours, through the use of ‘critiques’ and ‘all nighters’. The practice of working through the night then may be taken by architectural graduates into their working life.

The RIBA and ARB were seen as additional stressors experienced by architects. Both the extant literature and the data presented here suggest that both of these regulatory bodies need to do more to represent their members and provide more leadership of the profession. Specific actions for the RIBA and ARB are discussed in the following section.

For some respondents the status of the profession was seen as a stressor they experienced. Some argued that those outside of the construction industry viewed architects as having a high social status, but that the general public also misunderstood the reality of an architect’s work. This situation has been reported in
the literature (e.g. Cuff, 1991) suggesting that it is not unique to the sample in the current study. It is important to note that actual social status may not be as important as perceived social status (see Chapter Two).

In addition to these architecture specific stressors, female architects may experience additional stressors (also seen in Table 7.3). These additional stressors may place female architects at additional risk of poor health and well-being, for example, if they feel the need to work harder than male counterparts in order to be accepted at an equal level, then they may experience greater workload and working hours. Both of these have been linked to poor health and well-being (see chapters Two and Three). Female architects also reported that their contributions to projects were being ignored and that some had restricted access to clients. Both of these may be linked to career progression, suggesting that career development may be a stressor which is of additional concern to female architects.

Female architects are not just at risk of additional stressors, but also report differences in outcomes of these stressors (which can be seen in the centre of the modified framework, figure 7.2). For example, this thesis has demonstrated that female architects, both in the current study and the extant literature, report lower job satisfaction than male counterparts. Female architects also reported poorer physical health (operationalised as physical symptoms of stress). This would suggest that female architects, in addition to experiencing the stressors experienced by all architects, also experience gender specific stressors. This places them at increased risk of poor health and well-being, as measured by job satisfaction and physical symptoms of stress. Female architects also reported greater turnover intentions. In figure 7.2 this
would be conceptualised as a consequence of well-being in the workplace; loss of architects.

Overall, the original framework presented by Danna and Griffin (1998) provided a useful starting point for organising the vast extant literature in the area of work related health and well-being. It was also helpful in operationalising the concepts under discussion, for example, occupational stress. However, the original framework did not capture gender specific stressors or aspects of the architectural profession which may place its members at additional risk of poor health and well-being.

7.12 Recommendations for addressing the health and well-being of architects

7.12.1 Introduction

The final research objective was to ‘develop a framework of recommendations for addressing health and well-being issues in the architectural profession, at the professional, organisational and individual level’. This section discusses steps which could be taken by the architectural profession, architectural practices and individuals in order to improve the health and well-being of architects. It incorporates recommendations given by respondents which have been detailed here, issues which arose from the data and the extant literature.
Chapter Seven: Discussion

7.12.2 Recommendations for the architectural profession

Many respondents felt that the RIBA could improve the health and well-being of its members by managing the perception of architects within society, and therefore influencing its social status.

'I think they've got to work to bring back the respect...the national respect of architecture...I think they need to get out to the public more about what we do' (VN)

'They need to get out there and make architecture relevant to more people' (CR)

This could be achieved by educating the general public about the realities of working as an architect and working to improve its social status. This could impact those already working within the profession, and also those considering entering the profession. As detailed in sections 3.3.3 and 6.3 many enter the profession with unrealistic expectations, for example, that their job will be focussed on creative design. However, many find this is not the reality. If the profession could accurately communicate the realities of working as an architect with the general public and those considering entering the profession, this apparent conflict between expectations and realities may be avoided. The RIBA has a role in ensuring that architectural degrees accurately reflect the realities of working in the architectural profession, considering that the RIBA validates architectural degrees.

Many respondents felt that the RIBA and ARB added to their administrative burden, arguing that these bodies should work to reduce this burden.
Some architects felt that the RIBA was not acting as an advocate for its members. The RIBA and ARB may be able to adopt some of the practices of comparable organisations. The Law Society of England and Wales is the regulatory and representative body of those working within the legal profession (Law Society, 2006). Both the RIBA and the Law Society act as regulatory bodies for their profession, however, the Law Society also takes steps to ensure the well-being of its members within the workplace. One example of this is their campaign to ensure fair pay for solicitors undertaking publicly funded work (Law Society, 2006). Given the concerns of many architects over poor pay, the RIBA is in a position to influence pay scales for architects, and therefore may be alleviate this concern.

Many respondents felt that the RIBA lacked leadership in issues relating to gender equality. This is perhaps not surprising since the RIBA was described by some respondents as a 'boys club'. One suggestion proposed by a respondent was that the RIBA should waive fees for those on maternity leave. This could encourage women on maternity leave to return to the profession and reduce the financial burden placed upon them.

7.12.2 Recommendations for architectural practices.

Steps to improve the health and well-being of architects could also be taken at the organisational level, within architectural practices. This section explores possible steps drawing on the data presented in this thesis and the extant literature. These recommendations may be particularly important given that organisational issues were an area of dissatisfaction for respondents (see sections 5.2.2 and 6.8.3).
Chapter Seven: Discussion

The extant literature suggests that employers who wish to address the health and well-being of their employees can appoint a well-being champion (Schabracq, 2002). This person could monitor health and well-being through audits and carry out any actions which are required (ibid). Larger architectural practices may be able to appoint a well-being champion, who would need to measure levels of health and well-being within the organisation and determine any appropriate course of action. This well-being champion would need to have high level support within the organisation to signify the practices’ commitment to improving the health and well-being of the staff working for them (Jordan, 2003).

However, as detailed previously most architects do not work in large practices, and therefore there may not be scope for such activities. However, as those working in small practices appear to enjoy greater health and well-being such measures may not be necessary. Rather further work is needed to properly understand the issues affecting those employed in small practices and the role that the regulatory bodies may have in supporting them.

By examining the findings detailed in Chapters Five and Six it is apparent that long working hours are a significant source of concern for architects. Those running architectural practices may be in a position to manage the working hours of their employees. This could be achieved by examining examples of best practice from other organisations, for example, organisations such as ‘Working Families’ award organisations which successfully undertake work life balance policies (Working Families, 2006). A previous winner was a small construction company which worked
Chapter Seven: Discussion

to minimise the working hours of employees to counter a long working hours culture (Working Families, 2001).

The data presented in Chapter Five demonstrated that there is an important link between employee control and health and well-being (as control increases, health and well-being increases). Turnover intention was also linked to control, demonstrating that if practices can empower their employees and allow them control over their work they may reduce the turnover intentions of their staff. In addition, allowing architects control over their work may indicate trust between management and employees which some architects indicated was important to their job satisfaction (see Section 6.4.4).

Section 5.3.2 revealed that a lack of recognition of their work was a concern for approximately one quarter of the sample. This may be something which practices could address by ensuring that the contributions of all employees are acknowledged. In section 6.4.4 respondents reported that some practices celebrate good work done by employees, for example, with a financial bonus, office outings or a bottle of champagne. This may be particularly important for female architects, some of whom indicated that their contributions to projects were ignored.

7.12.3 Recommendations for Individual Architects

While there are actions which could be taken by the Profession and Organisations to improve the health and well-being of architects, there are steps that individuals can take to care for their own health and well-being. The first step for individuals is for them to recognise if they are experiencing poor health and well-being, for example,
Chapter Seven: Discussion

excessive use of alcohol and cigarettes, poor eating habits and inability to relax (HSE, 2004). If such behaviours are identified steps can then be taken to counter poor health and well-being, for example, relaxation, cognitive behavioural therapy, exercise, time management and assertiveness training (e.g. learning to say no to a client) (Schabracq, 2002; Jordan, 2003). This last step may be beneficial to female architects who were seen by some respondents as lacking assertiveness (see section 6.7.2).

Given that many architects appear to enter the profession with unrealistic conceptions about the work of an architects, those entering the profession may have a responsibility to ensure they are properly informed about the realities of the profession. This could be by engaging with those already working within the profession through undertaking work experience in architectural practices. One interview respondent who had undertaken work experience felt that it had helped him with his transition into the workplace and helped his health and well-being, as he had a sound understanding of the realities of the profession (see Section 6.3.3.).

7.13 Conclusions and summary

This chapter concludes by presenting the factors which appear to impact the health and well-being of architects, both male and female. It begins by presenting the experiences which are common to male and female architects and concludes by discussing the issues particularly relevant to female architects. The majority of architects were satisfied with the different facets of their job, although poor pay, limited opportunities for promotion, long working hours, the management of their practices and the amount of recognition they receive for their work were sources of
dissatisfaction for an important proportion of architects. For architects, their job satisfaction is related to their degree of control, their affective response to work and non work, work to life conflict and turnover intentions. The interviews revealed that architects experienced lower job satisfaction due to limited opportunities to use their creative skills, suggesting that the job satisfaction tool used in the survey failed to capture a facet of job satisfaction which is important to architects.

Architects also seem to experience poor work life balance because of their long working hours which reduces the time they can spend with friends and family. Time spent with family and friends can help to mediate the effects of work related stress, consequently architects may suffer in this regard. Work to life conflict was also linked to architect’s inability to ‘switch off’. Interview respondents reported considerable time spent worrying about work and projects, which can result in difficulty sleeping.

Affective well-being is a complex issue for architects, as they appear to experience high levels of positive and negative affect, demonstrating that they are separate phenomena. Affective job-related well-being is related to the degree of control experienced by architects in their work, indicating that increased control is accompanied by increased affective well-being. In other words, the more control an architect has over their work, the happier they feel, although, the cross-sectional data makes the direction of this relationship difficult to ascertain. As architects’ job satisfaction increased, their job-related affective well-being increased which seems reasonable, as both are measures of how someone feels about their job. Architects’ positive feelings about work are most strongly linked to facets of work which are intrinsic to their job.
Chapter Seven: Discussion

Affective non job-related well-being was also linked to job satisfaction and control although the relationships were much weaker, i.e. as architects' job satisfaction increases they experience higher levels of affective well-being outside of work. This is not surprising given that job-related affective well-being and non job-related affective well-being were inter-related, indicating that how architects feel about their work affects how they feel about their non working lives and vice versa. This demonstrates that architects' experience of work is not limited to their working lives, but permeates other areas of their lives.

Architects appear to experience high levels of job demands, not surprising given the high workload and long working hours discussed in the interviews. However, job demands were not related to any measures of health and well-being, suggesting that demands do not negatively impact architects. In addition, architects also report high levels of skill discretion and decision authority, which are measures of control. Architects would appear to have high levels of control within their jobs which may work to offset their high workloads. Control was strongly related to job satisfaction, and affective well-being. Weaker relationships existed between control and work to life conflict, sickness, physical symptoms of stress and turnover intentions. From the data presented here it would seem that the degree of control an architect feels that they have is an important aspect of their overall health and well-being.

Although the survey revealed a number of important indicators of health and well-being amongst architects, it failed to capture some important aspects of architects' working lives. The interviews revealed that a number of issues exist within the profession which affect individual architects. Many architects enter the profession
expecting to design buildings, a belief which is perpetuated during the educational process. When architects enter professional practice, many find themselves disillusioned as much other time is spent on administrative tasks which they report as boring. Misperceptions of those entering the profession were seen as a significant cause of poor health and well-being of those working in the profession. While at university architects learn that working long and unsociable hours is expected and they take this attitude with them into practices.

Architects view the social status of the profession as confused and this is seen to affect misconceptions about the work of architects and in turn their health and well-being. Architects appear to feel that those outside of construction view the profession as higher status than those working within it, but it is still viewed as having less status than other professions such as doctors and lawyers. This contributes to people entering the profession due to false beliefs about what architects do. It was also seen to contribute to the low levels of pay for architects.

Architects also appear to be dissatisfied with the RIBA and the ARB, which are believed to be failing in their remit to effectively represent the interests of their members. Many architects think that the RIBA contributes to the inaccurate representation of its members in the general public, which in turn negatively impacts the social status of the profession.

Women architects are affected by all of these factors, but they face additional sources of concern, which could be considered occupational stressors. While many architects expressed concern that their contributions were being ignored, female architects
Chapter Seven: Discussion

particularly felt that they were not receiving proper recognition for their work. This may be because they also reported being denied access to clients, an area of their work which some architects found the most enjoyable. In addition women felt that they needed to work harder than male counterparts. Overall women reported poorer health and well-being than male architects, suggesting that the additional stressors experienced by female architects are damaging. Female architects appear to experience poorer job satisfaction, higher levels of work to life conflict, more physical symptoms of stress and more turnover intentions.

In summary, many architects enter the profession with harmful misconceptions about the work of an architect. Once at university, these misperceptions are not corrected and a culture of long working hours is encouraged. When architects enter practice they face disillusionment over the realities of work and continue the long working hours culture. In addition, they receive poor remuneration for their services and feel that their contributions are not adequately recognised and feel frustration at their limited scope for creativity. Their long working hours are seen as necessary for access to limited promotion opportunities but harmful to their work life interface. Poor work life balance can damage their relationships outside of work. All of this takes place in the context of the RIBA and ARB and the muddled social status of the profession. All of these factors place architects at risk of poor levels of health and well-being.

Women architects experience all of these concerns and face additional pressures as they have to work harder to be accepted, are viewed as lacking confidence and assertiveness. In addition they feel that their contribution to projects is being ignored and are denied access to clients and certain tasks. Women architects are at the same
risk of poor health and well-being as their male counterparts, but are at increased vulnerability due to additional problems which are linked to their treatment within the profession.
Chapter Eight: Conclusions

8.1 Introduction

Chapter Seven discussed the findings from the current study and related them to the extant literature. This chapter discusses the conclusions about the health and well-being of the men and women working in the architectural profession which can be drawn from the data presented here. It then leads to recommendations for the profession on how it can improve the health and well-being of its members. This is followed by recommendations for further research and limitations of the current study. The chapter concludes by stating the contribution to knowledge made by this thesis.

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Table 8.1 Structure of Chapter Eight.
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8.2 Achievement of Research Objectives

The research objectives are restated in Table 8.2 and each objective will be addressed in subsequent sections.

8.2.1 Research Objectives

<table>
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<td>O4. Identify the impact of health and well-being on performance, commitment and contribution of male and female architects.</td>
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<td>O5. To develop recommendations for addressing health and well-being issues in the architectural profession, at the professional, organisational and individual level.</td>
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Table 8.2 Research objectives

**O1 Establish the levels of health and well-being experienced by architects working in the UK**

The data presented in Chapters Five and Six satisfy this objective. Health and well-being was conceptualised as job satisfaction, affective well-being, physical symptoms and the Job Demand Control (JDC) Model. Chapter Five reveals that the majority of architects expressed job satisfaction, although certain areas of work were of concern to an important proportion of the sample (between 42% to 24%), namely, pay, practice management, opportunities for promotion, working hours, recognition for work, working conditions and opportunity to use abilities. Affective well-being
produced complicated results as respondents reported high levels of negative and positive emotions both in their working and non-working lives. Overall, section 5.3.2 demonstrated that respondents experience poor affective well-being in their work and non-working lives. These phenomena are mutually reinforcing, making it difficult to isolate the direction of this relationship. Further research may be able to isolate this link, for example, by recording any change in affective well-being over time. Physical symptoms were experienced by the majority of respondents indicating poor health. The JDC model showed that the respondents experienced high levels of job demands but also high levels of control (autonomy), showing that architects may experience stressors experienced by other construction workers (see Chapter Three), but also experience high control which may mediate the impact of stressors. The data presented in this thesis demonstrates that architects are vulnerable to poor health and well-being as measured by affective well-being, physical symptoms and job demands. However, many also experience job satisfaction and high control.

O2 Explore the extent to which health and well-being is determined by gender

Chapter Five detailed comparisons of measures of health and well-being for male and female respondents. Female architects reported poorer job satisfaction than male architects, particularly in terms of working conditions, opportunities for promotion and practice management. Male architects reported poorer affective well-being than female architects, in their working and non-working lives. This could indicate that female architects experience higher affective well-being. Section 2.9.3 indicated that this discrepancy could be due to women more frequently expressing affect than men, and not that there is an actual difference in affect. Female architects reported more
physical symptoms of stress than male architects, suggesting they experience poorer health. There were no significant gender differences in the JDC Model, suggesting that male and female architects do not experience differing levels of demand and control. However, previous work (section 2.9.4) have suggested that the JDC model is androcentric and may not capture demands and control issues faced by women in the workplace. It appears that gender is an important influence on the health and well-being experienced by architects and that generally female architects experience poorer health and well-being.

To explore the antecedents of health and well-being in the architectural profession, focusing on understanding the interplay of structure, culture and individual circumstances/actions on well-being outcomes.

This objective was met through Phases one and two of the research reported in Chapters Five and Six. The antecedents of the health and well-being of architects have been identified as those which are common to those working in other areas of the construction industry and the general workforce and those which are specific to those working in the architectural profession. Within the framework presented here, these are conceptualised as stressors. In addition, female architects experience additional stressors. Architects experience stressors related to long working hours, for example, difficulty maintaining personal relationships which may mediate the impact of work-related stressors.

The interviews revealed that architects face additional stressors (or antecedents of health and well-being) related to their route into the profession, the status of architects and the role of their regulatory bodies, particularly the RIBA. Female architects experience additional stressors in particular a perception of a lack of confidence and a
need to work harder than male counterparts to be accepted, paternalistic attitudes, task restrictions, contributions to projects being ignored and restricted access to clients. These are not unique to the architectural profession, and are experienced by women working in other occupations, particularly within the construction industry.

In addition the interviews revealed that young architects may perpetuate unhealthy working practices which they learnt while in higher education, specifically working long hours. This long working hours culture was unquestioned by some architects, indicating that for many it is viewed as integral to the architectural culture.

The interview data revealed that many architects felt that the profession has a low social status which has been eroded over time and this affected their health and well-being. As detailed previously (Chapters Two, Three and Seven), perceptions of social status are important influences on health and well-being. From the current work, it was not possible to establish the actual social status of architects, however, some architects appear to view their social status as low.

As discussed in section 7.10 antecedents of health and well-being (stressors) may have a cumulative effect. While each stressors poses risks to health and well-being, in combination, their impact may be greater. The combination of each stressor, for example, disillusionment over the realities of working life as an architect, combined with high workload and long working hours may increase architects' vulnerability to poor health and well-being.
Chapter Eight: Conclusions

The structure of the profession relates to the number of small practices. Previous work has shown that those working in small architectural practices may benefit from greater opportunities to undertake a range of activities, but also be vulnerable to poorer pay and informal management. This thesis shows that those working in small architectural practices may benefit through greater scope for skill use and autonomy. However, they may not have access to formalised Human Resource policies which are available in some larger practices and the public sector. Therefore the relationship between practice size and architect's health and well-being is complex and warrants further investigation.

*O4 Identify the impact of well-being on performance, commitment and contribution of male and female architects*

The survey data presented in Chapter Five showed that there were significant relationships between measures of health and well-being and its consequences. Turnover intentions were related to affective well-being, job satisfaction, decision authority (a measure of autonomy/control) and physical symptoms of stress, indicating that poor health and well-being was linked to increased turnover intentions. The strongest relationship was between work life conflict and turnover intentions. In turn work life conflict was strongly related to other measures of health and well-being. In addition the survey revealed that women in the sample reported greater work life conflict and higher turnover intentions, which is perhaps not surprising considering that women reported poorer health and well-being.

The interview data (reported in Chapter Six) demonstrated that there may be a range of consequences to the stressors experienced by architects. In particular there is a suggestion that some entering the profession do so with unrealistic expectations of the
realities of architectural work. As such, they may experience disillusionment when they enter professional practice. This may lead to architects choosing alternative employment.

O5 To develop recommendations for addressing health and well-being issues in the architectural profession, at the professional, organisational and individual level.

Recommendations for addressing the health and well-being of architects were discussed in detail in Chapter Seven. Recommendations were made for the profession as a whole, namely that work needs to be undertaken by the RIBA and ARB to improve the social status of architects by better managing the profession’s perception amongst the general public. In addition, this would help to provide potential entrants to the profession with a more accurate perception of the realities of working as an architects. This would help counter the conflict experienced by some architects, between their expectations of the profession and the realities.

In addition, there was a belief that the RIBA needs to act as an advocate for its members, and could learn how to do this by adopting policies and practices used by comparably organisations such as the Law Society. There was also a belief among some respondents that the RIBA needs to stop being a ‘boy’s club’ and provide better representation for female members.

Recommendations were also provided for practices, namely, appointing a well-being champion who can monitor levels of health and well-being and undertake any actions as necessary. Practices could also work to limit the working hours undertaken by their employees, for example, through better resourcing for projects. As control helps to
mediate the impact of stressors, practices can allow their employees more control over their work. In addition, practices can ensure that they recognise the work undertaken by employees, and ensure that they do not ignore the contributions of female architects.

While steps can be taken to improve the health and well-being of architects at the professional and organisational level, it is also important that architects take some responsibility for their own health and well-being. Recommendations for the individual include; learning to recognise symptoms of poor health and well-being in themselves; exercise, relaxation, assertiveness training and time management. In addition, those considering entering the profession, must ensure that they are properly informed about the realities of the work of an architect.

8.2.2 Research propositions

The following section states how the research has addressed the research propositions which are restated in Table 8.3.
Chapter Eight: Conclusions

<table>
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<th>Research Objectives and Propositions</th>
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**O1.** Establish the levels of health and well-being experienced by architects working in the UK.

P7: Those working in the construction industry are exposed to a range of stressors, particularly, long working hours, time pressures, work life conflict, staff shortages and high workload. It is anticipated that architects will also experience these stressors. (see section 3.3.3)

P8: Architects will experience high levels of job demand and control. (see section 3.3.3)

P3: There will be significant relationships between measures of job demands and control and health and well-being. (see section 2.4.3)

P4: Generic measures of health and well-being may not capture factors relevant to male and female architects. (see section 2.5.2)

**O2.** Explore the extent to which health and well-being is determined by gender.

P9: Female architects will experience poorer health and well-being than male architects. (see section 3.5.3)

P10: Female architects will report higher turnover intentions than male architects. (see section 3.5.3)

P4: Generic measures of health and well-being may not capture factors relevant to male and female architects (see section 2.5.2)

**O3.** To explore the antecedents of health and well-being in the architectural profession, focussing on understanding the interplay of structure, culture and individual circumstances/actions on well-being outcomes.

P5: Architects will experience frustration at the lack of scope for creativity in their work. (see section 3.3.3)

P6: Architects may enter the profession with unrealistic expectations of the profession and there may be a conflict between these expectations and the reality. (see section 3.3.3)

P1: Long working hours will be the most important factor in work life conflict. (see section 2.3.18)

**O4.** Identify the impact of well-being on performance, commitment and contribution of male and female architects.

P2: Work life conflict will be associated with job satisfaction and turnover intentions (see section 2.3.18)

P9: Female architects will report higher turnover intentions than male architects (see section 3.5.3)

**O5.** To develop recommendations for addressing well-being issues in the architectural profession, at the professional, organisational and individual level.

Table 8.3 Research objective and propositions.
Chapter Eight: Conclusions

Data presented in Chapters Five and Six showed that all ten propositions were valid. Those working in the architectural profession experience many of the same stressors as those working in other construction professions, particularly long working hours, time pressures, work life conflict, staff shortages (resourcing in practices) and high work load (P7). However, generic measures of health and well-being may not capture the factors which are relevant to architects (P4).

Architects do appear to experience both high job demands and control and there were significant relationships between job demands, control and measures of health and well-being (P8 and P3).

The interview data revealed that some architects do experience frustration at their lack of scope for creativity (P5) and that many enter the profession with unrealistic ideas about the profession; there may be a conflict between expectations and reality (P6).

Long working hours were closely linked to work life conflict (P1) and work life conflict was in turn linked to turnover intentions (P2).

Female architects do appear to experience poorer health and well-being than their male counterparts, resulting in higher turnover intentions (P9 and 10). In addition, generic measures of health and well-being may not capture issues relevant to female architects (P4).
Chapter Eight: Conclusions

8.3 Limitations of the current study

8.3.1 Introduction

This section of Chapter Eight highlights the limitations of the current study. The limitations of the study are linked with two areas; firstly the nature of the sample and secondly the cross-sectional methodological design.

Given the small sample size used here (110 for the questionnaire and 24 interview respondents), particularly in reference to the survey, there are questions over the generalisability of the data, to the architectural profession as a whole (which has approximately 28000 chartered members) and to the broader context of the construction workforce. However, as has been shown in Chapter Seven, the findings presented here are supported by the extant literature, suggesting that the findings can be generalised to the architectural profession. Some of the findings are also applicable to members of other professional groups within the construction industry.

The research collected data at the level of individual architects. This allowed for the identification of factors which may affect the health and well-being of architects as a collective body. However, it does not allow for a thorough analysis of the role of organisational factors, for example, practice size and ethos. Data presented in this thesis and in previous research suggests that practice dynamics may be important to architect’s health and well-being, and warrants further research (see section 8.5).
As described in Chapter Four, research can be subject to volunteer effect, whereby, individuals choose to participate in research projects in which they have a personal interest. It is possible that those architects who choose to take part in the current work did so because they felt that health and well-being issues and/or gender issues were particularly relevant to them, thereby potentially biasing the results. In addition, discussion of experiences at university and reasons for choosing the architectural profession were all retrospective. Participants' memory of these experiences may be subject to recall bias. In addition, the majority of both the questionnaire and interview sample did not have children. Those with children may have expressed differing experiences, for example, greater conflict in the work life interface or parental leave issues might have featured more prominently in discussions.

An important limitation of this research is its cross-sectional nature. Cross-sectional research does not allow for the causality of relationships to be explored, for example, determining if turnover intentions cause poor job satisfaction, or if job satisfaction causes increased turnover intentions. Correlations allow only for the presence of a relationship to be detected, rather than its causal nature. The addition of qualitative data potentially allows for causal relationships to be identified, for example, inaccurate preconceptions of the profession leading to disillusionment for some. However, this is still cross sectional data and causal relationships cannot be definitively identified. A longitudinal study may help to overcome the weaknesses of a cross-sectional study (see section 8.5), however, such a study requires considerable commitment from individuals. As such, securing access to architects may have been difficult and attrition of participants could have been problematic.
8.4 Recommendation for the architectural profession

Given the findings from the research presented in this thesis, a number of recommendations for improving the health and well-being of architects can be made for the architectural profession. These have been discussed in some detail in chapter seven, accordingly they are summarised here. Professional bodies such as the RIBA and ARB have responsibility for managing the architectural profession and therefore recommendations are aimed at these organisations.

- The public perception of the architectural profession needs to be more effectively managed, for example, ensuring that the public and clients are made aware of the realities of the role of an architect.
- The RIBA should work to ensure that the content of the degrees, which it validates, accurately reflect the realities of working life as an architect.
- The RIBA and ARB should act as advocates for their members, ensuring that they work to represent the best interests of their members. This could include working to ensure that architects receive adequate remuneration for their services.
- It is also recommended that the RIBA and the ARB adopt practices of comparable organisations such as the Law Society or the British Medical Association which work to ensure the well-being of their members.
- It has been argued by many respondents that the RIBA and ARB needs to provide more effective leadership for gender equality. One example of how the RIBA and the ARB could demonstrate commitment to retaining its female members would be to waive membership leave for women on maternity leave.
8.5 Recommendations for further research

The following section identifies recommendations for further research into the area of health and well-being for male and female architects.

- The current work identified health and well-being at the individual level. Given that practice management and size of practice appear to impact health and well-being, further work could focus on the organisational level and compare size of practice and management policies.
- Longitudinal studies would help to identify causal relationships, for example, follow those entering the profession to identify the relationship between preconceptions of the profession and experiences when entering practice.
- The data presented here could be used to develop a quantitative survey which is architecture specific and gender specific.
- The Job Demand Control Model may need adjustment in order to capture the additional stressors experienced by women, and possibly differing behaviour and physiological responses to job demands and control.
- Further quantitative work could examine the relationship between working conditions, for example, time spent using a VDU and particular physiological symptoms, for example back problems.
- A further questionnaire should investigate architects' responsibilities outside of work in order to determine any relationship between these demands and work life conflict. This may explain gender differences.
- Further work may benefit from an industry wide perspective, to compare the experiences of different professional and occupational groups.
8.6 Contributions to knowledge

This section of Chapter Eight details the contributions to knowledge made by this thesis. This thesis has advanced knowledge in three areas, the health and well-being literature, work and gender literature and occupationally specific literature, namely architectural / construction management.

- This research has identified that architects' experience of health and well-being is complex. While, many experience job satisfaction, many also experience low affective well-being, high job demands and the majority experience physical symptoms of stress. In addition, many architects appear to experience high levels of control which may help to mediate work related stress.

- Overall, female architects experience poorer health and well-being than male architects. Female architects expressed poorer job satisfaction and more physical symptoms of stress. However, female architects expressed higher affective well-being and no significant differences in job demands or control.

- There appear to be aspects of working in the architectural profession which act as antecedents (occupational stressors) to health and well-being, for example, long working hours, work load, poor work life balance. In addition, architects may experience additional occupational stressors; a conflict between their expectations of the profession and the realities, the social status of architects and issues relating to regulation of the profession and the RIBA.
Chapter Eight: Conclusions

- There appear to be significant relationships between health and well-being and turnover intentions and work life conflict, which was also very strongly correlated to turnover intentions.

- There has been considerable debate regarding the validity and the usefulness of the Job Demand Control Model. The research presented here suggests that measures of control do relate to measures of health and well-being, however, the tool may not capture aspects of the working environment which are applicable to female architects.

- There appears to be a conflict between architects' expectations of the profession and the reality, this may be linked to health and well-being.

- Many architects are concerned about their social status, and this may be linked to health and well-being.

8.7 Publications

The work reported in this thesis has resulted, to date, in the following publications.


In addition the findings of the research were published in the RIBA Journal in May 2006 (Article Title: Stress).

The research was featured in the Architects Journal in 2005 and Building Design Magazine in January 2005.
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APPENDIX I Interview Schedule

Interview Schedule

What does your job involve?

Why did you decide to become an architect?

How did the reality of being an architect match your expectations?

How would you describe the status of architects?

How would you describe the relationship between managers and employees in your practice?

How did you know if your work was valued?

Did you feel that your job allowed you to use your full range of skills?

Are you able to learn new skills?

How would you describe the working conditions in your last office?

What factors affect someone's chances of promotion?

What role does IT play in your well-being?

How would you describe your workload?

Could you describe the demands placed on you?

How did your job affect your life outside of work?

Are you able to switch off when you leave work?

Are there any particular problems faced by female architects?

What could the RIBA do to improve the well-being of architects?

What could practices do to help improve the well-being of their employees?

What can individual architects do to help their own well-being?
Completing this survey. Please answer the questions by using the left hand mouse button to 'check' the appropriate box or by writing your answer in the space provided, unless otherwise indicated.

Background Information. Where there are multiple choice options please use your mouse to click on the grey box and choose the relevant option.

<table>
<thead>
<tr>
<th>What is your job title?</th>
<th>Please indicate your highest level of qualification. Part 1 Qualified</th>
<th>How long have you been working at this level?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender: Male</td>
<td>Age under 25</td>
<td>Ethnic group:</td>
</tr>
<tr>
<td>Are you self employed?</td>
<td>Do you work full or part time? Full Time</td>
<td>Where do you work?</td>
</tr>
<tr>
<td>Er</td>
<td>If yes how many staff?</td>
<td>How many people does your practice employ?</td>
</tr>
<tr>
<td>Do you manage any staff? Yes</td>
<td>If yes how many staff?</td>
<td>How many hours a week do you work, on site, at home, in the office</td>
</tr>
<tr>
<td>Do you have dependents? Yes</td>
<td>If yes, how many?</td>
<td>Marital status, Single</td>
</tr>
<tr>
<td>If you have a partner are they engaged in paid employment? No</td>
<td>In the past 12 months how many days off have you had as a result of illness?</td>
<td></td>
</tr>
</tbody>
</table>

This section of the questionnaire will ask you about your level of job satisfaction.

Question One: How satisfied are you with each of the following?

<table>
<thead>
<tr>
<th>The physical working conditions in your office / studio</th>
<th>Extremely dissatisfied</th>
<th>Very dissatisfied</th>
<th>Moderately dissatisfied</th>
<th>Not sure</th>
<th>Moderately satisfied</th>
<th>Very satisfied</th>
<th>Extremely satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>The physical work conditions on site</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The freedom to choose your own method of working</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your relationship with fellow workers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The recognition you get for your work</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your immediate line manager</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>The amount of responsibility you are given</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Your rate of pay</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your opportunity to use your abilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial relations between management and workers in your practice</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your opportunity of promotion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The way your practice is</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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This section of the questionnaire will ask you about your well-being.

**Question Two:** In the past 30 days how often has your job made you feel each of the following?

<table>
<thead>
<tr>
<th>Feeling</th>
<th>Never</th>
<th>Occasionally</th>
<th>Some of the time</th>
<th>Much of the time</th>
<th>Most of the time</th>
<th>All of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tense</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uneasy</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worried</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contented</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Relaxed</td>
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<td></td>
<td></td>
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<tr>
<td>Depressed</td>
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<td></td>
</tr>
<tr>
<td>Gloomy</td>
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<td></td>
</tr>
<tr>
<td>Miserable</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Cheerful</td>
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<td></td>
</tr>
<tr>
<td>Enthusiastic</td>
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<td></td>
</tr>
<tr>
<td>Optimistic</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Question Three:** In the past 30 days how often has your life outside your job made you feel each of the following?

<table>
<thead>
<tr>
<th>Feeling</th>
<th>Never</th>
<th>Occasionally</th>
<th>Some of the time</th>
<th>Much of the time</th>
<th>Most of the time</th>
<th>All of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tense</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uneasy</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Worried</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Calm</td>
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<td></td>
</tr>
<tr>
<td>Contented</td>
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<tr>
<td>Relaxed</td>
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<tr>
<td>Depressed</td>
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</tr>
<tr>
<td>Gloomy</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Miserable</td>
<td></td>
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</tr>
<tr>
<td>Cheerful</td>
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</tr>
<tr>
<td>Enthusiastic</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Optimistic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Question Four:** In the past 30 days have you had any of the following symptoms? If you did have the symptom, did you see a doctor about it? (please tick all that apply)

<table>
<thead>
<tr>
<th>Symptom</th>
<th>No</th>
<th>Yes, but didn't see doctor</th>
<th>Yes and I saw doctor</th>
</tr>
</thead>
<tbody>
<tr>
<td>An upset stomach or nausea</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A backache</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trouble sleeping</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A skin rash</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shortness of breath</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chest pain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Headache</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fever</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acid indigestion or heartburn</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eye strain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diarrhoea</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stomach cramps (Not menstrual)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constipation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heart pounding when not exercising</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>An infection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of appetite</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dizziness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shaking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restless legs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pins and needles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tiredness or fatigue</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Did you speak to a colleague about any of the above symptoms? | Yes |
| Did you speak to your line manager about any of the above symptoms? | Yes |
Work-life conflict.

**Question Five:** This section of the questionnaire asks you to think about the extent to which your job has affected your home life.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither Agree nor Disagree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>It has been difficult for me to fulfil my family responsibilities because of the amount of time I spend on my job.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I have arrived at work too tired to function well because of the household work I had done.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I have come home from work too tired (several times a month) to do the chores which need to be done.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>My marriage/relationship suffers because of my work.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I feel that my work prevents me from being as good a parent as I would like to be.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I find it difficult to 'switch' off when I finish work.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>My work affects my enjoyment of my social life.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Job Demands.**

**Question Six:** What demands does your job place on you?

<table>
<thead>
<tr>
<th>Never</th>
<th>Rarely</th>
<th>Frequently</th>
<th>Often</th>
<th>Extremely often</th>
</tr>
</thead>
<tbody>
<tr>
<td>To what extent does your job require you to work fast?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>To what extent does your job require you to work hard?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>To what extent does your job require a great deal of work to be done?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>To what extent is there not enough time for you to do your job?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>To what extent is there excessive work in your job?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>To what extent do you feel there is not enough time for you to finish your work?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>To what extent are you faced with conflicting demands on your job?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>To what extent is high skill level required?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>To what extent are you required to learn new things?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>To what extent is your work non-repetitive?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>To what extent does your job allow you to use your creativity?</td>
<td>☐</td>
<td>☐</td>
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<td>To what extent do you have the freedom to organise your work?</td>
<td>☐</td>
<td>☐</td>
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<td>To what extent do you have control over what happens on your job?</td>
<td>☐</td>
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<td>To what extent does your job allow you to make a lot of your own decisions?</td>
<td>☐</td>
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<td>To what extent are you assisted in making your own decisions?</td>
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**Future Plans**

**Question Seven: Are you considering leaving your job?**

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<th>I often think about leaving my job.</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neither agree nor disagree</th>
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<td>I will be actively searching for a new job over the next 12 months.</td>
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<td>I will be actively searching for a job outside of the Architectural Profession Over the next 12 months.</td>
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Please use the space below to discuss further any work related issues you feel are important in relation to your well-being (continue on an extra sheet if necessary).

I would like to receive a copy of the summary of findings Yes Contact details
I would be willing to participate in further research Yes
### Appendix III profile of interview participants

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