

HIGH PERFORMANCE WORK PRACTICES: INVESTIGATING FOUR PERSPECTIVES ON THEIR EMPLOYEE-LEVEL IMPACTS SIMULTANEOUSLY

By

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PAPERS ADAPTED FROM THESIS

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ABSTRACT

This thesis has examined simultaneously two key debates of the High Performance Work Practices (HPWP) literature. The first debate, entitled ‘the integrationist and isolationist perspectives of HPWP’, looks at two methods of operationalizing HPWP. In the integrationist perspective, innovative Human Resource Management (HRM) practices are presumed to have mutually supportive properties such that when used together in a coherent manner, they may accrue far-reaching benefits for the organization and employees. By contrast, the isolationist perspective argues that individual HRM practices have unique independent properties and produce varying degrees of effects on outcomes. The second debate, entitled ‘the mutual gains versus the critical perspectives of HPWP’, looks at the employee-level implications of adopting HPWP. In the mutual gains perspective, HPWP are thought to promote desirable employee attitudes and well-being together with their beneficial effects on organizational growth and effectiveness. The critical perspective, on the other hand, assumes that the benefits associated with HPWP may be offset by increases in work intensification and the transfer of more work responsibilities to employees.

These two debates have been investigated via two empirical studies. The first study was undertaken to examine the tenets of the two HPWP debates without consideration of sector-specific characteristics, whereas the second study was undertaken to highlight the role of sector-specific characteristics in explaining the employee-level implications of HPWP. Together, both studies provide a framework for determining the extent to which HPWP outcomes are generalizable across organizational settings. The results of both studies show that HPWP produce varying independent effects on employee-level outcomes, and work intensification may explain the intermediary processes underlying some of these effects. The results also indicate that HPWP have mutually supportive properties, and produce beneficial integrated influences on employee attitudes and well-being. However, when the independent

and integrated effects of HPWP were examined simultaneously, the independent effects of HPWP accounted for variance in employee attitudes and well-being over and above the integrated effects of HPWP.

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TABLE OF CONTENTS

Title page	i
Papers adapted from thesis	ii
Abstract	iii
Acknowledgements	v
Table of contents	vii
List of tables/figures	xiv
CHAPTER 1 – INTRODUCTION TO THESIS	1
1.1 Introduction	1
1.2 The concept of HPWP	2
1.2.1 The integrationist and isolationist perspectives of HPWP	3
1.2.2 The mutual gains versus the critical perspectives of HPWP	6
1.2.3 Sector-specific implications of HPWP	9
1.3 Purpose of thesis	10
1.4 Research aims of thesis	13
1.5 Chapter summary	13
CHAPTER 2 – THE CONCEPT OF HPWP	17
2.1 Introduction	17
2.2 Historical development of HPWP	18
2.3 The integrationist perspective of HPWP	21
2.4 The isolationist perspective of HPWP	24
2.5 The main constituents of HPWP	28
2.6 Chapter summary	37
CHAPTER 3 – EMPLOYEE IMPACTS OF HPWP: A REVIEW	39
	vii

3.1	Introduction	39
3.2	The mutual gains versus the critical perspectives of HPWP	40
3.3	Employee attitudes and well-being	42
3.4	Evidence for the mutual gains perspective of HPWP	48
3.4.1	HPWP and desirable employee-level outcomes (the integrationist perspective)	48
3.4.2	HPWP and desirable employee-level outcomes (the isolationist perspective)	50
3.5	Evidence for the critical perspective of HPWP	61
3.5.1	HPWP and undesirable employee-level outcomes (the integrationist perspective)	62
3.5.2	HPWP and undesirable employee-level outcomes (the isolationist perspective)	63
3.6	Chapter summary	74
	CHAPTER 4 – STUDY DESIGN	77
4.1	Introduction	77
4.2	Summary of rationale for thesis	77
4.2.1	The integrationist and isolationist perspectives of HPWP	78
4.2.2	The mutual gains versus the critical perspectives of HPWP	80
4.2.3	Sector-specific implications of HPWP	81
4.3	Research aims	83
4.4	Description of Study 1 and Study 2	85
4.5	Overview of methodology	86
4.5.1	Data preparation stage	87
4.5.1.1	Exploratory factor analysis	88
4.5.1.2	Reliability analysis	90

4.5.1.3	Data aggregation	90
	Interrater reliability (IRR)	91
	Interrater agreement (IRA)	92
4.5.1.4	Measuring the integrated effects of HPWP (HPWP index measure)	93
4.5.2	Data analysis stage	98
4.5.2.1	Multilevel modelling (MLM)	99
4.5.2.2	Structural Equation Modelling (SEM)	99
	The measurement model	100
	The structural model	101
4.5.2.3	Multilevel Structural Equation Modelling (MSEM)	101
4.5.2.4	Goodness-of-fit in SEM	102
4.5.2.5	Multiple group analysis	104
4.5.2.6	Measurement invariance testing	107
4.5.2.7	Mediation analysis	110
4.6	Chapter summary	112
	CHAPTER 5 – STUDY 1: THE 2004 WERS STUDY	115
5.1	Introduction	115
5.2	Theoretical background	115
5.2.1	The integrationist and isolationist perspectives of HPWP	116
5.2.2	The mutual gains versus critical perspectives of HPWP	118
5.3	Hypotheses	122
5.4	Methodology	123
5.4.1	Sample	123
5.4.2	Data preparation and measures	125

5.4.2.1	Employee attitudes and well-being measures	128
5.4.2.2	HRM practices measures	132
5.4.2.3	HPWP index measure	137
5.4.3	Data analysis	140
5.4.3.1	Phase I (hypotheses 1 and 3, the independent effects of HPWP)	140
5.4.3.2	Phase II (hypotheses 2 and 4, the integrated effects of HPWP)	142
5.4.3.3	Phase III (comparing the integrationist and isolationist perspectives of HPWP)	143
5.4.3.3	Testing for measurement invariance	144
5.5	Results	145
5.5.1	Phase I results (hypotheses 1 and 3)	147
5.5.2	Phase II results (hypotheses 2 and 4)	151
5.5.3	Phase III results (comparing the integrated and independent effects of HPWP)	153
5.6	Discussion	156
5.6.1	The mutual gains perspective of HPWP (hypotheses 1 and 2)	157
5.6.2	The critical perspective of HPWP (hypotheses 3 and 4)	163
5.6.3	Comparing the integrated and independent effects of HPWP	167
5.7	Conclusion and chapter summary	168
	CHAPTER 6 – SECTOR-SPECIFIC IMPLICATIONS OF HPWP	171
6.1	Introduction	171
6.2	The need for sector-specific research on HPWP	172
6.3	HPWP in the healthcare sector	175
6.3.1	The British National Health Service (NHS)	175
6.3.2	HPWP within the British NHS	177

6.4	Chapter summary	179
CHAPTER 7 – STUDY 2: THE 2010 NHS STAFF STUDY		181
7.1	Introduction	181
7.2	Theoretical background	182
	7.2.1 The integrationist and isolationist perspectives of HPWP	184
	7.2.2 The mutual gains versus the critical perspectives of HPWP	185
7.3	Hypotheses	189
7.4	Methodology	190
	7.4.1 Sample	190
	7.4.2 Data preparation and measures	192
	7.4.2.1 Employee attitudes and well-being measures	194
	7.4.2.2 HRM practices measures	196
	7.4.2.3 HPWP index measure	203
	7.4.3 Data analysis	204
	7.4.3.1 Phase I	204
	(hypotheses 1a and 3a, the independent effects of HPWP)	
	7.4.3.2 Phase II (hypotheses 2a and 4a, the integrated effects of HPWP)	206
	7.4.3.3 Phase III (comparing	207
	the integrationist and isolationist perspectives of HPWP)	
	7.4.3.3 Testing for measurement invariance	208
7.5	Results	210
	7.5.1 Phase I results (hypotheses 1a and 3a)	212
	7.5.2 Phase II results (hypotheses 2a and 4a)	216
	7.5.3 Phase III results (comparing	218
	the integrated and independent effects of HPWP)	
7.6	Discussion	221

7.6.1	The mutual gains perspective of HPWP (hypotheses 1a and 2a)	222
7.6.2	The critical perspective of HPWP (hypotheses 3a and 4a)	228
7.6.3	Comparing the integrated and independent effects of HPWP	234
7.7	Conclusion and chapter summary	235
CHAPTER 8 – IMPLICATIONS AND CONTRIBUTIONS		238
8.1	Introduction	238
8.2	Review of rationale for thesis	238
8.3	Summary of research aims and methodology	240
8.4	Summary of Study 1 and Study 2 results	242
8.4.1	The mutual gains perspective (independent effects)	242
8.4.2	The mutual gains perspective (integrated effects)	243
8.4.3	The critical perspective (independent effects)	244
8.4.4	The critical perspective (integrated effects)	245
8.4.5	Comparing the integrated and independent effects of HPWP	245
8.5	Discussing Study 1 and Study 2 results	248
8.5.1	The mutual gains perspective (independent effects)	248
8.5.2	The mutual gains perspective (integrated effects)	255
8.5.3	The critical perspective (independent effects)	256
8.5.4	The critical perspective (integrated effects)	261
8.5.5	Comparing the integrated and independent effects of HPWP	264
8.6	Implications for theory	266
8.7	Implications for practice	270
8.8	Limitations of thesis	274
8.9	Recommendations for future research	277

8.10 Chapter summary and conclusions	280
REFERENCES	284

LIST OF TABLES/FIGURES

LIST OF TABLES

Table 1	Constituents of HPWP (from studies published since 2000 to date)	30
<i>Study 1</i>		
Table 2	Variables from WERS 2004 management and employee surveys	129
Table 3	Cluster definition table (mean scores are derived from ANOVA test)	139
Table 4	Measurement invariance testing for WERS 2004 data	146
Table 5	Phase I Results	148
Table 6	Phase II Results	152
Table 7	Model fit information for Phase III	154
Table 8	Comparing results of Phase II and Phase III	155
<i>Study 2</i>		
Table 9	Variables from WERS 2004 management and employee surveys	197
Table 10	Cluster definition table (mean scores are derived from ANOVA test)	205
Table 11	Measurement invariance testing for 2010 NHS Staff data	211
Table 12	Phase I Results	213
Table 13	Phase II Results	217
Table 14	Model fit information for Phase III	219
Table 15	Comparing results of Phase II and Phase III	220

LIST OF FIGURES

Figure 1	Pictorial representation of research aims	84
Figure 2	Pictorial representation of research hypotheses	124
Figure 3	Pictorial representation of research hypotheses	191

CHAPTER 1 – INTRODUCTION TO THESIS

1.1 INTRODUCTION

Over the years, the ‘hard’ and ‘soft’ views of Human Resource Management (HRM) have served as the main theoretical framework for investigating innovative approaches to HRM (Legge, 1995; Truss, Gratton, Hope-Hailey, McGovern and Stiles, 1997; Gould-Williams and Davies, 2005). The ‘hard’ approach to HRM is generally characterized by hierarchical decision-making structures, narrowly defined job tasks and close staff supervision practices. This ‘hard’ approach to HRM tends more towards strong managerial control over employees, as well as the application of strict rules in organizational procedures (Legge, 1995; Truss et al., 1997; Gould-Williams and Davies, 2005). By contrast, the ‘soft’ approach to HRM is founded on the existence of mutual trust between employers and employees, as well as the achievement of organizational goals through substantial employee empowerment and managerial support mechanisms (Legge, 1995; Truss et al., 1997; Gould-Williams and Davies, 2005). In the ‘soft’ approach to HRM, employers recognize the crucial role of workers in driving organizational success, and therefore encourage their employees to make productive contributions to organizational processes. This ‘soft’ approach to HRM is largely claimed to have strong beneficial effects on organizational outcomes (Gould-Williams and Davies, 2005), and underlies the concept of High Performance Work Practices (HPWP).

This chapter provides an overview of the theoretical arguments developed in this thesis. The chapter begins with an introduction to the concept of HPWP, and highlights two theoretical debates that form the basis for this thesis. The first debate is referred to as ‘the integrationist and isolationist perspectives of HPWP’, whereas the second debate is referred to as ‘the mutual gains versus the critical perspectives of HPWP’. The description of these

two HPWP debates is followed by an overview of the sector-specific implications of HPWP. Thereafter, the purpose of this thesis is stated and the main research aims highlighted.

1.2 THE CONCEPT OF HPWP

The concept of ‘HPWP’ does not have a single binding meaning across researchers. Previous studies have pointed to a range of inconsistent definitions for the concept. Some authors (Delery, 1998; Guest and Conway, 2007; Macky and Boxall, 2008) have linked this inconsistency to the manner in which scholars have analysed the concept of HPWP without strong theoretical underpinnings. Others (Wood, 1999; Beltrán-Martín, Roca-Puig, Escrig-Tena and Bou-Llugar, 2008; Gould-Williams, 2004; White, Hill, McGovern, Mills and Smeaton, 2003) have blamed this inconsistency on the use of different terminology in describing the same concept – for example, high-commitment management (e.g., Arthur, 1994; Whitener, 2001; Gould-Williams, 2004), high-involvement management (e.g., Guthrie, 2001; Mohr and Zoghi, 2008), innovative workplace practices (Askenazy, 2001) and alternative work practices (e.g., Godard, 2001). In general, however, HPWP are thought to represent a system of innovative HRM practices through which employers develop a committed workforce that can be empowered to use their discretion in conducting their job roles in ways that are beneficial to the organization (Pfeffer, 1994; Youndt, Snell, Dean and Lepak, 1996; Ichniowski, Shaw and Prenzushi, 1997; Wood, 1999; Gould-Williams and Davies, 2005). The underlying assumption here is that HPWP allow employers to relinquish a degree of operational control to their employees based on a fundamental perception of employees as valuable assets to the organization (Whitener, 2001; Wood, 1999; Hunter and Hitt, 2001). Consequently, employees feel encouraged to utilize their work-related knowledge, skills and abilities in undertaking organizational activities, leading to sustainable competitive advantage for the organization (Delery, 1998).

The theoretical rationale for this thesis is based upon two core debates of the HPWP literature. The first, ‘the integrationist and isolationist perspectives of HPWP’ (Ichniowski et al., 1997; Guerrero and Barraud-Didier, 2004; Kalmi and Kauhanen, 2008), looks at two specific approaches to operationalizing HPWP, whereas the second debate ‘the mutual gains versus the critical perspectives of HPWP’ (Ramsay, Scholarios and Harley, 2000; Harley, Allen and Sargent, 2007; Sparham and Sung, 2007) looks at the beneficial and possible detrimental effects of HPWP on employees.

1.2.1 The integrationist and isolationist perspectives of HPWP

One of the main features of the HPWP paradigm is the idea that individual HRM practices are mutually supportive of each other, and produce useful synergistic effects when used together in a coherent manner. This idea has been a major theme in the HPWP literature and forms the basis for two approaches to operationalizing HPWP. The first approach, known as the integrationist perspective (or integrated effects) of HPWP, emphasizes the unitary and mutually reinforcing nature of individual HRM practices (Huselid, 1995; Becker et al., 1997; Wood and De Menezes, 2008; Beltrán-Martín et al., 2008). In the integrationist perspective, HPWP represent a coherent system of innovative workplace practices whose interactive effects are important determinants of beneficial organizational outcomes (Ichniowski et al., 1997; Combs, Liu, Hall and Ketchen, 2006). In other words, firms can achieve large organizational gains by integrating individual HRM practices into a coherent framework that captures existing complementarities among such practices. Although there is lack of agreement in terms of the main HRM practices constituting a coherent HPWP framework (Gould-Williams, 2004; Macky and Boxall, 2008; Barling, Iverson and Kelloway, 2003), the dominant view suggests a unique system of practices comprising comprehensive staff selection procedures, skills development and training programs, employee involvement practices, flexible work arrangements, incentive compensation schemes, information sharing,

dispute-resolution and managerial support mechanisms (Guest, Conway and Dewe, 2004; Harley et al., 2007; Huselid, 1995; Barling et al., 2003; De Menezes and Wood, 2006; White, Hill, McGovern, Mills and Smeaton, 2003; Combs et al., 2006).

The second approach to operationalizing HPWP is regarded as the isolationist perspective (or independent effects) of HPWP. This approach is concerned with the unique independent effects of individual HRM practices (Kalmi and Kauhanen, 2008; Boxall, Ang and Bartram, 2011). In this perspective, individual HRM practices are thought to produce varying levels of independent effects on outcomes; therefore, their unique independent properties should not be overlooked in empirical analysis (Delery, 1998; De Menezes and Wood, 2006; Kalmi and Kauhanen, 2008; Boxall et al., 2011). When individual HRM practices are analysed in combination with each other, their distinctive properties may be underplayed, leading to insufficient understanding of their unique, isolated effects (Kalmi and Kauhanen, 2008; Bryson and White, 2008).

Studies emphasizing the isolated or independent effects of HPWP have been criticized by proponents of the integrationist perspective of HPWP (Arthur, 1994; Huselid, 1995; MacDuffie, 1995; Ichniowski et al., 1997; Beltrán-Martín et al., 2008). These critics argue that such isolated systems present both theoretical and empirical dilemmas, particularly because HRM practices are driven from a common philosophy and therefore their effects should not be analyzed in isolation (Huselid, 1995; Schulte, Ostroff and Kinicki, 2006; Beltrán-Martín et al., 2008). Moreover, one may not fully comprehend the mechanisms via which HRM systems interact with organizational performance without examining the various interdependencies underlying such practices (MacDuffie, 1995; Becker and Huselid, 1998). By isolating the effects of individual HRM practices, the true nature of work may be overly simplified, and the complex reality of organizational processes reduced to only a handful of separate HRM variables.

Unfortunately, few studies have empirically examined the implications of these criticisms by comparing simultaneously the independent and integrated effects of HPWP on outcomes using a single analytical procedure. In fact, in their meta-analysis of the HPWP literature, Combs et al. (2006) noted that only two studies, Guerrero and Barraud-Didier (2004) and Ichniowski et al. (1997), out of the 92 studies evaluated, have simultaneously examined whether the integrationist perspective of HPWP has greater explanatory power on organizational-level outcomes over the isolationist perspective of HPWP. So far, no study has simultaneously compared the integrationist and isolationist perspectives of HPWP using employee-level outcomes. This raises the possibility that some of the criticisms of the isolationist perspective in favour of the integrationist perspective of HPWP are based largely on theoretical assumptions with very little empirical evidence.

This thesis does not aim to disprove the supposed widespread benefits associated with the integrationist perspective of HPWP; rather, it aims to juxtapose these benefits with the importance of understanding the unique independent effects of HPWP. For example, given the lack of consistency in the literature in terms of the precise set of HRM practices comprising an effective HPWP framework (Barling et al., 2003; White et al., 2003; Gould-Williams, 2004), insight into the unique independent properties of HPWP may shed light on effective ways of combining individual HRM practices into coherent systems of HPWP. Moreover, not all combinations of HRM practices produce beneficial effects for an organization (Becker et al., 1997; Delery, 1998; Gould-Williams, 2004; Boxall et al., 2011). Becker et al. (1997) described the possibility for a set of HRM practices to produce a ‘deadly combination’, a type of synergy in which HRM practices which produce beneficial effects when analyzed in isolation turn out to have detrimental effects when used together with other practices. In such circumstances, the combined effects of individual HRM practices may amount to nothing but the cost of implementing each practice. Therefore, sufficient

knowledge of the isolationist perspective of HPWP would help in determining whether specific combinations of HRM practices have clear beneficial implications for an organization (Boxall et al., 2011) and improve understanding of specific HRM practices that constitute a coherent HPWP framework (Delery, 1998).

1.2.2 The mutual gains versus the critical perspectives of HPWP

There is evidence that adequate investments in HPWP may enhance performance outcomes such as staff turnover or employee retention rates (Arthur, 1994; Guthrie, 2001; Paré and Tremblay, 2007), profitability (Huselid, 1995; Wright, Gardner, Moynihan and Allen, 2005) and productivity (MacDuffie, 1995; Ichniowski et al., 1997; Askenazy, 2001). Most of these studies draw on the Resource-Based View (RBV) of an organization, which argues that employers' recognition of their HRM domain as a vital ingredient for achieving organizational success may lead them to investing substantially into their human resources as a way to achieve sustainable competitive advantage (Pfeffer, 1994). In other words, the means to achieving organizational effectiveness lies around developing a valuable and inimitable human capital pool, and aligning HRM systems with organizational values and corporate objectives (Delery, 1998; Wood, 1999; Barling et al., 2003; Beltrán-Martín et al., 2008).

Despite the enormous amount of research on organizational-level benefits of HPWP, it is surprising that comparatively less empirical energy has been channelled towards ascertaining employee-level benefits of such practices (Godard, 2001; Macky and Boxall, 2007; Kalmi and Kauhanen, 2008; Takeuchi, Chen and Lepak, 2009; Atkinson and Hall, 2011; Cañibano, 2011). Perhaps, one of the reasons for this gap lies on the way earlier investigations have relied so much on data acquired from managerial responses with little information on employee-level outcomes (Gould-Williams, 2004; Sparham and Sung, 2007; Harley et al., 2007). Furthermore, many exploratory attempts to incorporate employee-level

views on the impacts of HPWP have adopted employee-level outcomes as ‘mediating variables’ rather than actual outcome measures (see Ramsay et al., 2000; Barling et al., 2003; Guest and Conway, 2007; Gong, Law, Chang and Xin, 2009). These two factors, to a certain degree, have contributed to insufficient understanding of the direct effects of HPWP on employee attitudes and well-being.

Research on employee-level impacts of HPWP is gradually gaining precedence in the HRM literature. This stream of research has been structured around two broad theoretical perspectives (Harley et al., 2007; Sparham and Sung, 2007; Kalmi and Kauhanen, 2008; Van De Voorde, Paauwe and Van Veldhoven, 2012). The first, the mutual gains perspective of HPWP, argues that HPWP produce beneficial effects on employee attitudes and well-being, in addition to their positive influences on organizational-level outcomes. Admittedly, this definition is quite narrow and does not represent the entirety of the mutual gains view of HPWP. However, it underscores the precise context of this thesis, which is to explore the direct implications of HPWP on employee-level outcomes rather than organizational-level gains.

Drawing on the mutual gains perspective, scholars have found positive links between HPWP and employee attitude measures such as job satisfaction (Mohr and Zoghi, 2008; Wood and De Menezes, 2011), organizational citizenship behaviours (Paré and Tremblay, 2007), organizational commitment (Bryson and White, 2008; Newman, Thanacoody and Hui, 2011) and employee trust in management (Macky and Boxall, 2007). HPWP create opportunities for employees to be treated as valuable assets to the organization. Employees participate actively in workplace activities and are encouraged to utilize their work-related knowledge, skills and abilities in conducting their job tasks (Macky and Boxall, 2008; Wood and de Menezes, 2011; Atkinson and Hall, 2011). As a result, employees experience a greater sense of meaningfulness at work (Wood and de Menezes, 2011; Wood, Van Veldhoven,

Croon and De Menezes, 2012) and demonstrate positive work-related attitudes and behaviours towards the organization.

The second, more critical perspective of HPWP is built around claims that the beneficial effects of HPWP may be offset by increases in work intensification and corresponding reductions in employee attitudes and well-being (Ramsay et al. 2000; Godard, 2001; Macky and Boxall, 2008; White et al., 2003; Harley et al., 2007; Gould-Williams, 2004). This critical perspective is informed largely by arguments derived from the 'labour process theory' model (Ramsay et al. 2000; White et al. 2003). According to the 'labour process theory' model, HRM practices may accrue far-reaching benefits for the organization and its employees; albeit, these gains may be outweighed by associated increases in work demands and pressure, all of which may lead to poor employee attitudes and well-being (Ramsay et al. 2000; Green and McIntosh, 2001; Sparham and Sung, 2007). Where HRM policies are introduced simply to maximize labour input with little or no regard for employee well-being, there is increased likelihood for employee exploitation and the transfer of higher work demands to employees. This in turn may lead to increased intensification of work and consequently, deterioration in employee attitudes towards the organization. In this light, work intensification may serve as an intermediary variable explaining the possible links between HPWP and poor employee attitudes and well-being.

For the most part, research on the critical perspective of HPWP has been fairly inconclusive. Whereas Ramsay et al. (2000) found little statistical support for the linkages between HPWP and work intensification, Kroon, Van de Voorde and Van Veldhoven (2009) in their multilevel study found strong relationships between HPWP and high levels of work intensification. As far as inquiry into employee-level impacts of HPWP is concerned, more research is therefore needed to enhance understanding of the various mechanisms through

which the work effort expended by employees may either translate into desirable outcomes, or otherwise, lead to detrimental consequences through work intensification.

1.2.3 Sector-specific implications of HPWP

Does economic sector matter within the context of HPWP? There are essentially two contrasting perspectives on this. Some researchers have argued that the impact of innovative HRM practices as described in the context of a particular business sector may not generalize across organizational settings due to differences in organizational approaches to HRM (Ordiz and Fernández, 2005; Nutt, 2005; Voss et al., 2005; Harley et al., 2007; Patterson, Warr and West, 2004; Baarspul and Wilderom, 2011). As an illustration, the HRM strategies adopted in private sector organizations may vary considerably from those adopted in public sector organizations. This is because private sector organizations function primarily to accrue profits for shareholders and corporate stakeholders, whereas public sector organizations are usually non-profit oriented and function to provide basic government services to the public (Brown, 2004; Nutt, 2005; Baarspul and Wilderom, 2011). Other scholars, however, believe that innovative workplace practices might produce generalizable effects across organizational settings if a set of ‘best’ practices (or HPWP) is implemented (Pfeffer, 1994; Delery and Doty, 1996; Hughes, 2002; Martin-Alcazar, Romero-Fernandez and Sanchez-Gardey, 2005; Vanhala and Stavrou, 2013). This assumption forms the main theory underlying the ‘universalist’ approach to HRM. According to this approach, greater use of commitment-based HRM practices may produce far-reaching organizational benefits for all organizations, irrespective of their size, industry and corporate strategy. That means the question of whether HPWP produce generalizable outcomes across organizational settings is contingent upon adopting a set of ‘best’ HRM practices.

Some studies have incorporated sector-specific characteristics in theorizing the impacts of HPWP (see Arthur, 1994; MacDuffie, 1995; Appelbaum et al., 2000; Ordiz and

Fernández, 2005; Voss et al., 2005; Combs et al., 2006). Arthur (1994), for example, highlighted the importance of HPWP in the manufacturing sector by investigating the effects of two combinations of HRM practices on productivity and staff turnover rates in U.S. steel minimills. Also, Ordiz and Fernández (2005) in their study of Spanish firms found evidence that the performance benefits associated with innovative HRM practices were considerably higher for service sector organizations compared to manufacturing firms. The commonality between these two studies and many other studies (such as Arthur, 1992; MacDuffie, 1995; Ichniowski et al, 1997; Appelbaum et al., 2000; Yoon, 2001; Patterson et al., 2004; Combs et al., 2006; Schulte et al., 2006; Newman et al., 2011) is the focus on service sector organizations (particularly banking and retail organizations) and manufacturing companies, both of which are essentially within the private sector domain. Little attention has been given to understanding the implications of HPWP in public sector organizations. To complement existing research therefore, this thesis will examine the employee-level impacts of HPWP in the British National Health Service (NHS), a public health sector organisation. This will highlight the sector-specific implications of adopting innovative HRM practices and extend understanding of the extent to which HPWP outcomes as described in private sector organizations may generalize across public healthcare settings.

1.3 PURPOSE OF THESIS

The foregoing discussion has illustrated key areas lacking in HPWP research. Firstly, few studies have simultaneously examined whether the integrationist perspective of HPWP has stronger explanatory power on outcomes over the isolationist perspective of HPWP (Combs et al., 2006). Although two studies, Ichniowski, et al. (1997) and Guerrero and Barraud-Didier (2004), have examined this hypothesis using a single analytical procedure, these studies have focused on organizational-level outcomes rather than employee-level outcomes. As such, there is insufficient knowledge as to whether the integrationist

perspective of HPWP has stronger explanatory power on employee attitudes and well-being over the isolationist perspective of HPWP. This thesis contributes to the literature by investigating simultaneously the integrated and independent effects of HPWP, with emphasis on employee-level outcomes rather than organizational-level outcomes. This would shed light on two main research questions: 1) Do employees in workplaces adopting an extensive range of HPWP (i.e., workplaces adopting the integrationist approach to HRM) report better work-related attitudes and well-being compared to employees in workplaces that focus on the isolated effects of one or two innovative HRM practices? 2) Do the unique independent properties of individual HRM practices account for variance in employee attitudes and well-being across a broad spectrum of approaches to HRM?

A further gap in the HPWP literature lies around the presumed benefits of implementing high-quality management practices. Since the advent of HPWP in the 1990s, HRM studies have adopted a rather narrow view of organizational performance by focusing primarily on organizational-level outcomes, leading to an insufficient understanding of employee-level outcomes of HPWP (Gould-Williams, 2004; Takeuchi et al., 2009). Whilst there is ample evidence on the effects of HPWP on organizational-level outcomes, such as reduced staff turnover rates (Arthur, 1994; Guthrie, 2001), profitability (Huselid, 1995) and productivity (MacDuffie, 1995; Askenazy, 2001), research on employee-level impacts of HPWP have only recently started gaining adequate empirical attention (see Macky and Boxall, 2007; Kalmi and Kauhanen, 2008; Takeuchi et al., 2009; Atkinson and Hall, 2011; Wood and De Menezes, 2011; Cañibano, 2011; Wood et al., 2012). Two competing views have emerged in terms of employee-level outcomes of HPWP. The first, mainstream perspective, assumes that HPWP may impact positively on employees through improved job satisfaction, better remuneration and increased sense of empowerment at work. By contrast, the second, more critical perspective argues that the employee-level benefits of HPWP may

be offset by increases in work demands and pressure. Specifically, work intensification may serve as a mediator variable explaining the intermediary processes between HPWP and poor employee attitudes and well-being. To enhance understanding of these two debates, this thesis contributes to existing knowledge by testing whether HPWP (in terms of their independent and integrated properties) produce beneficial effects on employee attitudes and well-being or whether the effects of HPWP on employee attitudes and well-being are transmitted through increases in work intensification.

The third and final contribution of this thesis is to examine the sector-specific implications of HPWP. As illustrated earlier, there seems to be two contrasting perspectives in terms of the generalizability of HPWP outcomes across organizational settings. On the one hand, researchers have argued that the impacts of innovative HRM practices may not generalize across economic settings due to differences in organizational objectives and approaches to HRM. However, drawing on the ‘universalist’ principle of HRM, other scholars believe that innovative HRM practices may produce generalizable effects across organizational settings if a set of ‘best’ practices are implemented. Most studies addressing sector-specific characteristics of HPWP have focused on manufacturing sector organizations. Little attention has been vested in understanding the implications of HPWP in public healthcare sector organizations. In order to complement existing research and extend our understanding of sector-specific implications of HPWP, this thesis aims to investigate the independent and integrated effects of HPWP on employee-level outcomes using data from the British NHS.

1.4 RESEARCH AIMS OF THESIS

Having identified plausible gaps in the HPWP literature, the research aim of this thesis is two-fold:

- 1) The primary, more general aim of this thesis is to investigate the independent and integrated effects of HPWP on employee attitudes and well-being, and simultaneously examine the mediating role of work intensification in these relationships. This will shed light on two HPWP debates, ‘the integrationist and isolationist perspectives of HPWP’ and ‘the mutual gains versus the critical perspectives of HPWP’.
- 2) The secondary, more specific aim of this thesis is to examine whether there are sector-specific implications of HPWP using data from a nationally representative sample of British establishments and data from the British NHS. Precisely, this thesis aims to investigate whether the independent and integrated effects of HPWP on employee attitudes and well-being hold in private and public organizations, and examine the mediating role of work intensification in these relationships.

1.5 CHAPTER SUMMARY

This chapter has introduced the main theoretical concepts of this thesis. Four perspectives on employee-level impacts of HPWP, representing two key debates of the HPWP literature, have been presented. The first debate, ‘the integrationist and isolationist perspectives of HPWP’, looks at two approaches to operationalizing HPWP. Whereas the integrationist perspective emphasizes the mutually supportive properties of HPWP, the isolationist perspective is concerned with understanding the unique independent properties of individual HRM practices. The second debate, ‘the mutual gains versus the critical perspectives of HPWP’, relates to employee-level impacts of HPWP. Whereas the mutual gains perspective focuses on desirable employee attitudes and well-being as a means to

achieving organizational performance, the critical perspective of HPWP assumes that the beneficial effects of HPWP may be offset by increases in work intensification and corresponding reductions in employee attitudes and well-being. Another issue raised in this chapter is the question of whether the economic sector to which an organisation belongs may influence HPWP outcomes. In other words, are there sector-specific differences with regards to employee-level outcomes of HPWP?

Based on these theoretical underpinnings, three main gaps were identified in the HPWP literature. The first gap relates to the paucity of simultaneous comparison of the independent and integrated effects of HPWP. Indeed, few studies have investigated whether the integrationist perspective of HPWP has greater explanatory power on outcomes over the isolationist perspective of HPWP using a single analytical procedure. The second gap relates to the relatively smaller amount of research vested in understanding employee-level outcomes of HPWP, as opposed to the vast number of studies on organizational-level implications of HPWP. Although HRM scholars are gradually recognizing the importance of employee-level outcomes in HPWP research, the jury is still out on the subject. On the one hand, HPWP are thought to promote organizational effectiveness through their positive impacts on employee attitudes and well-being. However, critics argue that the beneficial effects of HPWP may be offset by increases in work intensification and corresponding reductions in employee attitudes and well-being. That is to say, work intensification may explain the intermediary processes between HPWP and poor employee attitudes and well-being. The third gap identified in this chapter relates to our insufficient understanding of sector-specific implications of adopting HPWP. Researchers have not paid much attention to the cross-sectoral implications of HPWP, and this has led to an undue generalization of HPWP outcomes across economic settings. This thesis aims to fill these three research gaps and offer a broader picture of employee-level implications of HPWP.

The remainder of this thesis is organized in seven distinct chapters. The next two chapters (Chapter 2 and Chapter 3) describe the theoretical background of the thesis based on a thorough review of relevant HPWP studies. Chapter 2 describes the concept of HPWP, the historical development of HPWP, the integrationist and isolationist perspectives of HPWP, and highlights the various components of an effective HPWP framework. Chapter 3 discusses the employee-level impacts of HPWP, focusing on ‘the mutual gains versus the critical perspectives’ debate of the HPWP literature.

Chapter 4 presents an overview of the analytical design for this thesis. This chapter begins with a summary of the theoretical rationale for the thesis, describes the specific aims of the thesis and introduces the two datasets used for testing hypothesized assumptions in the two empirical studies of this thesis (i.e., Study 1 and Study 2, respectively). Thereafter an overall description of the research methodology adopted in this thesis is provided.

Chapter 5 is dedicated to Study 1, the first empirical study of this thesis. Using data from the 2004 Workplace Employment Relations Survey (WERS 2004), Study 1 evaluates the independent and integrated effects of HPWP on employee outcomes, and simultaneously examines the mediating role of work intensification in these relationships. This chapter begins by outlining the theoretical assumptions underlying employee-level implications of HPWP and illustrates how these assumptions relate to the primary aim of this thesis. Thereafter, specific details of the methodology adopted are presented, and key research findings are discussed.

Chapter 6 serves as a conceptual introduction to the secondary aim of this thesis. This chapter outlines the importance of investigating sector-specific characteristics in HPWP research and highlights the implications of HPWP within the context of a public healthcare sector organization, the British NHS.

Chapter 7 is dedicated to Study 2, the second empirical study of this thesis. Study 2 is undertaken using data from the 2010 NHS Staff Survey. The aim of this study is to evaluate the independent and integrated effects of HPWP on employee outcomes in the NHS, and simultaneously examine the mediating role of work intensification in these relationships. The chapter also provides details of the methodology adopted in the study and discusses the key research findings of the study.

Chapter 8, the final chapter of this thesis, provides details of the theoretical contributions and practical implications of this thesis. The chapter begins with a short review of the theoretical rationale and research aims of this thesis, and reiterates some of the key findings of Study 1 and Study 2. These key findings are then discussed comparatively to elicit valuable implications for theory and for practice. The main limitations of this thesis are also presented in this chapter, and some recommendations for future research are provided.

CHAPTER 2 – THE CONCEPT OF HPWP

2.1 INTRODUCTION

In recent years, research in Human Resource Management (HRM) has witnessed progressive shift from traditional forms of work organization (characterized by hierarchical managerial structures, task specialization and stiff supervisory control over employees) to more flexible, participative organizational processes, encompassing various employee skills development and managerial support mechanisms (Pfeffer, 1994; Edwards and Wright, 2001; Bauer, 2004; Dell’Aringa, Ghinetti and Lucifora, 2003). This shift has followed the growing acceptance of the HRM domain as a primary source of competitive advantage for an organization, based on the resource-based view (RBV) of an organization. According to the RBV of an organization, the HRM domain by itself is not the basis for sustainable competitive advantage; rather it is the valuable and inimitable characteristics of the workforce that makes the difference (Pfeffer, 1994; Becker and Gerhart, 1996; Delery, 1998; Wood, 1999; Dunford, Snell and Wright, 2001). This principle has consequently inspired research into innovative work practices, otherwise known as High Performance Work Practices (HPWP), as a way to utilize the potentials embedded in the human capital pool of an organization.

Whereas there is inconsistency regarding the definition of HPWP, the dominant view among scholars is that HPWP represent a set of innovative HRM practices that place emphasis on developing committed employees who can be trusted to use their discretion in conducting their job roles in ways that are consistent with organizational goals (Arthur, 1994; Ichniowski, et al., 1997; Dell’Aringa et al., 2003; Gould-Williams and Davies, 2005). Through the implementation of HPWP, employers are able to cede a degree of operational

control to their employees, and achieve cost competitiveness, higher flexibility, higher product quality, and overall organizational effectiveness as a result (Bauer, 2004).

The aim of this chapter is to describe the HPWP framework drawing on relevant HPWP studies. The chapter begins with a brief historical overview of the HPWP framework, highlighting the early development of HPWP and the current state of knowledge on innovative HRM practices. Subsequently, details of ‘the integrationist and isolationist perspectives of HPWP’ debate are presented. As stated in Chapter 1, this debate is among two HPWP debates that form the theoretical basis for this thesis. Details of the second debate, ‘the mutual gains versus the critical perspectives of HPWP’, are presented in the next chapter. Subsequent to describing ‘the integrationist and isolationist perspectives of HPWP’ debate of HPWP, this chapter considers some of the main constituents of the HPWP framework. Thereafter, a brief summary of the important points raised in this chapter is provided.

2.2 HISTORICAL DEVELOPMENT OF HPWP

HPWP research is thought to have gained mainstream prominence around the mid-1990s, with publications such as Arthur (1994), Pfeffer (1994), Huselid (1995), MacDuffie (1995), Delery and Doty (1996), Becker and Gerhart (1996) and Youndt et al. (1996). These studies are generally considered as pioneering studies of the HPWP framework. According to these studies, the HPWP framework is designed primarily to promote organizational growth and effectiveness through employee skills development and active involvement in workplace activities (Pfeffer, 1994; Youndt et al., 1996; Wood, 1999). This assumption is formed by two fundamental management principles, high-commitment management (Walton, 1985) and high-involvement management (Lawler, 1986), both of which are contrasted with traditional, Taylorist forms of work organization (Wood, 1999; Wood and De Menezes, 2008). Taylorist forms of work are control-based work systems characterized by hierarchical organizational structures, lack of employee decision-making latitude and task specialization (Edwards and

Wright, 2001; Boselie, Paauwe and Richardson, 2003; Bauer, 2004). The Taylorist style of management focuses on economic efficiency through maximization of labour input.

High-commitment management fosters useful psychological links between management and employees through employee empowerment, discretionary job design and the enhancement of employees' level of motivation at work (Walton, 1985; Arthur 1994; Wood, 1999; Boselie et al., 2003; Gould-Williams, 2004). According to Walton (1985), high-commitment management is characterized by relatively flat hierarchical managerial structures, reduced power distance between management and employees, as well as increased opportunities for employees to develop valuable work-related skills. Employees are given greater scope to influence the nature of their jobs and are encouraged to utilize their creative abilities at work, leading to increased feelings of trust and commitment among employees (Arthur 1994; Wood, 1999; Gould-Williams, 2004). Similarly, high-involvement management is concerned with active employee involvement in workplace activities (Lawler, 1986). This management system involves such practices as discretionary work, team-based work arrangements, participative decision-making activities, all of which are contrasted with control-based forms of work (Whitener, 2001; Guerrero and Barraud-Didier, 2004; Boxall and Macky, 2009). According to Lawler (1986), high-involvement management entails four main components: power (P), information (I), rewards (R) and knowledge (K); otherwise known as the 'PIRK' model. Based on the PIRK model, employers are more likely to achieve organizational performance if their employees are empowered to make useful contributions to organizational processes, kept abreast with useful information regarding their jobs, and rewarded commensurately for their positive contributions towards achieving organizational goals.

By enhancing our understanding of employees' role in driving organizational growth and effectiveness, the high-commitment and high-involvement management models have

contributed immensely towards the development of the HPWP framework (Pfeffer, 1994; Youndt et al., 1996; Guest et al., 2004; Wood and De Menezes, 2008). These two models have also informed the mainstream conceptualization of employees as vital resources for attaining competitive advantage. Where employers recognize the significant role of their HRM domain in achieving organizational success, they make substantial investments in developing a rare and inimitable human capital pool (Pfeffer, 1994). These investments may be channelled towards implementing systems of mutually supportive HRM practices, which allow employees to exercise greater operational influence over their jobs.

Much of the empirical evidence on HPWP stems from studies conducted within Anglo-Saxon countries such as the UK, USA, Australia and Canada (Guerrero and Barraud-Didier, 2004). Although empirical studies on HPWP have been undertaken in the context of other countries such as Japan (Takeuchi et al., 2009), Saudi Arabia (Bhuiyan, Al-Shammari and Jefri, 1996) and Spain (Ordiz and Fernández, 2005; Cristini and Pozzoli, 2010), more studies may be required to ascertain whether the diffusion of HPWP is largely similar or dissimilar across different institutional environments (Green and Tsitsianis, 2005; Newman et al., 2011; Lawler et al., 2011). Moreover, there have been calls in recent times for more research on the sector-specific implications of adopting HPWP (Combs et al., 2006; Harley et al., 2007; Baarspul and Wilderom, 2011). Scholars have suggested that the economic sector to which a firm belongs may influence the outcomes of implementing innovative HRM practices; hence, it should not be assumed (without strong empirical evidence) that the impacts of HPWP may apply uniformly across organizational settings. More details of this idea are discussed in Chapter 6.

2.3 THE INTEGRATIONIST PERSPECTIVE OF HPWP

Pertinent to the concept of HPWP is the idea that individual HRM practices should be analysed in coherent combinations to capture their synergistic properties and accrue larger organizational gains (Youndt et al., 1996; Guest et al., 2004; Schulte et al., 2006; Macky and Boxall, 2007; Beltrán-Martín et al., 2008; Cristini and Pozzoli, 2010). This argument forms the main principle underlying the integrationist perspective of HPWP. Given prominence in the literature by authors such as MacDuffie (1995), Huselid (1995), Arthur (1994) and Delery (1998), the integrationist perspective of HPWP assumes that innovative HRM practices are mutually supportive of one another, and should therefore be used in combination, rather than in isolation, to capture their underlying complementarities. When individual HRM practices are used together in a coherent manner, they produce useful integrated effects that may surpass their respective independent effects on outcomes. The integrationist perspective of HPWP is often explained by the principle of ‘internal fit’ (Youndt et al., 1996; Wood, 1999; Macky and Boxall, 2007), also known as ‘horizontal fit’ (Derely and Doty, 1996; Delery, 1998). The concept of ‘internal fit’ suggests that once the outward-looking, corporate objectives are set for the HRM domain of a firm (i.e. external fit), HRM practices should be integrated into a consistent, mutually reinforcing system of practices; such that the internal coherence of the HRM domain is maximized, with corresponding reduction in costly duplications (Delery, 1998; Macky and Boxall, 2007). As an illustration, Delery (1998) likened this principle to the use of a ‘work sample test’ alongside ‘a cognitive ability test’ in a psychological assessment. Given that these two techniques measure different dimensions of individuals’ knowledge and abilities, their combined effect would exceed their respective independent effects on intended outcomes.

Several methods have been suggested for combining individual HRM practices into coherent systems of HPWP, and details are provided in Chapter 4 of this thesis. In the current

chapter, however, emphasis is placed on explaining the underlying principle of ‘internal coherence’ among individual HRM practices. To date, there seems to be no consensus among authors in terms of a unifying framework for describing ‘internal coherence’ among individual HRM practices (Delery, 1998; Wood and De Menezes, 2008). This lack of agreement has prompted the interchangeable use of terms such as ‘complementarities’, ‘synergy’ and ‘bundles’ when describing coherent combinations of HPWP (see Huselid, 1995; Ichniowski et al., 1997; Youndt et al., 1996; Boxall and Macky, 2009). Nevertheless, three underlying principles of ‘internal coherence’ have been distinguished in the HPWP literature. These three principles are presented briefly as follows.

The first, a ‘complementary’ system of HPWP comprises individual HRM practices that possess unique independent properties, but produce an overall additive effect on outcomes when used together in combination (Delery, 1998; Combs et al., 2006; Wood and De Menezes, 2008; Jiang, Lepak and Baer, 2012). Each HRM practice within a complementary system offers a unique contribution to the overall effects produced by the system. Thus, the independent effect of one HRM practice in relation to the overall combined effects of the complementary system may be greater or less than the independent effects of another HRM practice within the system (MacDuffie, 1995; Becker and Gerhart, 1996). As an illustration, two distinct selection tools may be effective in identifying two different job skills when used separately in a selective hiring procedure. However, if these two selection tools are used together in a complementary manner, they produce stronger additive effects on the desired outcomes, even though the level of contribution of one selection tool may be less proportionate to the contribution of the other selection tool.

The second underlying principle of ‘internal coherence’ among HRM practices is defined in terms of a ‘synergistic’ system of HPWP (Wood and De Menezes, 2008). Whereas a ‘complementary’ system of HPWP illustrates the overall additive effect of HRM practices

on outcomes, a 'synergistic' system of HPWP illustrates the overall multiplicative effects of HRM practices on outcomes (Guerrero and Barraud-Didier, 2004; Wood and De Menezes, 2008). In other words, synergistic HRM practices may have little or no beneficial effects on outcomes when used independently, but produce mutually reinforcing effects on outcomes when used together in combination (Guerrero and Barraud-Didier, 2004; De Menezes and Wood, 2006). Indeed, the emphasis here is on the manner in which individual HRM practices interact with each other to produce combined effects that are significantly greater than the sum of their respective influences (Huselid, 1995; Delery, 1998; Appelbaum et al. 2000). For example, the value of staff training on employees' level of performance at work could be strengthened if such training is offered alongside opportunities for active employee participation in workplace activities. If, on the contrary, staff training is offered without opportunities for active employee participation in workplace activities, then employees may be unable to demonstrate the skills acquired, and consequently, the value of training offered will have little or no beneficial effects on employees' level of performance at work (Combs et al., 2006).

The third principle of 'internal coherence' is expressed in terms of an 'integrated' system of HPWP. Here, consistency among individual HRM practices is described as the organization's distinctive orientation towards HRM, where 'orientation towards HRM' refers to the nature of HRM practices that make up the organization's HRM profile (Arthur, 1994; Wood and De Menezes, 2008). Organizations whose HRM profiles manifest an extensive range of innovative HRM practices are thought to have greater potential for achieving organizational success compared to those utilizing a narrower range of innovative HRM practices. Some researchers have assessed integrated systems of HPWP using cluster analysis, a statistical technique used in grouping firms into clusters according to their relative use of a set of innovative HRM practices (Arthur 1994; Ichniowski et al., 1997; MacDuffie, 1995;

Guest et al., 2004). In cluster analysis, the set of innovative HRM practices serve as the criteria for ascertaining each cluster's underlying philosophy or orientation towards innovative HRM.

Following precedents in the literature (see Arthur, 1992; Arthur, 1994; Huselid and Becker; 1997; Ichniowski et al., 1997; Becker and Huselid, 1998) the integrationist perspective of HPWP is operationalized throughout this thesis in terms of an integrated system of HPWP. This is because an integrated system of HPWP serves as an overarching framework, encompassing both the 'complementary' and 'synergistic' properties of HRM practices (MacDuffie, 1995; Delery, 1998), and depicting the coexistence of practices that manifest an underlying philosophy or orientation towards HRM (Guerrero and Barraud-Didier, 2004; De Menezes and Wood, 2006; Wood and De Menezes, 2008). Cluster analysis (discussed more extensively in Chapter 4) is used in this thesis to examine an integrated system of HPWP. The cluster whose members reflect an extensive range of innovative HRM practices is considered as having an innovative orientation towards HRM, and this cluster will serve as the reference cluster for examining the integrationist perspective of HPWP.

2.4 THE ISOLATIONIST PERSPECTIVE OF HPWP

The isolationist perspective of HPWP is the more traditional approach to operationalizing innovative HRM practices. Unlike the integrationist perspective of HPWP, the isolationist perspective underscores the need for investigation into the unique independent effects of individual HRM practices on outcomes (Kalmi and Kauhanen, 2008; Bryson and White, 2008; Jiang et al., 2012). When individual HRM practices are used together in combination under the integrationist perspective, their unique independent characteristics may be underplayed, leading to only a partial estimation of their true independent effects on outcomes (Kalmi and Kauhanen, 2008; Boxall et al., 2011). For example, the combined effect of team-based working alongside other innovative HRM practices have been shown to have

beneficial effects on job satisfaction (Bauer, 2004; Macky and Boxall, 2007; Takeuchi et al., 2009), organizational commitment (Macky and Boxall, 2007; Takeuchi et al., 2009) and employees' trust (Gould-Williams, 2003; Macky and Boxall, 2007). However, in other studies investigating the effects of team-based working in isolation, such practices have been associated with undesirable employee outcomes such as feelings of work pressure and intensification (White et al., 2003; Barker 1993), as well as peer monitoring and interpersonal conflict (Bauer, 2004; Macky and Boxall, 2008). This implies that any undesirable outcomes of team-based work practices on employees may go unnoticed when such practices are used in combination with other innovative HRM practices.

Some authors have criticized the isolationist perspective of HPWP drawing on claims that such isolated systems present both theoretical and methodological dilemmas (Huselid, 1995; Ichniowski, et al., 1997; Schulte et al., 2006; Beltrán-Martín et al., 2008). Accordingly, HRM practices are driven from a common philosophy and set of studies which fail to address the various ways in which HRM practices interact and mutually reinforce one another may result in misleading inferences (MacDuffie, 1995; Beltrán-Martín et al., 2008). Moreover, by isolating the effects of individual HRM practices, the intricate nature of organizational processes is overly simplified and existing interdependences between HRM practices are overlooked (MacDuffie, 1995; Becker and Huselid, 1998).

Despite these criticisms however, there are certain reasons why the isolationist perspective of HPWP remains relevant in recent HPWP research. Firstly, the literature is generally lacking in terms of empirical studies testing simultaneously whether the integrationist perspective of HPWP has stronger explanatory power on outcomes over the isolationist perspective of HPWP. In fact, in the meta-analytic study by Combs et al. (2006), it was revealed that only two studies (i.e., Guerrero and Barraud-Didier, 2004 and Ichniowski, et al., 1997) out of a total of 92 studies had examined this hypothesis in a single analytical

procedure. This implies that the criticism of the isolationist perspective in favour of the integrationist perspective of HPWP has been based largely on theoretical assumptions with little support from empirical evidence. Moreover, considering that Guerrero and Barraud-Didier (2004) and Ichniowski, et al. (1997) had focused on organizational-level outcomes, it is likely that no study so far has simultaneously compared the integrationist and isolationist perspectives of HPWP using employee-level outcomes.

Secondly, further understanding of the unique independent properties of individual HRM practices is essential for ascertaining whether specific combinations of HRM practices have clear beneficial implications for an organization. Without sound knowledge of the unique independent effects of innovative HRM practices, researchers may find it challenging to identify combinations of such practices that may produce beneficial outcomes for an organization. Researchers have identified two types of combinations that may yield detrimental effects for an organization (Becker et al., 1997; Delery, 1998; Gould-Williams, 2004; Combs et al., 2006; Bryson and White, 2008; Boxall et al., 2011). The first, described as ‘substitution effect’, is a type of combination in which the impact of one HRM practice is suppressed due to the presence of another practice in the system (Delery, 1998; Combs et al., 2006). Where two substitutable HRM practices are used together in combination, their overall effect on the desired outcome is equal to the effect of using only one of such practices. For example, if a group of employees, who were selectively hired based on their high interpersonal skills are offered training on issues such as effective communication and negotiation techniques, then the training offered will probably amount to no further development of their interpersonal skills (Combs et al., 2006). Therefore, the expected benefits that would have accrued from organizational investments in two different HRM practices (i.e., selective hiring and staff training) would in effect amount to the benefit associated with implementing only one of such practices.

The second type of combination that may not yield beneficial effects for an organization has been described as a ‘deadly combination’ (Becker et al., 1997; Delery, 1998; Combs et al., 2006). Here, HRM practices which have beneficial independent impacts on outcomes end up having detrimental effects when used together in combination (Becker et al., 1997). For example, if team-based working is implemented alongside incentive payments that are based on assessment of individual performance, such a combination might constitute a ‘deadly combination’. In such circumstances, team members may resort to competing amongst each other for higher levels of pay, thereby creating an atmosphere of distrust, interpersonal conflict and poor cooperation in the workplace. Unless further understanding of the unique independent properties of individual HRM practices is gained through the isolationist perspective of HPWP, researchers might find it challenging to identify valuable combinations of HPWP.

It should not be assumed based on the foregoing discussion that this thesis aims to challenge the far-reaching benefits associated with the integrationist perspective of HPWP. Instead, the thesis aims to contrast the benefits associated with the integrationist perspective of HPWP with the need to enhance understanding of the unique independent properties of HPWP. Whereas it has been argued that firms can achieve sustainable competitive advantage by having a high-performing core workforce, it is also vital to identify the precise HRM practices that actually contribute to this relationship (Delery, 1998; Guest et al., 2004; Boxall et al., 2011). With the view to determining the active ingredients in the conceptualization of HPWP, this thesis will evaluate the independent (i.e., isolationist perspective of HPWP) and integrated (i.e., integrationist perspective of HPWP) effects of HPWP on employee-level outcomes. Thereafter, a series of statistical models will be used to examine simultaneously whether the integrationist perspective of HPWP has greater explanatory power on employee-level outcomes over the isolationist perspective of HPWP.

2.5 THE MAIN CONSTITUENTS OF HPWP

Although there is no consensus among researchers in terms of a unanimous set of HRM practices constituting an effective HPWP framework, the general assumption is that HRM systems may promote organizational performance if employees are allowed to utilize their work-related expertise in making useful contributions to organizational processes (Huselid, 1995; Youndt et al., 1996; Becker and Huselid, 1998; Ichniowski, et al., 1997; Dell'Aringa et al., 2003). To this effect, researchers have associated effective HPWP with workplace practices that enhance employees' knowledge, skills, and abilities (KSAs) through active involvement in workplace activities and through the provision of incentives for promoting employees' level of motivation at work (Combs et al., 2006; Lawler et al., 2011; Wood and De Menezes, 2011).

These assumptions are consistent with the ability-motivation-opportunity (AMO) model of HRM, upon which many researchers have derived measures of innovative HRM practices (see Appelbaum et al., 2000; Boxall and Macky, 2009; Boselie, 2010; Van De Voorde et al., 2012; Jiang et al., 2012). The AMO model of HRM assumes that an effective HPWP framework entails three main types of practices, ability-oriented HRM practices, motivation-enhancing HRM practices and opportunity-enhancing HRM practices. A key feature is that all these elements must be present, no matter the proportion, to warrant the full benefits of HPWP. Where employers consider their workforce as a valuable source of sustainable competitive advantage, they make sufficient investments in building a valuable and unique human capital pool (Guthrie, 2001; Barling et al., 2003). These investments may be directed, for example, towards establishing employee skills development programs, implementation of discretionary work designs and the provision of incentive payments to enhance employees' level of motivation at work.

Based on a review of 92 relevant studies, Combs et al. (2006: p. 509) identified 13 HRM practices for which some consensus has emerged regarding the main components of an effective HPWP system - incentive compensation (31 effects), training (29), compensation level (18), participation (18), selectivity (15), internal promotion (12), HR planning (10), flexible work (8), performance appraisal (8), grievance systems (8), teams (8), information sharing (7), and employment security (6). Table 1 illustrates the HRM practices featured in HPWP studies since the year 2000. Emphasis is placed on HPWP studies that were not included in Combs et al.'s (2006) study. The criteria for inclusion of HRM practices is that such practices should have featured in at least five HPWP studies, irrespective of whether such practices were analyzed in isolation or in combination with other practices. Although the list is by no means exhaustive, it illustrates the set of HRM practices that find useful application in this thesis. On the whole, twelve HRM practices are featured.

A key component of the HPWP framework is the selective hiring of qualified job candidates (Lawler et al., 2011). This preliminary step in the HPWP process is useful for ensuring a large pool of highly skilled individuals who can be trusted to utilize their work-related knowledge, skills, and abilities in ways that are beneficial to the organization (Huselid, 1995; Youndt et al., 1996; Whitener, 2001; Beltrán-Martín et al., 2008; Batt, Nohara and Kwon, 2010). Selective hiring procedures allow organizations to achieve adequate person-job fit, a situation where the work-related expertise of an individual is adequately matched with the specific requirements of the job (Sekiguchi, 2004; Green and Tsitsianis, 2005; Carless, 2005). Achieving adequate person-job fit through selective hiring is essential for high-performance organizations because it reduces the likelihood for role ambiguity and enhances employees' propensity to participate efficiently in workplace activities (Whitener, 2001; Green and Tsitsianis, 2005).

Table 1 – Constituents of HPWP (from studies published since 2000 to date)

HRM PRACTICES	DESCRIPTION	KEY REFERENCES
Selective hiring	The extensiveness of procedures used in recruiting new employees	Gould-Williams, 2003; Guest and Conway, 2007; Harley et al., 2007; Bryson and White, 2008; Beltrán-Martín et al., 2008; Gong et al., 2009; Takeuchi et al., 2009; Wood and De Menezes, 2011; Wood et al., 2012
Staff training	The availability and perceived value of skills enhancement programs offered to employees	Gould-Williams, 2003; Barling et al., 2003; Bauer, 2004; Haile, 2007; Macky and Boxall, 2007; Guest and Conway, 2007; Macky and Boxall, 2008; Gong et al., 2009; Takeuchi et al., 2009; Wood and De Menezes, 2011
Performance appraisal	Assessment of employees' job performance based on a set of organizational objectives and criteria	West, Guthrie, Dawson, Borrill and Carter, 2006; Guest and Conway, 2007; Macky and Boxall, 2007; Bryson and White, 2008; Beltrán-Martín et al., 2008; Gong et al., 2009; Wood and De Menezes, 2011; Wood et al., 2012
Job discretion	The level of influence given to employees over how to carry out their job tasks and responsibilities	Barling et al., 2003; Bauer, 2004; Harley et al., 2007; Guest and Conway, 2007; Bryson and White, 2008; Wood and De Menezes, 2011; Wood et al., 2012
Flexible working	The degree of freedom exercised by employees in terms of where and when to conduct their job tasks	Ramsay et al., 2000; Haile, 2007; Guest and Conway, 2007; Bryson and White, 2008; Mohr and Zoghi, 2008; Atkinson and Hall, 2011
Team working	The level of employee participation in group-based work activities	Ramsay et al., 2000; Godard, 2001; Gould-Williams, 2003; Bauer, 2004; West et al., 2006; Harley et al., 2007; Macky and Boxall, 2007; Mohr and Zoghi, 2008; Takeuchi et al., 2009; Wood et al., 2012
Participative decision-making	The extent to which employees are allowed to make contributions towards workplace decisions	Gould-Williams, 2003; Bauer, 2004; Haile, 2007; Harley et al., 2007; Guest and Conway, 2007; Bryson and White, 2008; Takeuchi et al., 2009

Employee representation	The existence of formal structures for protecting and promoting the common interest of employees	Ramsay et al., 2000; Godard, 2001; Edwards and Wright, 2001; Haile, 2007; Bryson and Forth, 2010; Wood and De Menezes, 2011
Grievance systems	The existence of standard procedures for airing and resolving workplace complaints and grievances	Ramsay et al., 2000; Macky and Boxall, 2007; Takeuchi et al., 2009; Kroon et al., 2009; Walker and Hamilton, 2011; Wood and De Menezes, 2011
Supportive management	The level of managerial care and support offered to help employees in conducting their job tasks effectively	Ramsay et al., 2000; Whitener, 2001; Gould-Williams and Davies, 2005; Bryson and White, 2008; Wood and De Menezes, 2011
Information sharing	The extent to which employees are kept updated on vital information regarding various aspects of work	Godard, 2001; Gould-Williams, 2003; Bauer, 2004; Macky and Boxall, 2008; Paré and Tremblay, 2007; Mohr & Zoghi, 2008; Takeuchi et al., 2009; Wood and De Menezes, 2011; Wood et al., 2012
Compensatory reward systems	The provision of workplace incentives to extrinsically motivate employees at work	Whitener, 2001; Gould-Williams, 2003; Bauer, 2004; West et al., 2006; Macky and Boxall, 2007; Paré and Tremblay, 2007; Gong et al., 2009; Takeuchi et al., 2009; Wood et al., 2012

Following an effective recruitment exercise is the need to improve the work-related skills and capabilities of employees through staff development and training programs (Youndt et al., 1996; Combs et al., 2006; Lawler et al., 2011). Staff development and training, as discussed within the context of HPWP, may include both formal and informal skill-enhancement workshops, career development programs, on-the-job coaching and various mentoring activities that improve employees' expertise at work (Huselid, 1995; MacDuffie, 1995). These activities reinforce existing employees' work-related abilities, supplement the lack thereof, and ultimately improve employees' level of contribution to organizational processes. Another important mechanism for enhancing employees' skills within the HPWP

framework is performance appraisal (Huselid, 1995; Brown and Benson, 2005; Macky and Boxall, 2007; Jiang et al., 2012). A performance appraisal system is an organizational method used to assess the job performance of employees based on a number of pre-set organizational objectives and criteria (Brown and Benson, 2005). It is useful for identifying the training needs of employees and serves as a benchmark for rewarding employees (White et al., 2003; West et al., 2006; Brown and Benson, 2005; Jiang et al., 2012). The appraisal system may be implemented alongside regular supervisory feedback to keep employees informed of how well their job performance compares with the pre-set performance objectives. This will ensure that employees do not perceive the appraisal process as a means of managerial control and witch-hunting. In all, considering the significance of the ‘rareness’ element of the HRM domain in achieving sustainable competitive advantage for an organization, the role of staff development programs and performance appraisal systems remain of considerable value to the HPWP framework (Jiang et al., 2012).

The full potential embedded in a highly competent workforce might remain underutilized if workers are not afforded sufficient autonomy in conducting their work responsibilities (Huselid, 1995). This assertion lends to another key aspect of HPWP known as discretionary job design (Beltrán-Martín et al., 2008; Wood and De Menezes, 2011, Appelbaum et al., 2000). Job discretion or autonomy refers to the level of influence or operational control given to employees over how to carry out their job tasks and responsibilities (Cañibano, 2011). It creates opportunities for employees to apply their creative knowledge in addressing work-related issues more efficiently, rather than being narrowly constrained in their jobs (Kalmi and Kauhanen, 2008; Paré et al., 2007; Hunter and Hitt, 2001). Job discretion or autonomy has been extensively studied in the vast HRM literature as one of the core components of the HPWP framework. It distinguishes the HPWP framework from traditional, control-based forms of work (Barling et al., 2003; Combs et al.,

2006; Beltrán-Martín et al., 2008). Another form of discretion within the context of innovative workplace practices is flexible working arrangements, which refers to the degree of freedom exercised by employees in terms of where and when to conduct their job tasks. Flexible work arrangements may include such activities as compressed working weeks, flexi-time schemes, part-time working, career breaks, job sharing and sabbaticals (Atkinson and Hall, 2011; Kelliher and Anderson, 2010). Although these practices were initially excluded from prior theoretical and empirical investigations into HPWP (Huselid, 1995; MacDuffie, 1995), recent studies (Atkinson and Hall, 2011; Kelliher and Anderson, 2010) have shown that they represent the core of HRM practices associated with high-performance.

Research in HPWP has also accentuated the need for active employee involvement in workplace and decision-making activities (Barling et al., 2003; Combs et al., 2006; Huselid, 1995; Hunter and Hitt, 2001; Kalmi and Kauhanen, 2008; Appelbaum et al., 2000). Active employee involvement in workplace activities creates opportunities for employees to contribute meaningfully to organizational processes. Moreover, greater employee involvement in workplace activities allows the organization to maximize the work-related capabilities of individual employees in achieving organizational effectiveness (Appelbaum et al. 2000; MacDuffie 1995; Batt et al., 2010). Two forms of employee involvement are commonly mentioned in the HPWP literature, employee involvement through team working activities and employee involvement through participative decision-making activities (Huselid, 1995; Ichniowski, et al., 1997; Guthrie, 2001; Barling et al., 2003; Boxall and Macky, 2009). Employee involvement in team-based work activities such as problem-solving teams, self-directed teams and quality circles allows employees to demonstrate useful work-related skills, and encourages employees to collaborate and share ideas with each other. The level of collaboration of employees in team working activities may promote realization of improved workplace decisions given the unique characteristics of individual employees, as

well as the notion that ‘two heads are better than one’. Team collaboration may also help in accomplishing organizational tasks much faster, leading to overall efficiency in high-performance work situations. Similarly, HPWP researchers have advocated the need for greater employee participation in workplace decision-making activities as a way to minimize undue conceding of employees’ independent judgements to managerial dictates and commands (Hunter and Hitt, 2001). Several authors have maintained that opportunities for employee participation in substantive decision-making may create a sense of belonging among workers; therefore, such practices should not be excluded from the HPWP framework (Appelbaum et al. 2000; Fox, 1998; Kuye and Sulaimon, 2011).

Researchers have also advocated the need for active employee participation through employee representation structures such as unions, consultative committees and works councils, within the HPWP framework (Wilkinson, 1998; Wood and De Menezes, 2011; Kalmi and Kauhanen, 2008). Often theorized as the concept of ‘voice’, these mechanisms allow employees to express their dissatisfaction or satisfaction with particular organizational processes and initiatives. As such, these mechanisms serve in creating a sense of empowerment among employees, encouraging employees to assume due ownership of their jobs. The concept of employee voice was initially portrayed in a somewhat narrow, non-encompassing manner in many HRM studies. According to Wood and De Menezes (2011: p.1586), “when Freeman and Medoff (1984) first applied Hirschman’s concept of voice to work organizations, they concentrated on trade unions, but other methods exist...” However, in more recent studies (Walker and Hamilton, 2011; Inoue et al., 2010; Arthur 1994; Huselid 1995; Ichniowski et al., 1997; Colvin, 2006), the concept of employee voice have been extended to encompass aspects of organizational justice, particularly as regards to structures for airing grievances. This extension has been spurred on by the need to encourage employees in innovative workplaces to freely express their complaints openly and

independently, rather than being restricted to raising task-related problems only (Wilkinson, 1998). The concept of organizational justice entails three main forms of justice (Cohen-Charash and Spector, 2001; Inoue et al., 2010; Judge and Colquitt, 2004; Walker and Hamilton, 2011). The first, 'distributive justice' pertains to the perceived degree of fairness in relaying the outcome of organizational processes. The second, 'procedural justice' is concerned with the perceived degree of fairness in procedures via which outcomes are determined, whereas the third, 'interactional justice' pertains to the perceived degree of fairness in the manner in which employees are given feedback on outcomes of organizational processes. All three forms of organizational justice are useful in facilitating grievance resolution procedures in an organization.

At the heart of the HPWP concept dwells the need for a climate of support, empathy and cooperation in the workplace. As highlighted in relevant studies, the implementation of HPWP should include mechanisms for enhancing employee motivation through adequate levels of managerial support, and the provision of extrinsic rewards and incentives; all of which constitute the notion of a 'supportive climate' (Takeuchi et al., 2009; Lawler et al., 2011; Hughes, Avey and Norman, 2008). The level of support offered to employees by management is thought to be a vital distinguishing characteristic between commitment-based HPWP and traditional control-based forms of work. Employers could demonstrate their level of supportiveness by helping employees in handling difficult tasks at work (Laschinger, Finegan, Shamian and Wilk, 2001) or through the implementation of family-friendly work practices such as parental-care leave arrangements, counselling and referral services, days of absence and so on (Lobel, 1999; Dex and Smith, 2002; Ngo, Foley and Loi, 2009). Although family-friendly work practices are closely related to flexible work arrangements, and both terms have been used interchangeably in some cases, the two terms do not necessarily mean the same thing (Dex and Smith, 2002). Indeed, both practices demonstrate employers'

understanding of employees having to meet responsibilities outside of work; however, family-friendly work practices differ from flexible working arrangements in that their beneficial effects are geared more towards the individual employee rather than the employer (Dex and Smith, 2002). In the rest of this thesis, HRM practices pertaining to employers' level of supportiveness towards employees (e.g., helping employees with difficult work tasks), as well as family-friendly work practices will be referred simply as 'supportive management', to underline their distinction from flexible work arrangements.

Still in the context of creating an atmosphere of support in the workplace, the HPWP framework entails information sharing activities to keep employees updated on the organization's financial performance, business strategies and organizational changes (Paré and Tremblay, 2007). In recent years, the inclusion of information sharing activities as part of the HPWP framework has ensued from the need to communicate the corporate goals and objectives of the organization to employees. Such information may be communicated by means of consultative meetings, monthly newsletters, message boards, team briefing activities and so on. Information sharing activities foster employee empowerment and help employees to align their work decisions with organizational goals and objectives (Fox, 1998; Wilkinson, 1998; Paré and Tremblay, 2007).

Lastly, HPWP researchers have advocated the need for employers to provide equitable monetary and non-monetary rewards (such as performance-related pay, career-enhancement opportunities, promotion, and profit-sharing schemes) as incentives for enhancing employees' level of motivation at work (Applebaum et al., 2000; Beltrán-Martín et al., 2008; Wood and De Menezes, 2011). These mechanisms are valuable as they increase staff morale, and encourage employees to contribute meaningfully towards organizational effectiveness (Lawler et al., 2011). Moreover, the provision of such incentives may enable an

organization to attract the more qualified, resourceful and knowledgeable job candidates (Beltrán-Martín et al., 2008); thereby strengthening the HRM domain of the organization.

2.6 CHAPTER SUMMARY

In this chapter, a detailed description of the concept of HPWP has been presented. The chapter began with a brief overview of the early development and current state of knowledge on the HPWP framework. HPWP were described as having their roots in the high-commitment and high-involvement management paradigms. These styles of management were shown to be directed at achieving sustainable competitive advantage for the organization through the development of a valuable and unique human capital pool.

The first of the two HPWP debates that form the theoretical basis for this study has been discussed in this chapter. This debate, referred to as ‘the integrationist and isolationist perspectives of HPWP’, is concerned with two approaches to operationalizing HPWP. In the integrationist perspective, organizations are presumed to achieve larger gains by integrating individual HRM practices into coherent, mutually supportive systems. When individual HRM practices are used together in a coherent manner, organizations can exploit their existing complementarities to achieve benefits larger than the sum of the respective impacts of each HRM practice in the system. By contrast, the isolationist perspective emphasizes the unique independent properties of innovative HRM practices. Accordingly, individual HRM practices produce varying and/or opposing levels of independent effects on outcomes, and therefore, their unique independent characteristics should not be ignored in empirical analysis.

This chapter has also described twelve HRM practices where some consensus has emerged regarding the main components of an effective HPWP system. These practices include selective hiring, staff training, performance appraisal, job autonomy, flexible work arrangements, team working, participative decision-making, employee representation,

grievance systems, supportive management, information sharing and compensatory reward systems.

In the next chapter, Chapter 3, a detailed description of ‘the mutual gains versus the critical perspectives of HPWP’ is presented drawing on relevant HPWP studies. As stated in Chapter 1, this debate forms the second theoretical rationale for this thesis. Chapter 3 also highlights the employee-level impacts of HPWP with emphasis on employee attitudes and well-being, and provides evidence on the mutual gains and the critical perspectives of HPWP. For both the mutual gains and critical perspectives of HPWP, research evidence is discussed in terms of the integrationist and isolationist approaches to operationalizing HPWP.

CHAPTER 3 – EMPLOYEE IMPACTS OF HPWP: A REVIEW

3.1 INTRODUCTION

Since the advent of High Performance Work Practices (HPWP) in the mid-1990s, researchers have linked innovative Human Resource Management (HRM) practices to various organizational-level outcomes such as profitability (Huselid, 1995; Wright et al., 2005) and productivity (MacDuffie, 1995; Askenazy, 2001; Ichniowski et al., 1997). This has reaffirmed the status of the HRM domain as a primary source of sustainable competitive advantage for an organization. Moving down from the broader organizational standpoint to the level of the individual employee, however, a different, less succinct picture begins to emerge, raising questions as to whether HPWP are also associated with corresponding increases in employee exploitation (Kroon et al., 2009). This speculation has fuelled recent debates regarding two theoretical perspectives on employee-level impacts of HPWP: the mutual gains and the critical perspectives of HPWP (Ramsay et al., 2000; Sparham and Sung, 2007; Harley et al., 2007).

The aim of this chapter is to describe the mutual gains and the critical perspectives of HPWP, drawing on relevant HPWP studies. As stated in Chapter 1, ‘the mutual gains versus the critical perspectives of HPWP’ debate forms the second theoretical rationale for this thesis. The current chapter begins by describing the tenets of this debate to enhance understanding of employee-level implications of HPWP. Employee-level impacts of HPWP are discussed with reference to employee attitudes such as job satisfaction, organizational commitment and employees’ trust in management, as well as employee well-being (i.e., the overall quality of employees’ mental health and psychological functioning at work). For both the mutual gains and the critical perspectives of HPWP, research evidence is considered in

terms of the integrationist and isolationist approaches to operationalizing HPWP (see extensive discussion of these approaches in Chapter 2).

3.2 THE MUTUAL GAINS VERSUS THE CRITICAL PERSPECTIVES OF HPWP

In the mutual gains perspective, HPWP are presumed to accrue far-reaching benefits for an organization and employees (Harley et al., 2007; Sparham and Sung, 2007). HPWP create conditions that allow employees to be treated as integral to the organization, employees become more committed to their jobs and work hard towards accomplishing organizational goals (Thompson, 1996; Whitener, 2001). In other words, HPWP create a ‘win-win’ scenario for an organization, whereby organizational effectiveness is achieved through the positive influences of HPWP on employee attitudes and well-being (Appelbaum et al., 2000). Whereas employers gain through sustained competitive advantage, improved productivity and reduced staff turnover rates, employees benefit from more flexible remuneration, higher job discretion, job satisfaction and greater employment security (Sparham and Sung, 2007; Ichniowski et al., 1997; Ramsay et al., 2000; Macky and Boxall, 2008; Kalmi and Kauhanen, 2008; Burchielli, Pearson and Thanacoody, 2005).

In conceptualizing the mutual gains perspective of HPWP, this thesis emphasizes employee-level benefits of HPWP rather than organizational-level benefits. The reason for this is simply that there is ample evidence on organizational-level outcomes of HPWP compared to evidence on employee-level outcomes of HPWP. This is not to imply paucity of research evidence on employee-level benefits of HPWP. Indeed, researchers have found valuable links between HPWP and increases in employees’ level of job satisfaction (Appelbaum et al., 2000; Mohr and Zoghi, 2008; Wood and de Menezes, 2011), organizational commitment (Bryson and White, 2008; Newman et al., 2011) and trust in management (Macky and Boxall, 2007; Whitener, 2001). However, certain questions remain

unanswered in terms of the underlying mechanisms via which HPWP impact on employees. For example, does the HPWP framework serve as a beguiling managerial model for eliciting greater work effort from employees, with little regard for employee well-being (Ramsay et al., 2000)? Do managers implement HPWP as a manipulative mechanism for achieving organizational performance without commensurate increases in the work-life quality of employees (Guerrero and Barraud-Didier, 2004)? Questions of this nature give credence to theoretical arguments explaining the critical perspective of HPWP.

According to the critical perspective, HPWP may indeed yield far-reaching benefits for both the organization and employees, but these benefits may be offset by increases in work intensification and corresponding reductions in employee well-being (Ramsay et al., 2000; Harley et al., 2007; Sparham and Sung, 2007). In other words, the pay-offs from implementing HPWP may occur through increases in job demands and pressure, which in turn may lead to poor employee attitudes and well-being (Kalmi and Kauhanen, 2008; White et al., 2003).

The principle underlying the critical perspective of HPWP can be traced to the ‘labour process theory’, which is based on Marx’s writing on the impacts of work processes in capitalist systems (Sparham and Sung, 2007; Ramsay et al., 2000). Accordingly, work intensification ensues from the likelihood for capitalist managers (perhaps, driven by the need to maximise labour input) to engage employees through higher work demands and longer working hours, without providing commensurate levels of support. Work organization in such capitalist systems is characterized by the routinization of work, increased levels of managerial control, as well as insufficient opportunities for employees to show initiative at work. However, with the emergence of work innovations in recent years, along with the central focus on job autonomy and active employee participation at work, the capitalist conceptualization of the labour process theory has become progressively less applicable to

modern workplaces (Picot and Wannell, 1998; Ramsay et al., 2000). Labour process theory has now been modified to reflect this new perspective (Sparham and Sung, 2007).

Just like the mutual gains perspective, the slightly modified version of labour process theory (or more generally, the critical perspective of HPWP) views innovative work practices as a valuable tool for achieving organizational effectiveness. However, it eschews the assumption that such practices would lead to beneficial outcomes for employees. More specifically, employees who are subjected to HPWP remain quite vulnerable to higher levels of work-related strain due to increases in work intensification (Sparham and Sung, 2007; Gallie, 2005). As such, work intensification serves as a mediating factor explaining the intermediary effects of HPWP on employee attitudes and well-being. If employees perceive work intensification as a source of motivation to work harder and make positive contributions to organizational outcomes, then the ‘HPWP-intensification’ relationship may very well lean towards the positive end of the spectrum, producing beneficial effects on employee well-being. However, if employees perceive work intensification as a precursor for increased levels of job strain and work-related stress, then the ‘HPWP-intensification’ relationship may lean towards the negative end and produce poor employee attitudes and well-being.

3.3 EMPLOYEE ATTITUDES AND WELL-BEING

In this thesis, employee-level implications of HPWP are discussed with reference to improved employee attitudes and well-being. Employee attitudes are measures that explain the various behavioural responses and employees’ disposition towards their experiences of work (Dunford et al., 2001). Employee attitudes may include such measures as job satisfaction, organizational commitment and employees’ trust in management (Whitener, 2001; Gould-Williams, 2004; Guest and Conway, 2007). In slight contrast, employee well-being relates to the overall quality of employees’ mental health and psychological functioning at work (Daniels, Beesley, Cheyne and Wimalasiri, 2008; Van De Voorde et al., 2012).

Employee well-being may be described in terms of ‘negative affect’ (feelings of anxiety and worry), ‘positive affect’ (feelings of enthusiasm and motivation), as well as measures of cognitive functioning like the ability to pay attention (Daniels et al., 2008). Although both ‘employee attitudes’ and ‘employee wellbeing’ are often used interchangeably in HRM research (see De Jonge and Schaufeli, 1998; Appelbaum et al. 2000; Macky and Boxall, 2008; Wood and De Menezes, 2011), Van De Voorde et al. (2012) drew attention to differences between both concepts, noting the possibility for HRM practices to produce contradictory effects on ‘employee attitudes’ and ‘employee wellbeing’. Nevertheless, both concepts, ‘employee attitudes’ and ‘employee well-being’, recognize an individual employee as one who may react either positively or negatively to their experiences of organizational processes.

There is now a growing stream of research proposing that the adoption of HPWP may influence various employee attitude outcomes. Whereas earlier studies (e.g., Locke, 1976; Hackman and Oldham, 1980) have focused on job satisfaction and organizational commitment as key employee attitude measures related to HRM systems, recent studies (e.g. Whitener, 2001; Gould-Williams, 2003; Newman et al., 2011) have included such dimensions as employee trust in management and organizational citizenship behaviours (Paré and Tremblay, 2007; Sun, Aryee and Law, 2007).

Job satisfaction is defined as the positive emotional state resulting from one’s assessment of one’s job experiences (Locke, 1976; Barling et al., 2003; Scott-Ladd, Travaglione, and Marshall, 2006). It is an individual’s attitudinal reaction to how pleasurable and rewarding they find their job. In HRM studies, job satisfaction is often described in terms of two main categories, intrinsic and extrinsic satisfaction (Bhuyan et al., 1996; Sparham and Sung, 2007). Intrinsic satisfaction refers to feelings of accomplishment and self-actualization derived from one’s experiences of the job itself, without much influence from other external factors. Extrinsic satisfaction refers to feelings of contentment and pleasure derived from the

rewards (monetary or non-monetary) associated with one's engagement with work. Job satisfaction has also been expressed in terms of a single, all-inclusive variable 'general satisfaction', which reflects employees' overall feelings of contentment with work in general (Adams and Bond, 2000; Green and Tsitsianis, 2005; Mohr and Zoghi, 2008). It is this encompassing conceptualization of job satisfaction that finds application in this thesis.

Organizational commitment, another key dimension of employee attitudes, measures the extent to which an employee identifies with and is involved in organizational processes in the employing organization (Scott-Ladd et al, 2006; Newman et al., 2011). It is commonly described in terms of three main components, affective, normative and continuance commitment (Gould-Williams and Davies, 2005; Hughes et al., 2008; Gong et al., 2009; Scott-Ladd et al, 2006; Eisenberger, Fasolo and Davis-LaMastro, 1990; Bartlett, 2001). Affective commitment refers to an employee's strong emotional attachment to the employing organization. Normative commitment relates to employee commitment based on the level of employee's loyalty to the employing organization, whereas continuance commitment relates to an employee's desire to remain in the job based on the additional costs associated with finding an alternative job. The emphasis of this thesis is however on the 'affective' and 'normative' forms of commitment because together they constitute an overall concept of commitment and give evidence for unidimensionality.

Furthermore, employee attitudes have been evaluated in terms of employees' level of trust in management. Whitener (2001) noted that the idea of employees trust in management is fairly complex to define; not least because it encompasses a range of interpersonal relationships existing at various levels of an organization. For instance, the level of trust existing between individual employees and their supervisors might have a different meaning compared to the level of trust existing between supervisors and individuals at the top management level. However, within the context of this thesis, employee trust in management

is defined as the willingness of employees to feel vulnerable to the actions and corporate decisions of their employers based on employees' belief that ultimately, these organizational actions will prove beneficial for them (Whitener, 2001; Gould-Williams, 2003; Gould-Williams and Davies, 2005). This definition clearly illustrates the present study's focus on relationships existing between individual employees and management.

Although job satisfaction, organizational commitment and employees' trust in management may be considered as being strongly correlated, several studies (see Whitener, 2001; Bauer, 2004; Gould-Williams and Davies, 2005; Scott-Ladd et al, 2006; Macky and Boxall, 2007; Guest and Conway, 2007) have investigated these three concepts as separate measures of employee attitudes. These variables are thought to represent different sources of variation in employee experiences of HRM practices (Glisson and Durick, 1988; Shore and Martin, 1989). As an illustration, an employee might be committed to his/her work and yet remain unhappy and dissatisfied with other aspects of the job. Consider a medical doctor who is required to work very long hours without commensurate pay. This doctor might indeed experience a degree of dissatisfaction with the job design and the level of pay received. However, the doctor is also likely to display high levels of commitment to the job due to intrinsic motivation derived from being in the medical profession. In this light, the doctor's level of commitment at work would tend to be stable over time; whereas his/her level of satisfaction at work may vary depending on organizational processes within the workplace (Gould-Williams, 2003).

Research has also linked desirable employee attitudes to improved organizational performance (Eisenberger et al., 1990; Whitener, 2001; Paré et al., 2007; Haile, 2007; Guest and Conway, 2007; Takeuchi et al., 2009). Job satisfaction and high levels of employee commitment to the organization are distinguished in the literature as factors that enhance firm-level productivity and reduce labour costs through corresponding reductions in staff

absenteeism (Gould-Williams, 2003; Paré et al., 2007; Mohr and Zoghi, 2008; Hughes et al., 2008). Guest and Conway (2007) argued that innovative HRM practices may influence the work-related behaviours and attitudes of employees through active workplace participation, knowledge sharing and better levels of employee motivation at work. This positive influence may also contribute to low staff turnover rates, higher labour productivity, and improved profitability, all of which may drive organizational growth. The literature also indicates that high levels of employee trust in management may lead to organizational success. Several studies have linked increased levels of trust in management to enhanced employees' confidence in the organization and employees' willingness to conduct their job roles in ways that promote organizational effectiveness (Eisenberger et al., 1990; Appelbaum et al., 2000; Gould-Williams, 2003; Whitener, 2001; Macky and Boxall, 2007). As such, employee trust in management plays an important role in mediating the effects of innovative workplace practices on organizational performance.

The possible detrimental employee-level outcomes of adopting HPWP are presented in this thesis as increased work intensification and employees' perceptions of job strain, both of which may contribute to poor employee well-being. Work intensification is defined as the measure of the amount of effort expended in relation to the amount of hours invested in the conduct of one's job (White et al., 2003; Kelliher and Anderson, 2010; Green and McIntosh, 2001). Depending on the specific nature of the job, work intensification may result from exposure to high working speeds, tight deadlines, poor interpersonal working relationships or job insecurity (Boisard, Gollac, Valeyre and Cartron, 2003; Cañibano, 2011; Williams, 2003). According to Green (2001), work intensification may be expressed in terms of 'extensive' and 'intensive' work efforts. 'Extensive work efforts' refers to the number of hours expended in conducting one's job. It is characterized by long working hours, take-home jobs, and work-family spill-over. On the other hand, 'intensive work efforts' refers to the physical,

psychological and social demands associated with the conduct of one's job (Bakker and Demerouti, 2007; Balducci, Schaufeli and Fraccaroli, 2011). It is characterized by high working pace, work pressure, excessive workload and so on.

Although "working hard does not necessarily lead to job stress" (Sparham and Sung, 2007: p. 13), work intensification is typically conceived in a negative way (see Ramsay et al. 2000; Green, 2001; Green and McIntosh, 2001; White et al., 2003; Sparham and Sung, 2007). It is said to occur when the demands of work surpass an individual's work-related stress threshold (Bakker and Demerouti, 2007; Demerouti and Bakker, 2011). If an employee feels as though he/she is being compelled to work too long and too hard at too many work tasks, such an employee is more likely to report deterioration in physical and psychological well-being compared to his/her colleagues (Brown and Benson, 2005). Several authors have linked employees' experience of work intensification to negative outcomes such as job strain and burnout (Burchielli et al., 2005; Boisard et al., 2003), job dissatisfaction (Macky and Boxall, 2008), work-life imbalance (Kelliher and Anderson, 2010; Judge and Colquitt, 2004), exhaustion and physical health problems such as back aches, headaches, irregular sleeping patterns, musculoskeletal pain and high blood pressure (Boisard et al., 2003; Bakker and Demerouti, 2007; Kroon et al., 2009). All these negative outcomes are in turn associated with undue rises in labour costs and corresponding expenses associated with the need for staff counselling and workers' compensation claims (Burchielli et al., 2005). In this light, work intensification may serve as a mediating variable through which HRM practices produce undesirable effects on employee attitudes and well-being, and perhaps lead to a decline in organizational performance (Burchielli et al., 2005; Kroon et al., 2009).

3.4 EVIDENCE FOR THE MUTUAL GAINS PERSPECTIVE OF HPWP

Having highlighted the specific context in which this thesis aims to discuss the concept of employee attitudes and well-being, this section illustrates the existing evidence on the mutual gains perspective of HPWP. Evidence is first provided in terms of the integrationist perspective of HPWP (i.e., highlighting the integrated effects of HPWP on employee attitudes and well-being) and then in terms of the isolationist perspective of HPWP (highlighting the independent effect of each component of the HPWP framework on employee attitudes and well-being).

3.4.1 HPWP and desirable employee-level outcomes (the integrationist perspective)

As part of the mutual gains conceptualization of HPWP, coherent systems of HPWP are thought to have beneficial effects on employee attitudes and well-being, in addition to their positive influences on organizational performance. Where individual HRM practices are used together in a coherent fashion, they produce positive influences on organizational performance through corresponding positive impacts on employee attitudes and well-being (Appelbaum et al., 2000; Gould-Williams, 2003; Sun et al., 2007; Van De Voorde et al., 2012; Boxall et al., 2011). In this vein, HPWP drive organizational growth by means of their beneficial effects on desirable employee-level outcomes, a phenomenon which some authors have described as the ‘black box’ of HRM (Sun et al., 2007; Boxall et al., 2011). Authors have found positive links between combinations of HPWP and job satisfaction (Barling et al., 2003; Gould-Williams, 2003), affective commitment (Gong et al., 2009; Boxall et al., 2011), employees’ trust in management (Gould-Williams, 2003) and organizational citizenship behaviours (Sun et al., 2007). All these studies tell a similar story, that innovative HRM practices have mutually supportive properties and produce beneficial effects on the work-related attitudes and behaviours of employees, and this in turn may engender organizational growth and effectiveness.

HPWP studies have also emphasized the direct links between combinations of HPWP and employee attitudes and well-being measures, without necessarily investigating their corresponding effects on organizational performance (see Macky and Boxall, 2007; Bryson and White, 2008; Mohr and Zoghi, 2008; Takeuchi et al., 2009). Based on a multilevel analysis of Japanese establishments, for example, Takeuchi et al. (2009) found positive links between a composite measure of HPWP and employee job satisfaction and affective commitment. The authors described this positive relationship as one of the compelling reasons why managers should adopt the HPWP framework. Because high levels of employee satisfaction and commitment to the organization may increase employees' intention to remain with the organization, HPWP may reduce staff turnover rates and consequently promote organizational productivity. Similar evidence has been reported within the context of healthcare organizations (West et al., 2006; Sang, DonHee and Chang-Yuil, 2012) and service sector organizations (Ordiz and Fernández, 2005; Harley et al., 2007). Specifically, Sang et al. (2012) showed how a composite scale of HPWP was positively related to desirable employee attitudes in hospital settings, whereas Harley et al. (2007) found four dimensions of HPWP to have positive effects on job satisfaction and affective commitment among service sector employees.

The positive employee-level implications of HPWP may also be explained by the ability-motivation-opportunity (AMO) model of HRM (Appelbaum et al., 2000; Macky and Boxall, 2007; Boxall and Macky, 2009; Van De Voorde et al., 2012; Jiang et al., 2012). This theoretical model identifies three pathways through which HPWP may promote positive employee attitudes and drive organizational growth. Firstly, the HPWP framework should incorporate mechanisms for developing useful employee skills and abilities, thereby setting the upper boundary for achieving organizational performance. Where employees possess requisite work-related skills and expertise, they are able to perform their job tasks more

efficiently and show initiative at work. Secondly, an effective HPWP framework should include mechanisms for increasing employees' level of motivation at work. Adequate levels of motivation are essential as they allow employees to utilize their work-related skills in making productive contributions towards organizational processes. Thirdly, with a highly skilled and motivated workforce, the HPWP framework should provide opportunities for employees to maximize their potential through active participation in workplace activities. These opportunities must not be manipulative, or aimed solely at accruing beneficial gains for the organization with little regard for employee well-being. Instead, the opportunities should allow employees to express their creative abilities in ways that enhance their experience of meaningfulness at work. Indeed, work organizations incorporating these key elements are thought to be associated with higher levels of job satisfaction among employees, increased employees' trust in management, stronger employees' identification with the organization, and ultimately, greater prospects for organizational growth and effectiveness (Appelbaum et al., 2000; Macky and Boxall, 2007).

3.4.2 HPWP and desirable employee-level outcomes (the isolationist perspective)

Attempts to explain the independent effects of HPWP on desirable employee attitudes have often relied on the tenets of several theoretical models, notably the Job Characteristics Model (JCM) by Hackman and Oldham (1976). The JCM assumes that certain workplace practices are associated with the workers' experience of meaningfulness, a greater sense of responsibility and expertise at work, and therefore contribute to increased feelings of contentment and job satisfaction (Barling et al., 2003; Mohr and Zoghi, 2008; De Jonge and Schaufeli, 1998; Bhuian et al., 1996). The JCM identifies five key job characteristics as determinants of positive work-related attitudes: skill variety (the extent, to which one's job involves tasks that enable him/her to apply different skills and expertise); task identity (the degree to which an employee is allowed to complete a whole piece of work from start to

finish with discernible outcomes); task significance (the perceived importance of one's job and how it impacts on the lives of others in the organization and the wider society); autonomy (the level of discretion offered to an employee in conducting his/her job tasks); and feedback on the job (the extent to which employees are kept updated on their job performance). According to Hackman and Oldham (1976), the potential for a job to intrinsically motivate an employee and lead to job satisfaction is greatest when the job is characterized by at least three, if not all of these work dimensions.

The JCM theory lends understanding to the positive independent effects of job discretion on organizational commitment, employees' trust in management and job satisfaction (Combs et al., 2006; Hunter and Hitt, 2001). Through discretionary work activities, employees can exploit their work-related knowledge, skills and abilities in performing their jobs (i.e., the 'task variety' and 'autonomy' dimensions of the JCM), and achieve a greater sense of self-fulfilment as a result ('task identity' and 'task significance'). In support of this argument, several authors (De Jonge and Schaufeli, 1998; Bainbridge, 1998; Boisard et al., 2003; Wood and De Menezes, 2011) have suggested that employees who are afforded greater autonomy and control over their job tasks may experience increased job satisfaction and demonstrate higher levels of commitment towards their employers.

Furthermore, discretionary work in the form of flexible work patterns (or time flexibility) may also impact positively on employee attitudes and well-being (Bauer, 2004; Haile, 2007). This argument derives from the assumption that flexible work patterns allow employees to create a balance between their work and family lives. Kelliher and Anderson (2010), in a qualitative study of the UK private sector, noted that employees who worked flexibly were able to demonstrate higher levels of job satisfaction and commitment compared to their counterparts who did not work flexibly. Kelliher and Anderson (2010) and Tomlinson (2007) recognized, however, that the crux for eliciting desirable employee attitudes through

flexible work arrangements is that such practices must be undertaken voluntarily by employees, as opposed to situations where such practices are unduly imposed on workers by management. For example, flexible working arrangements such as remote working or teleworking, which are fairly associated with a degree of employee isolation from other workers, may promote feelings of loneliness and alienation among employees rather than enhance employees' level of job satisfaction and contentment. Therefore, if such practices are imposed on employees without due consideration of whether employees are psychologically fit to take up such jobs, then work flexibility in this regard may lead to counterproductive employee behaviours. Based on this alternative perspective, Kelliher and Anderson (2010) argued that flexible work patterns may promote beneficial employee attitudes to the extent that employees are both physically and mentally prepared to take up such arrangements.

Hackman and Oldham's (1976) JCM theory may also serve in explaining the positive relationships between active employee involvement at work and desirable employee attitudes (De Jonge and Schaufeli, 1998). Evidence in this light suggests that active employee involvement in workplace activities fosters a sense of responsibility among employees, and creates opportunities for employees to make innovative contributions toward organizational processes (Appelbaum et al., 2000; Scott-Ladd et al, 2006; Paré and Tremblay, 2007; Wood and De Menezes, 2011). Clearly, this statement demonstrates a link with the 'task variety' and 'task identity' dimensions of the JCM. Along these lines, several scholars have suggested that employee involvement through participative decision-making activities may produce beneficial effects on employee attitudes and well-being (Green and Tsitsianis, 2005; Scott-Ladd et al, 2006; Gould-Williams and Davies, 2005; Whitener 2001; Mohr and Zoghi, 2008). Where employees are allowed to make decisions relevant to their work, employees would likewise experience increases in their productive efficiency at work, leading to better work-related attitudes and behaviours (Bauer, 2004; Bainbridge, 1998; Appelbaum et al., 2000). In

addition, employees who are adequately involved in the planning and formulation of organizational strategies are more likely to value the eventual outcomes of such strategies due to their sense of ownership and acceptance of such strategies (Scott-Ladd et al, 2006; Bainbridge, 1998).

In a similar vein, team working and other group-based forms of employee participation at work may impact positively on job satisfaction (Mohr and Zoghi, 2008; Gould-Williams and Davies, 2005; Greenberg, Sikora, Grunberg and Moore, 2005), as well as employees' level of commitment and trust towards the employing organization (Eisenberger et al., 1990; Greenberg et al., 2005; Wood and De Menezes, 2011). In addition to increasing the potential for social interaction, which by itself is a vital source of job satisfaction (Wood and De Menezes, 2011), team-based working serves to improve employees' self-esteem and confidence through problem solving activities and participatory deliberations with other members of the team. Group-based work activities also allow employees to develop useful communication skills and learn how to express their opinions in a constructive manner.

On the flipside, however, some authors believe that team working may produce unfavourable independent effects on employee attitudes through the increased likelihood for peer pressure, peer conflict and peer surveillance (Bauer, 2004; White et al., 2003; Macky and Boxall, 2008). Kalmi and Kauhanen (2008) and Mohr and Zoghi (2008) noted that the increased latitude for decision-making in group-based work activities may reduce hierarchical structures at work, and lead to discrepancies in the delegation of authority among employees. This in turn may create interpersonal conflict among employees, prompt employees to monitor each other, and promote poor employee attitudes and behaviours (Barker, 1993; White et al., 2003; Batt et al., 2010). Particularly interesting in this line of argument is Barker's (1993) research on the impact of self-directed work teams on employee behaviours.

According to Barker's (1993), team-based work systems may exert a strong self-disciplining effect on the members of a team, such that individual team members may simply transfer their frustration from unfavourable managerial decisions to fellow team members during team deliberations. Drawing on this, caution must therefore be applied in overstating the positive employee-level implications of team-based work systems; particularly as such systems may not always produce desirable effects on employees (Barker, 1993; Kalmi and Kauhanen, 2008).

Research has been rather silent (at least compared to other constituents of the HPWP framework) in terms of the direct links between active employee involvement through employee representation structures and employee attitudes and well-being (Edwards and Wright, 2001). Few studies investigating this relationship have portrayed employee representation structures such as trade unions as a medium for employee 'voice' (Edwards and Wright, 2001; Bryson and Forth, 2010; Wood and De Menezes, 2011). In other words, these mechanisms allow employees to express their feelings of discontentment with organizational processes, and therefore create a sense of belongingness and employment security among employees (Edwards and Wright, 2001; Kalmi and Kauhanen, 2008; Bryson and Forth, 2010). Wood and De Menezes (2011) in their empirical study, found mixed results for the independent effects of three different constructs of employee representation (consultative management, trade union recognition and trade union membership) on job satisfaction. Accordingly, consultative management (defined as the extent to which employees or their representatives were adequately consulted by management) was found to be related to job satisfaction and contentment measures, whereas trade union representation and membership did not predict job satisfaction. The authors therefore concluded that a consultative approach (in other words, 'having a voice') is more relevant for feelings of job

satisfaction and contentment at work compared to the mere existence of an active trade union in the workplace.

Although the HRM literature has also seemed rather silent in terms of the independent effects of selective hiring practices on employee-level outcomes, some researchers have explained this relationship by Person–Environment (P-E) fit theories (O’Reilly, Chatman, and Caldwell, 1991; Schneider, Goldstein, and Smith, 1995; Sekiguchi, 2004; Carless, 2005). These researchers have argued that employees are more likely to be intrinsically motivated at work when their personal values and abilities correspond to the goals and values of the employing organization. In other words, higher levels of job satisfaction and contentment with work may accrue when there is congruence between an individual’s personality and his/her working environment (Ahmad and Schroeder, 2002; Carless, 2005; Scott-Ladd et al, 2006). Researchers have often paid particular attention on two generic forms of P-E fit theory - Person-Organization (P-O) fit and Person-Job (P-J) fit (O’Reilly et al., 1991; Schneider et al., 1995; Carless, 2005). Owing to the P-O fit perspective, individuals’ attraction to and intent to remain with an organization are determined by the perceived similarity between their personalities and the values, goals and culture of the organization (Carless, 2005; Sekiguchi, 2004). By contrast, the P-J fit perspective assumes that the match between one’s knowledge, skills, and abilities is a determinant of how well one may handle the demands of one’s job (Sekiguchi, 2004). Owing to these two models, some authors have argued that higher levels of employee motivation, commitment and trust in management may occur if prospective employees are hired such that there is compatibility between their personalities and the requirements of the job (Green and Tsitsianis, 2005; Carless, 2005; Sekiguchi, 2004). This assumption has been supported in studies where useful links were found between P-E fit job designs and employee attitude measures such as job satisfaction and organizational commitment (Allen and Van der Velden, 2001; Sekiguchi, 2004; Carless, 2005).

Another longstanding theme among researchers in organizational studies pertains to the relationships between perceived organizational support and employee attitudes and well-being (Schulte et al., 2006; Edwards and Peccei, 2010). Scholars have proposed that an atmosphere of care, support and cooperation (perceived organizational support) created in the workplace may positively influence the psychological well-being of employees and lead to increased levels of job satisfaction, trust and commitment (Hughes et al., 2008; Newman et al., 2011; Gould-Williams and Davies, 2005; Eisenberger et al., 1990; Wayne, Shore and Liden, 1997; Takeuchi et al., 2009). Relevant to this claim is the norm of reciprocity or social exchange theory. According to this theory, employees' perceptions regarding the extent to which their employer values and cares about their well-being may instigate employees to respond through positive work-related attitudes (Bakker and Demerouti, 2007; Newman et al., 2011; Eisenberger et al., 1990; Gould-Williams and Davies, 2005; Whitener, 2001). More precisely, where employees perceive the treatment they receive from their employer as being favourable and supportive, employees consequently feel obliged to reciprocate through behaviours that are valuable to the employer (Gould-Williams and Davies, 2005; Wayne et al. 1997; Whitener, 2001).

Based on this theoretical backdrop, some researchers have found positive links between supportive management (including helping employees with difficult work tasks and family-friendly work practices) and desirable employee attitudes (Lobel, 1999; Dex and Smith, 2002; Ngo et al., 2009). In Lobel's (1999) review of relevant studies, supportive management was reported as having a positive relationship with team effectiveness, staff commitment and job satisfaction. The author noted that such practices contribute to lower rates of absenteeism and staff turnover. Ngo et al. (2009) built on this by demonstrating positive links between a 'family-friendly work practices' scale (covering availability of maternity leave arrangements, childcare support and work-at-home programs) and

organizational climate. Moreover, using data from the 1998 Workplace Employment Relations Survey (WERS 1998), Dex and Smith (2002) showed how supportive management, particularly the provision of a workplace nursery and childcare support, was positively associated with employees' level of commitment in private sector establishments, but not in public sector establishments. The authors further highlighted the need for more research in expounding the specific mechanisms via which supportive management may produce beneficial effects on desirable employee attitudes and behaviours.

Employees' perception of organizational justice, particularly with respect to fairness in procedures for airing grievances, is thought to have vital implications for employees' level of job satisfaction and organizational commitment (Cohen-Charash and Spector, 2001; Judge and Colquitt, 2004; Judge and Colquitt, 2004; Combs et al., 2006; Colvin, 2006; Hughes et al., 2008). This argument relates to the assumption that perceptions of justice and fairness in organizational processes and grievance resolution procedures may prompt feelings of contentment, optimism and certainty among employees (Cohen-Charash and Spector, 2001; Judge and Colquitt, 2004). In their study, Walker and Hamilton (2011) found evidence for the positive links between perceptions of fairness in organizational processes and employees' increased attachment towards their jobs. However, the authors underlined the fact that this positive relationship was attainable if the organization adopted a 'well-established' organizational justice system. A 'well-established' organizational justice system in this context is one that is accessible by all staff, implemented safely with little potential for retribution, and is administered credibly. If the system was otherwise not 'well-established', then the consequences may be increased feelings of displeasure and dissatisfaction among employees.

Drawing further on the norm of reciprocity, studies have shown employee empowerment through information sharing activities to have beneficial impacts on job

satisfaction (Kalmi and Kauhanen, 2008; Macky and Boxall, 2008) and organizational commitment (Paré and Tremblay, 2007; Laschinger et al., 2001). It is argued that information sharing, including both vertical and horizontal forms of communication in the workplace, may enhance employees' knowledge of their expected role in achieving the corporate objectives of the organization. Such practices serve in reducing feelings of uncertainty among employees and may improve employees' level of commitment towards the organization (Paré and Tremblay, 2007; Wood and De Menezes, 2011). Reiterating this argument, Fox (1998) noted that some companies in Eastern Europe were able to achieve desirable outcomes from employees by merely keeping workers informed about organizational achievements and corporate strategies. Where employees are kept updated on progress made towards achieving organizational goals and objectives, work becomes more meaningful for employees and employees appreciate the value of belonging to such an organization (Wood and De Menezes, 2011). Wood and De Menezes (2011) further noted that information sharing activities may prompt employees to see their work not just as a job but more as a career, such that employees take pride in their work and become more enthusiastic about carrying out their job tasks.

A well-established stream of research, also rooted in the principle of social exchange, has shown that the provision of equitable monetary and non-monetary rewards may produce beneficial independent effects on employee attitudes and well-being (Whitener, 2001; Bauer, 2004; Heywood and Wei, 2006; Green and Heywood, 2008; Macky and Boxall, 2008). Such rewards may signal to the employees that their contributions to the organization are well appreciated by the management; consequently, employees may feel obligated to reciprocate the 'favour' through positive work-related attitudes and behaviours (Gould-Williams and Davies, 2005; Beltrán-Martín et al., 2008). Indeed, researchers have identified positive links between the adoption of compensatory rewards (such as performance-based pay and profit-

related bonuses) and job satisfaction (Bauer, 2004; Heywood and Wei, 2006; Green and Heywood, 2008; Macky and Boxall, 2008), as well as organizational commitment (Whitener, 2001; Paré and Tremblay, 2007). According to Whitener (2001) and Heywood and Wei (2006), compensatory reward schemes are inherently prone to a degree of unfairness, particularly as such schemes may sometimes miss providing salient rewards to the right people in a timely fashion. Being aware of their susceptibility to the vagaries of a badly designed compensatory reward scheme, employees may recognize a well-designed compensatory reward scheme as indicative of managerial level of commitment towards ensuring employee welfare. As such, employees develop positive opinions about the organization and feel obligated to reciprocate through positive work-related attitudes (Whitener, 2001; Heywood and Wei, 2006; Green and Heywood, 2008). This illustration is also applicable to non-monetary rewards like career-enhancement opportunities and promotion prospects. If employees have reasons to believe that career-enhancement opportunities and other non-monetary rewards are not widely accessible and available to all employees, then employees might have doubts about the authenticity of managerial supportiveness towards them, and may therefore respond through counterproductive workplace attitudes and behaviours.

Although there is limited evidence in terms of the direct independent effects of performance appraisal systems on employee attitude measures, such systems are generally thought to enhance employees' level of motivation at work (Huselid, 1995; Macky and Boxall, 2007; Jiang et al., 2012). By benchmarking employees' job performance against a set of performance objectives, a well-designed performance appraisal system serves in clarifying employee job responsibilities, and allows employers to provide useful feedback to employees on their level of performance at work (Preuss, 2003; West et al., 2006; Jiang et al., 2012). In other words, performance appraisals may enhance employees' experience of meaningfulness

at work by making employees aware of management's precise expectations of them. By contrast, a poorly designed performance appraisal system may produce detrimental effects on employee attitudes and well-being. When performance appraisal systems are poorly designed, such systems fail to reward the right employees in a timely fashion (Whitener, 2001), increase the potential for work overloads (Brown and Benson, 2005) and promote work-related stress outcomes (Williams, 2009). On the other hand, employees might be prompted to display positive work-related attitudes if they perceive that their employer has made an effort in establishing an effective performance appraisal system (Whitener, 2001). In this light, a well-designed performance appraisal system may be interpreted by employees as a sign that they are valued and cared for by the organization, and consequently feel obliged to respond through desirable work-related attitudes (Whitener, 2001; Beltrán-Martín et al., 2008).

The amount of training (including the perceived value of the training) offered to employees may also produce positive independent effects on employee attitudes and well-being (Bartlett, 2001; Barling et al., 2003; Combs et al., 2006; Macky and Boxall, 2008; Wood and De Menezes, 2011; Newman et al., 2011). This claim follows the argument that staff training and employee skills development programs enable employees to acquire greater work-related competencies and therefore become more self-confident and proactive at work. This in turn may promote feelings of job satisfaction and organizational commitment among employees. Drawing on the norm of reciprocity, some researchers (Wayne et al. 1997; Bartlett, 2001; Barling et al., 2003; Newman et al., 2011) have argued that employees interpret the provision of staff training as a form of employer investment towards their personal growth and development. Employees may perceive such provisions as a sign that their organisation desires to enter into a 'psychological contract' with them and therefore feel obliged to respond using desirable work-related attitudes and behaviours. A 'psychological

contract' in this sense represents an unwritten set of work-related obligations and expectations exchanged between management and employees. Gould-Williams and Davies (2005), however, presented an alternative depiction of the independent effects of staff training on employee attitudes. They argue that staff training may not produce positive effects on employee attitudes in circumstances where employees perceive such provisions as being generically available in the workplace. Employees may interpret such training as being of little or no value to their personal development and may consequently feel less obligated to reciprocate the 'favour'.

3.5 EVIDENCE FOR THE CRITICAL PERSPECTIVE OF HPWP

The critical perspective of HPWP has received less attention in the HPWP literature compared to the mutual gains perspective of HPWP (Kalmi and Kauhanen, 2008). This deficit in the literature may have ensued from the tendency for scholars to concentrate more on the beneficial outcomes of HPWP rather than exploring the possibility that HPWP may also produce detrimental influences on organizational performance (Godard, 2001; Kelliher and Anderson, 2010; Cañibano, 2011). However, with rising research interests on employee-level impacts of HPWP, some of the likely undesirable consequences of adopting HPWP are gradually beginning to unfold (Ramsay et al. 2000; Burchielli et al., 2005; Kroon et al., 2009). Specifically, the far-reaching employee-level benefits of HPWP are thought to be associated with increases in work intensification and corresponding reductions in employee well-being. Where HPWP are implemented primarily to maximize labour input with little regard for employee well-being, employees experience higher levels of work-related pressure and job strain, leading to counterproductive employee behaviours and poor organizational performance. In the following sections, evidence on the critical perspective of HPWP is discussed in terms of the integrationist approach to HPWP, and thereafter, the isolationist approach to HPWP.

3.5.1 HPWP and undesirable employee-level outcomes (the integrationist perspective)

Generally speaking, research on the critical perspective of HPWP has been quite inconclusive (Godard, 2001; Macky and Boxall, 2008; Kalmi and Kauhanen, 2008). Authors have reported strong relationships between unitary measures of HPWP and undesirable employee outcomes such as excessive levels of work intensification (Godard, 2001), work-family spill-overs (White et al., 2003) and emotional exhaustion (Kroon et al., 2009); some have reported partial support for the links between HPWP and work intensification (Ramsay et al., 2000); and others have found negative relationships between HPWP and work intensification (Macky and Boxall, 2008) or employees' perceptions of psychological strain (Harley et al., 2007). To explain this inconsistency, Godard (2001) noted that the specific organizational contexts wherein these studies were conducted may have had an influence on findings. By focusing their investigation on particular workplaces, some scholars have adopted a rather narrow approach to the study of HPWP; as a consequence, their findings reflect outcomes that are specific to particular workplaces.

Nevertheless, strong support for the critical perspective of HPWP has been demonstrated in empirical studies such as Kroon et al. (2009), where combinations of HPWP were shown to have positive effects on employees' experience of work intensification and job strain. The authors described HPWP as stress factors that may lead to higher levels of burnout and emotional exhaustion among employees. Kroon et al. (2009) also noted that HPWP intensify work by provoking continuous feelings of work pressure and strain among employees. Similarly, Godard (2001) showed how the employee-level benefits of HPWP may be offset by increases in work-related stress among employees. According to the author, moderate adoption of HPWP may indeed produce beneficial effects on desirable employee outcomes such as feelings of belongingness, job satisfaction, and organizational citizenship behaviours and so on. However, at higher levels of HPWP implementation, employees

become more susceptible to greater work responsibilities, such that the beneficial effects of HPWP are outweighed by feelings of work intensification and work-related stress.

This lends to the question of whether the beneficial effects of HPWP are actually transmitted through management by stress, at the expense of employee well-being. Van De Voorde et al. (2012) explained that the set of HRM practices which have positive effect on employee attitudes and well-being may not necessarily be the same set of practices that produce beneficial effects on organizational performance. Managers are obliged to either focus on HRM practices that are more favourable for achieving organizational performance or prioritize those that promote employee well-being. If a manager decides to prioritize practices that focus on driving organizational performance rather than those that promote employee skills development and empowerment, then HPWP might become exploitative and employees could suffer increases in work demands and pressure (Ramsay et al., 2000; Godard, 2001; Macky and Boxall, 2008; Van De Voorde et al., 2012). The undertaking, therefore, for scholars of the critical perspective of HPWP is to examine the various mechanisms via which HPWP produce undesirable impacts on employee outcomes, and consequently, the overall performance of an organization.

3.5.2 HPWP and undesirable employee-level outcomes (the isolationist perspective)

In terms of the independent effects of HPWP, research has shown that the HPWP-intensification relationship could effectively sway either way (i.e., in the negative or positive direction) depending on the particular HRM practice in question (Ramsay et al., 2000; Macky and Boxall, 2008; Kelliher and Anderson, 2010). For example, job discretion or autonomy is thought to have a reducing rather than an enhancing relationship with work intensification. To the extent that discretionary work activities afford employees greater control over how to perform their job tasks, such practices may enable employees to handle the high demands and pressure associated with work, leading to lower levels of work intensification (Macky and

Boxall, 2008). Bakker and Demerouti (2007) also noted that the experience of work overload and increased work-home interference may not necessarily translate into high levels of distress if employees, among other things, were allowed to have high degree of autonomy at work. Likewise, the provision of flexible work arrangements such as flexi-time, job sharing schemes and reduced working hours could optimize workers' choice over where and when to carry out their work responsibilities, and lessen employees' experience of work intensification as a result (Atkinson and Hall, 2011; Kelliher and Anderson, 2010). Where employees are allowed to take up these work arrangements voluntarily, they tend to schedule their working hours more appropriately to accommodate their commitments outside of work, and therefore exert less extensive effort at work. It is on this basis that flexible workers are thought to experience lower levels of job strain compared to their counterparts who do not work flexibly (Judge and Colquitt, 2004; Kelliher and Anderson; 2010).

Pertinent here is the Job Demand-Control (JD-C) model of stress, which posits that jobs with higher demands and time constraints combined with low employee discretion or autonomy are those that may result in higher levels of work-related stress outcomes (De Jonge, Bosma, Peter and Siegrist, 2000; Boisard et al., 2003; Macky and Boxall, 2008). It follows that employees who are given considerable freedom to decide on how, when and where to meet their job demands tend to experience lower levels of work-related stress compared to their counterparts who do not have such discretion (Bakker and Demerouti, 2007). The experience of work-related stress is controlled by the interaction between two fundamental characteristics of the job: the high levels of psychological job demands and the possible ameliorating effect of job discretion and decision-making latitude (De Jonge et al., 2000). Some critics have however argued against the tenets of the JD-C model of stress. For instance, Kalmi and Kauhanen (2008) noted that employers relinquish their operational control towards employees only as far as is required to gain loyalty from the workforce.

Whereas employees are allowed some discretion in certain work activities, they do not necessarily have full control over their work pace and workloads, and therefore remain quite vulnerable to increased levels of job strain and burnout. Other authors (Appelbaum et al., 2000; Askenazy, 2001; Burchielli et al., 2005) have added that job autonomy is a myth that may be impracticable in the 'real' workplace scenario. In other words, depending on certain circumstances such as how discretionary work practices are being implemented, autonomous working arrangements may have little or no effects on reducing employees' perceptions of work intensification.

On a related note, Kelliher and Anderson (2010) noted in their study that flexible work arrangements may indeed reduce the number of hours spent by employees at work; however, such practices do not automatically reduce the actual volume of employees' responsibilities at work. As an illustration, if an employee, whose job requires him/her to enter huge amounts of information into a large database, decides to spread out the work using different flexible working options, the fact remains that the employee will have to complete the task irrespective of where and when he/she decides to carry out the task. In fact, adopting flexible working arrangements in such circumstances will expose the employee to further irregularities in his/her work schedule; not least because the employee will be forced to work at times when he/she was not originally scheduled to work. Insofar as the above claims suggest that discretionary work activities may actually lead to increases in work intensification and poor employee well-being, then caution should be applied in stating the favourable independent effects of such practices on employees (Macky and Boxall, 2008; Ramsay et al., 2000).

In some instances, the independent effects of employee involvement practices on work intensification may be unfavourable for employees, and associated with corresponding reductions in employee well-being (Barker 1993; Godard, 2001; White et al., 2003; Macky

and Boxall, 2008). Some studies have revealed, for example, that team working and other group-based forms of work may produce positive links with increased feelings of work pressure and job strain among employees (White et al., 2003; Barker 1993). This argument is maintained by Batt et al. (2010) who argued that the productivity gains associated with team-based forms of work often arise from increased work intensification and peer monitoring. Attempts to explain these relationships have often relied on the idea of 'role stress', alongside other related concepts: role conflict, role ambiguity and role overload. Role stress has been defined as the level of stress experienced by individuals in relation to the set of expected behaviours they portray while performing their job tasks (Tubre and Collins, 2000). Based on the concept of role stress, it has been suggested that team working may intensify work (i) when there is a level of discrepancy in the execution of team member roles and responsibilities (role conflict); (ii) when there is a degree of vagueness in the description of team member roles, making it difficult for team members to fulfil their team obligations (role ambiguity); or (iii) when there seems to be inadequate time and resources for team members to fulfil their team roles and obligations (role overload) (Wincent and Örtqvist, 2006; Nygaard and Dahlstrom, 2002).

In support of the above assumptions, some authors have argued that team-based work practices may exert greater demands on employees due to the increased potential for both task and relationship conflicts, the increased likelihood for peer surveillance (e.g., due to the need to ascertain who is or is not performing), as well as the increased need to juggle one's team role alongside one's personal job responsibilities (Macky and Boxall, 2008; Mohr and Zoghi, 2008; Barker 1993; Fox, 1998). However, Greenberg et al. (2005) presented an alternative assumption, arguing that there is insufficient evidence to draw strong conclusions on the relationship between team-based activities and increases in work demands. Greenberg and his colleagues noted that team members would only experience higher levels of work

overload if team-based work activities were not structured appropriately (i.e., if best practices were not properly deployed in the design of such activities). In other words, to the extent that team members share responsibilities and cover each other's job tasks, they are less likely to experience increased levels of work intensification or show signs of interpersonal conflict and discontentment with work (Barker, 1993; Greenberg et al., 2005).

In terms of employee involvement through participative decision-making activities, there are indications that such practices may also produce positive independent effects on work intensification. In other words, adopting such practices may increase rather than reduce perceptions of work intensification. Attempts to explain this relationship (see Bainbridge, 1998; Tubre and Collins, 2000; Adler and Borys, 1996) have relied on the links between role stress and the degree of formalization of work (where 'degree of formalization of work' is defined as the existence of clear hierarchical structures in an organization). Although participative decision-making activities may afford employees the prerogative to influence workplace decisions, such practices may also lead to substantial degradation in the level of workplace formalization, thereby increasing levels of role ambiguity, role conflict and role overload. Where workers are allowed to contribute considerably to organizational decisions, some of them may feel obliged to overly exert this authority on their colleagues as a way to make their voices heard. The consequence of this is a workplace that may be described colloquially as 'a workplace environment with over a hundred bosses' (Fox, 1998; Nygaard and Dahlstrom, 2002). Whereas some studies have suggested that a lack of decision-making authority among employees may stifle the degree of innovativeness in high-performance organizations (Appelbaum et al., 2000; Laschinger et al., 2001; Paré and Tremblay, 2007), the foregoing has revealed an alternative possibility. More precisely, participative employee involvement practices may not always lead to beneficial outcomes for the organization given the likelihood that such practices may create a sense of disorderliness in the delegation of

authority among employees and increase role stress as a result (Bainbridge, 1998, Adler and Borys, 1996).

Under similar assumptions (i.e., referring to the relationship between active employee involvement and the level of formalization of work), Bainbridge (1998) noted a positive relationship between employee representation through union activities and work intensification. Whilst strong union presence may increase employees' awareness of their 'voice' or 'say' in workplace decisions, the alternative argument is that such structures may reduce the power distance between management and employees, and create room for discrepancies in the delegation of authority among employees (Walsworth, 2010; Bainbridge, 1998). Where irregularities exist in terms of specification of employees' work roles, there could also be corresponding increases in work intensification and the likelihood for role ambiguity and interpersonal conflict among employees (Tubre and Collins, 2000). Echoing this, Hyman and Mason (1995) argued that unions and other forms of employee representation could result in the lowering of existing hierarchical structures at work, and creating an additional burden of responsibility on workers, usually without corresponding increases in pay levels. According to the authors, 'empowerment' in such circumstances is synonymous with 'high work demands', 'work-related pressure' or 'work intensification'.

The links between extensive recruitment practices and work intensification have received surprisingly little attention in the growing HPWP literature, despite the supposed relevance of such practices in strengthening the human capital characteristics of an organization. Although some studies have described this relationship in terms of P-E fit theories, these studies have focused primarily on the P-J fit model rather than the P-O fit perspective. As defined earlier in this chapter, the P-J fit model refers to the degree of congruence between the abilities and expectations of an individual in relation to the demands and attributes of the job (Sekiguchi, 2004). Drawing on the tenets of this model, some authors

have suggested that employees are better placed to cope with high work demands if they are hired in such a way that their work-related skills, knowledge and abilities are relevant for the job (Ahmad and Schroeder, 2002; Sekiguchi, 2004; Beltrán-Martín et al., 2008). From this standpoint, the selective hiring of employees may produce a reducing effect on work intensification, especially if the organization performs proper job analysis beforehand to ascertain the actual requirements of the job (Beltrán-Martín et al., 2008; Green and Tsitsianis, 2005; Allen and van der Velden 2001; Sekiguchi, 2004). Another illustration is derived from the possible links between the P-J fit model and the JD-C model of stress. Where employees are recruited in such a way that there is congruence between their work-related abilities and the characteristics of the job (specifically the level of discretion offered on the job), then such employees are better placed to manage the high demands associated with work. In other words, adequate person-job fit allows employees to maximize the level of autonomy given to them at work, and this in turn enables employees to manage high work demands and pressure (Ahmad and Schroeder, 2002).

Another interesting point within the HPWP literature is the argument that employees' assessment of organizational justice, particularly with respect to procedures for airing and resolving grievances, may affect employees' perception of work-related distress. Relevant studies (Cohen-Charash and Spector, 2001; Judge and Colquitt, 2004; Kroon et al., 2009; Inoue et al., 2010) have shown that the deployment of justice and fairness in organizational processes may serve as incentives that allow employees to cope with uncertainties at work. Where fairness and justice are deployed in organizational processes, employees feel more confident that their employers are concerned about their welfare. This then creates a sense of empowerment among employees and enables employees to manage high work demands effectively (Kroon et al., 2009). On explaining this relationship further, Judge and Colquitt (2004) suggested that perceptions of unfairness and injustice represent stress factors that may

cause employees to feel a sense of vagueness and lack of control over high work demands. Put differently, employees derive a sense of objectivity and operational control over their job tasks when they feel justice and fairness are being deployed in organizational processes. Such employees do not consider the high demands of work as a managerial ploy to maltreat them; instead, they perceive high work demands as a necessity for achieving organizational growth. It is based on these assumptions that the independent effect of employees' perception of fairness in organizational processes (including procedures for airing grievances) on work intensification is thought to lie in the reducing direction (Cohen-Charash and Spector, 2001; Judge and Colquitt, 2004; Kroon et al., 2009; Inoue et al., 2010).

Researchers in organizational psychology have argued that the levels of support and cooperation offered to employees by management may reduce the adverse consequences of high work demands (Boisard et al., 2003; Bakker and Demerouti, 2007; Balducci et al., 2011). A supportive workplace climate may reduce the tendency for employees to perceive their working speeds as being constantly high, or their task deadlines as being constantly tight (Boisard et al., 2003). These assumptions are consistent with arguments derived from the Job Demands–Resources (JD-R) model, an alternative model to the JD-C model. According to the JD-R model, every occupation has its own specific risk factors (high job demands in this case) that contribute to work-related distress; however, these factors may be managed effectively if employees are offered valuable job resources (De Jonge et al., 2000; Balducci et al., 2011; Demerouti and Bakker, 2011). Job resources here refers to those physical, psychological, social, or organizational work elements (e.g., supervisory feedback, training and coaching, promotion prospects, career opportunities, compensatory rewards, etc.) that serve to promote the personal growth and well-being of employees (Bakker and Demerouti, 2007; Balducci et al., 2011). The JD-R model does not really propose a completely different theoretical construct from the JD-C model; rather it modifies the JD-C model slightly by

suggesting that over and above the cushioning effects of job autonomy on high work demands, employees may utilize other job resources available to them as useful coping mechanisms for stressful work conditions (Balducci et al., 2011; Demerouti and Bakker, 2011).

The implications of the JD-R model may vary depending on the type of job resources available to employees. For example, supportive management practices such as constructive supervisory feedback and managerial support, childcare support, parental leave allowances and so on, may allow employees to create a balance between their work and family lives, and reduce employees' perception of work-related strain and pressure (Lobel, 1999; Ngo et al., 2009). Such practices enable employees to manage the likely debilitating work-life interferences, which would otherwise constitute a source of emotional distraction from their job. As an illustration, a working mother is able to combine both work and parenthood if her workplace offers childcare support through workplace nurseries. Knowing that her child is being looked after in a nearby and safe environment, the working mother would feel more relaxed and able to undertake her work responsibilities without feeling anxious about the welfare of her child. In a similar light, employee empowerment through adequate information sharing activities may reduce feelings of work overload, emotional distress and job strain among employees (Wilkinson, 1998; Bakker and Demerouti, 2007). This assumption draws on the fact that information sharing activities make it possible for employees to appreciate the reasons behind managerial decisions that affect the nature of their jobs. As such, employees are able to plan and align their personal goals with organizational objectives, and consequently exert full operational control over the high demands associated with work (Fox, 1998; Kuye and Sulaimon, 2011).

Employee skills development through staff training is thought to promote desirable employee attitudes and well-being by improving workers' ability to handle high work

demands (Newman et al., 2011; Combs et al., 2006; Bartlett, 2001; Barling et al., 2003). In other words, staff training produces a reducing rather than an enhancing independent effect on employees' perception of work intensification. Barling et al. (2003) described the beneficial effects of staff training in the context of occupational health and safety. Accordingly, employees acquire greater work competencies and improve on their knowledge of the job when offered adequate training. This in turn enables employees to exercise sufficient control over their work responsibilities, leading to job satisfaction and reduced workplace injuries. In contrast, however, Kalmi and Kauhanen (2008) found staff training to have a positive relationship with work intensification. The authors examined the independent effect of staff training alongside other HRM practices such as team working, information sharing and incentive pay, but found staff training to be the only HRM practice with a significant positive relationship with job intensity. This finding raises the possibility that employees may perceive training and development programs as a further burden of responsibility associated with the job, particularly if employees are required to reserve extra time from work to attend such programs.

In a similar vein, the links between performance appraisals and perceptions of work intensification seem to be positive rather than in the decreasing direction. Relevant studies have shown how performance appraisals may cause employees to expend more work effort, leading to increases in work-related stress and pressure (Gallie, White, Tomlinson, and Cheng, 1998; Green, 2001; Brown and Benson, 2005; Williams, 2009). Brown and Benson (2005) noted that performance appraisal systems that incorporate a number of ambiguous performance measurement objectives may serve as antecedents of work intensification and pressure among employees. Where too many performance measurement criteria are set for assessing the job performance of employees, employees may feel overwhelmed by such systems as they seek to satisfy all the performance objectives within a single evaluation cycle.

This in turn may lead to increased feelings of work intensification and pressure among employees. Moreover, because performance appraisals are often associated with a range of HRM outcomes including pay raises, promotions, and other desirable workplace incentives, such systems may cause employees to expend more work effort driven by the desire to achieve these incentives through high performance appraisal ratings (Brown and Benson, 2005).

Despite the presumed positive effects of equitable monetary and non-monetary rewards on employee attitudes and well-being (see Whitener, 2001; Paré and Tremblay, 2007; Bauer, 2004), there is evidence that compensatory rewards may also lead to increased perceptions of work intensification among employees (Gallie et al., 1998; White et al., 2003; Green and Heywood, 2008; Macky and Boxall, 2008). This argument is hinged on the likelihood that employers who offer compensatory rewards tend to devolve more work responsibilities to their employees, perhaps as a way to generate returns on employer investments in such practices (Green and Heywood, 2008). Moreover, where employees' jobs are tied to compensatory payments and rewards, employees tend to work harder to obtain these rewards and are therefore exposed to higher levels of work-related strain and pressure (White et al., 2003).

The relationship between compensatory rewards and negative employee-level outcomes may also be explained by the Effort-Reward Imbalance (ERI) theory. This theory assumes that increased perceptions of work-related strain could ensue from a state of imbalance between the effort expended at work and the availability of commensurate rewards such as wages, promotion prospects, recognition, career-enhancement opportunities and so on (Siegrist et al., 2004; Bakker and Demerouti, 2007). Where employees perceive a lack of reciprocity between the high demands of work in relation to the compensatory rewards offered to them by their employers, they may develop feelings of dissatisfaction and distrust,

and ultimately feel less committed to their jobs (Bakker and Demerouti, 2007). In related circumstances, employees may resort to competing amongst each other for these rewards (Appelbaum et al., 2000), leading to interpersonal conflict and increased perceptions of work-related strain among employees (Siegrist et al., 2004; Bakker and Demerouti, 2007).

3.6 CHAPTER SUMMARY

This chapter has provided details of ‘the mutual gains versus the critical perspectives of HPWP’, drawing on relevant HPWP studies. This debate forms the second theoretical rationale for this thesis. The mutual gains perspective assumes that HPWP produce beneficial effects on employee attitudes and well-being, over and above their beneficial effects on organizational-level outcomes. Whereas the organization is thought to benefit from higher productivity, profitability and sustainable competitive advantage, employees benefit through better remuneration, job satisfaction and improved well-being. The critical perspective, on the other hand, argues that the benefits associated with HPWP may be offset by increases in work intensification and corresponding reductions in employee attitudes and well-being. Where HRM systems are implemented primarily to maximize labour input with little regard for employee well-being, such systems might result in the transfer of greater work responsibilities to employees, leading to poor employee attitudes and work-related stress outcomes.

The concepts of ‘employee attitudes’ and ‘employee well-being’ have been explained in this chapter. Employee attitudes were described as measures that reflect employees’ attitudinal responses to their experiences of work. In organizational studies (and indeed this thesis), employee attitudes are often expressed in terms of employees’ level of job satisfaction, organizational commitment and employees’ trust in management. In slight contrast, employee well-being reflects the overall quality of employees’ mental health and psychological functioning at work. Employee well-being may be expressed in terms of

negative emotional states such as feelings of anxiety, worry and pressure, or positive emotional states such as feelings of enthusiasm and motivation at work. Both concepts of ‘employee attitudes’ and ‘employee well-being’ serve as useful outcomes for representing employee-level implications of HPWP.

In this chapter, research evidence for the mutual gains perspective of HPWP was presented in terms of the integrationist and isolationist approaches to HPWP. Scholars have demonstrated positive links between bundles or coherent systems of HPWP and desirable employee attitude measures such as job satisfaction, organizational commitment and employees’ trust in management. Where individual HRM practices are used together in a coherent fashion, they produce beneficial influences on organizational performance through corresponding positive impacts on employee attitudes and well-being. Individual HRM practices such as discretionary job designs, team working, staff training, information sharing and so on, have also been found to have beneficial independent effects on desirable employee attitudes and well-being. It is assumed that these practices allow employees to utilize their work-related abilities in ways that enhance employees’ experience of meaningfulness at work, leading to improvements in employee attitudes and positive disposition towards their jobs.

In the current chapter, research evidence on the critical perspective of HPWP was also presented in terms of the integrationist and isolationist approaches to HPWP, though research in this regard is generally open to further investigation. Some authors have reported strong relationships between unitary measures of HPWP and undesirable employee outcomes such as work intensification and emotional exhaustion, whereas other authors have found weak relationships between HPWP and undesirable employee-level outcomes. In terms of the independent effects of HPWP, the ‘HPWP-intensification’ relationship was shown to lie in the reducing direction for HRM practices such as selective hiring, information sharing and supportive management, and in the positive direction for HRM practices such as team

working, participative decision-making and performance appraisal. Nevertheless, research evidence for practices such as job autonomy was shown to be somewhat inconclusive, lying either in the negative or positive direction, depending on the context of the work.

The next chapter, Chapter 4, provides an overview of the overall structure and design of this thesis. The chapter begins by reiterating the theoretical framework for this thesis and highlighting the main arguments of the two HPWP debates that form the theoretical basis for this thesis. Thereafter, the overall research aims of this thesis are provided. Chapter 4 also introduces the two datasets used in Study 1 (Chapter 5) and Study 2 (Chapter 7), respectively, and describes the research methodology adopted in this thesis. In all, Chapter 4 aims to enhance understanding of the complex array of analytical procedures and statistical methods adopted in this research project.

CHAPTER 4 – STUDY DESIGN

4.1 INTRODUCTION

This chapter provides an overview of the overall structure and design of this thesis. The chapter begins with a review of the theoretical rationale for this thesis, and highlights the main arguments underlying two High Performance Work Practices (HPWP) debates: ‘the integrationist and isolationist perspectives of HPWP’ and ‘the mutual gains versus the critical perspectives of HPWP’. Thereafter, an overview of the research aims and objectives of this thesis is presented. This chapter also introduces the two datasets used in the thesis and describes the research methodology adopted in this thesis. The research methodology is discussed in two parts, the data preparation stage, comprising the preliminary steps undertaken to ensure the quality and suitability of data for analysis, and the data analysis stage, comprising details of the various statistical procedures used for hypothesis testing. The overall aim of this chapter is to enhance understanding of the complex array of analytical procedures and statistical methods adopted in this research project.

4.2 SUMMARY OF RATIONALE FOR THESIS

The theoretical rationale for this thesis rests on a set of innovative Human Resource Management (HRM) practices, also known as HPWP, which are thought to have strong beneficial effects on organizational performance. HPWP are a set of innovative HRM practices that provide opportunities for employees to engage actively in workplace activities, learn and develop new work-related skills, and exercise greater discretion in carrying out their job tasks (Ichniowski, et al., 1997; White et al., 2003; Wright et al., 2005; Beltrán-Martín et al., 2008). By adopting HPWP, organizations are able to develop an inimitable human capital pool that could serve as a source of sustainable competitive advantage for the organization (Dunford et al., 2001; Delery, 1998).

In recent times, two key debates have emerged within the HPWP literature. The first debate, entitled ‘the integrationist and isolationist perspectives of HPWP’ (Arthur, 1994; MacDuffie, 1995; Ichniowski et al., 1997), is concerned with theoretical questions surrounding two approaches to operationalizing HPWP, whereas the second debate, ‘the mutual gains versus the critical perspectives of HPWP’, is concerned with the impacts of HPWP on the organization and employees (Ramsay et al., 2000; Sparham and Sung, 2007; Wood et al., 2012).

4.2.1 The integrationist and isolationist perspectives of HPWP

Through the integrationist perspective of HPWP, the HRM literature has underlined the need to adopt innovative HRM practices in coherent combinations or bundles to exploit existing complementarities among such practices (Huselid, 1995; Becker et al., 1997; Wood, 1999; Combs et al., 2006). In this light, HRM practices are presumed to be mutually supportive of each other and may produce positive synergistic effects on outcomes through an interactive and reinforcing relationship with each other. For example, consider the implementation of a problem-solving team alongside other HRM practices such as staff training, flexible work arrangements and incentive pay. Whereas the provision of adequate training would enable team members to develop relevant skills (e.g., interpersonal skills, conflict management skills and problem solving skills) that enhance participation in group-based activities, flexible work arrangements would allow them to juggle their team roles and routine job tasks over and above maintaining overall work-life balance. More so, the provision of incentive payments would extrinsically motivate team members and improve their level of performance at work. Thus, it is the combined effect of these three HRM practices, rather than their respective independent effects, that maximizes the benefits associated with the problem-solving team. Based on these assumptions, some authors have criticized the isolationist perspective of HPWP arguing that a focus on the independent

effects of individual HRM practices may present methodological and theoretical dilemmas; not least because HRM practices are driven from a common philosophy (Huselid, 1995; Arthur, 1994; MacDuffie, 1995).

The isolationist perspective of HPWP underscores the need to investigate the unique independent properties of individual HRM practices. For example, rather than focus on the combined effect of staff training, flexible working and incentive pay in the problem-solving team as illustrated above, advocates of the isolationist perspective would be more concerned with the specific independent effects of each of these practices. Indeed, the isolationist approach to the study of HPWP has some advantages contrary to reports by sceptics. Firstly, this perspective improves understanding of the unique independent effects of individual HRM practices and sheds light on plausible ways of combining sets of HRM practices into coherent systems of HPWP. This feature is useful given the lack of consistency in the literature in terms of the precise spectrum of HRM practices comprising an effective HPWP framework (Barling et al., 2003; White et al., 2003; Gould-Williams, 2004). Secondly, evaluating the independent effects of HRM practices helps in determining whether specific combinations of such practices have clear beneficial impacts (Becker et al., 1997; Delery, 1998, Guest et al., 2004; Combs et al., 2006). This follows the assumption that some HRM practices combine to produce ‘substitution effects’ (a situation where the combined effect of two or more HRM practices is equal to the effect of using only one of such practices), or combine to produce what Becker et al. (1997) has described as a ‘deadly combination’ (a situation where two or more HRM practices produce undesirable effects or work against each other when used together in combination). In these two situations, the combined effects of HRM practices may amount to nothing but the large organizational costs associated with implementing each HRM practice (Delery, 1998; Guest et al., 2004). The isolationist perspective offers insight into the independent properties of HPWP, and therefore promotes

understanding of how specific HRM practices may interact to produce positive effects on outcomes.

4.2.2 The mutual gains versus the critical perspectives of HPWP

Broadly speaking, there are two competing arguments concerning the impacts of HPWP on employees. The first, referred to as the mutual gains perspective of HPWP, assumes that HPWP produce beneficial effects on employee attitudes and well-being over and above their organizational-level benefits (Whitener, 2001; Macky and Boxall, 2007; Guest and Conway, 2007). This argument is based on the premise that HPWP enhance employees' level of motivation through active employee involvement at work and managerial support mechanisms, all of which may increase employees' experience of meaningfulness at work (Barling et al., 2003; Mohr and Zoghi, 2008; Wood and De Menezes, 2011). HPWP may also enhance employees' level of organizational commitment and prompt employees to utilize their work-related skills for the good of the organization (Bhuiyan et al., 1996). Whereas the organizational benefits of HPWP, according to the mutual gains perspective, include productivity gains, profitability and sustainable competitive advantage, the employee-level benefits may include job discretion, better remuneration, greater participation in decision-making activities and job satisfaction (Ichniowski et al., 1997; Macky and Boxall, 2008; Kalmi and Kauhanen, 2008).

On the flipside, there is evidence that the implementation of HPWP may lead to heightened workload and pressure if such practices are implemented with little regard for employee well-being (Ramsay et al. 2000; Burchielli et al., 2005; Harley et al., 2007; Kroon et al., 2009). Based on the critical perspective of HPWP, it is argued that the benefits associated with the HPWP framework may be offset by increases in work intensification and the shifting of managerial responsibilities to employees (Sparham and Sung, 2007). In other words, work intensification may serve as an intermediary variable explaining the

relationships between HPWP and negative employee attitudes and emotions at work. Several studies have linked work intensification to negative outcomes such as feelings of fatigue, job dissatisfaction and work-related stress among employees (Burchielli et al., 2005; Boisard et al., 2003; Bakker and Demerouti, 2007; Kroon et al., 2009). According to Macky and Boxall (2008), perceptions of work overload and pressure may increase feelings of psychological distress among employees and reduce employees' level of commitment at work. Therefore, if indeed the implementation of HPWP regime is associated with increases in work demands and pressure, then work intensification can be said to play a mediating role in the links between such practices and poor employee attitudes and well-being.

4.2.3 Sector-specific implications of HPWP

Another key issue in recent HRM debates is the extent to which HPWP outcomes are generalizable across organizational settings. Some studies have raised the possibility that the impacts of HPWP as described in the context of a particular economic sector may not replicate across other economic sectors due to differences in organizational structures and approaches to HRM (Nutt, 2005; Voss et al., 2005; Ordiz and Fernández, 2005; Harley et al., 2007; Baarspul and Wilderom, 2011). Firms in different economic settings are generally exposed to different organizational threats and opportunities and may therefore adopt contrasting HRM strategies to survive in their particular economic environment (Ordiz and Fernández, 2005). Other authors, however, have suggested that the implications of innovative HRM systems might generalize across organizational settings if a set of 'best' HRM practices are implemented (Delery and Doty, 1996; Wood, 1999; Hughes, 2002; Martin-Alcazar, et al, 2005; Vanhala and Stavrou, 2013). This assumption derives from the 'universalist' principle of HRM. This principle assumes the existence of a unique set of HRM practices which may produce beneficial effects across all organizations, regardless of characteristic features like organizational size, organizational culture or industry. This set of so-called 'best' practices

are thought to offer opportunities for employee skills development, higher levels of employee involvement in workplace activities, employee empowerment work designs and higher levels of managerial support, all of which are analogous to the HPWP framework (Pfeffer, 1994; Delery and Doty, 1996).

The trend so far in the extant HPWP literature (see Arthur, 1992; Arthur, 1994; MacDuffie, 1995; Ichniowski et al, 1997; Appelbaum et al., 2000; Yoon, 2001; Patterson et al., 2004; Ordiz and Fernández, 2005; Combs et al., 2006; Schulte et al., 2006) has been an emphasis on manufacturing companies and financial institutions. The dominance of studies in these sectors has led to insufficient understanding of sector-specific implications of HPWP in highly institutionalised environments like healthcare organizations (Bonias, Bartram, Leggat and Stanton, 2010). This thesis aims to fill this gap by investigating the implications of HPWP in the British National Health Service (NHS), a public health sector organisation. The NHS has in recent times introduced a range of innovative HRM practices as part of their Improving Working Lives (IWL) Standard to promote better workplace practices (Miller, Broughton, Tamkin, Reilly and Regan, 2007; Atkinson and Hall, 2011). However, due to certain factors peculiar to the British healthcare system (e.g., increased susceptibility to political influence and the need to provide low cost medical services amidst huge budgetary constraints), the diffusion of innovative work practices in the NHS tends to be less flexible compared to organizations in the private sector (Miller et al., 2007). As such, one cannot assume overtly that the outcomes of HPWP as described in non-healthcare settings may replicate in healthcare settings, unless strong empirical evidence is provided to support such assumptions. By investigating the implications of HPWP in the British NHS and comparing findings with evidence from a large nationally representative sample of British workplaces, this thesis aims to extend understanding of the replicability of HPWP outcomes across organizational settings.

4.3 RESEARCH AIMS

Drawing on the foregoing theoretical backdrop, the research aims of this thesis are summed up into two main points (see Figure 1). The primary, more general aim of this thesis is to investigate the independent and integrated effects of HPWP on employee attitudes and well-being, and examine the mediating role of work intensification in these relationships. This will inform two central HPWP debates, ‘the integrationist and isolationist perspectives of HPWP’ and ‘the mutual gains versus the critical perspectives of HPWP’. To this end, two sets of baseline propositions are developed.

The first set of propositions (propositions 1 and 2) refers to the mutual gains perspective of HPWP, the assumption that HPWP produce positive effects on employee attitudes and well-being. Whereas proposition 1 emphasizes the independent effects of HPWP on employee attitudes and well-being (i.e., the isolationist perspective of HPWP), proposition 2 refers to the integrated effects of HPWP on employee attitudes and well-being (i.e., the integrationist perspective of HPWP).

Proposition 1: HPWP produce positive independent effects on employee attitudes and well-being.

Proposition 2: HPWP produce positive integrated effects on employee attitudes and well-being.

The second set of propositions (propositions 3 and 4) refers to the critical perspective of HPWP, the assumption that work intensification mediates the effects of HPWP on employee attitudes and well-being. Proposition 3 refers to the isolationist perspective of HPWP, whereas proposition 4 refers to the integrationist perspective of HPWP.

Proposition 3: Work intensification mediates the independent effects of HPWP on employee attitudes and well-being.

Proposition 4: Work intensification mediates the integrated effects of HPWP on employee attitudes and well-being.

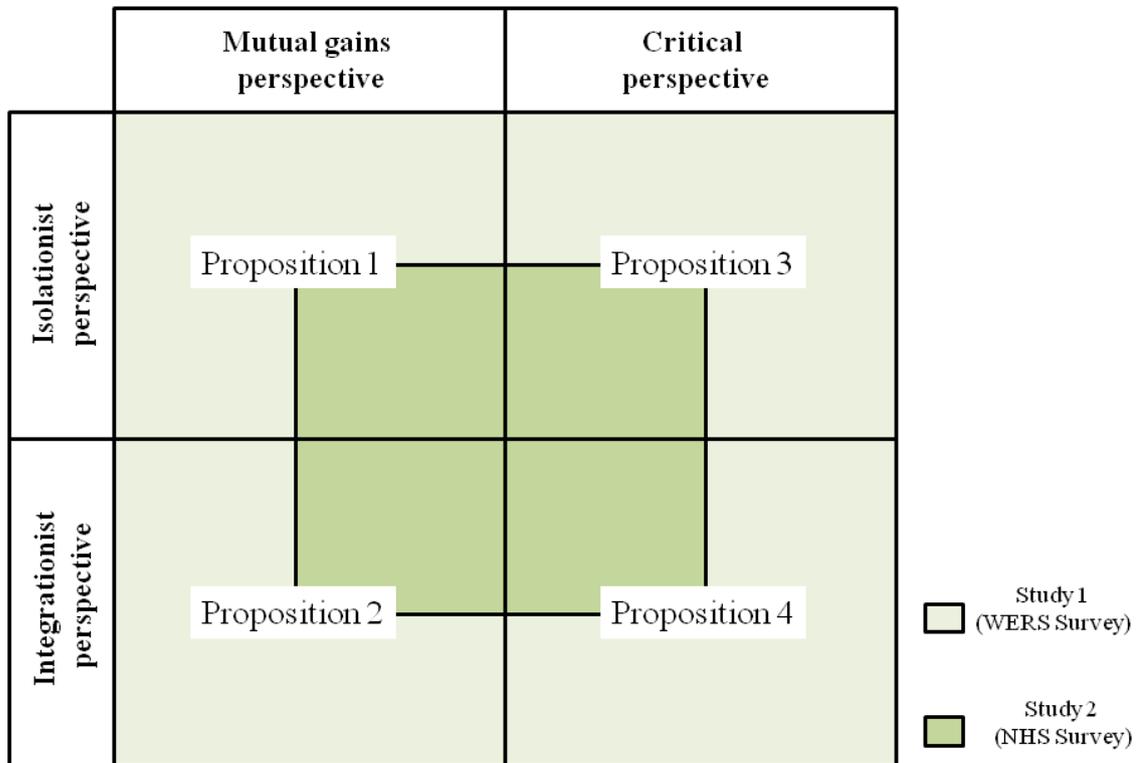


Figure 1 Pictorial representation of research aims

The secondary, more specific aim of this thesis is to examine whether there are sector-specific implications in terms of the independent and integrated effects of HPWP on employee attitudes and well-being. An investigation of this nature will throw light on claims that the outcomes of HPWP are generalizable across organizational settings (Hughes, 2002; Vanhala and Stavrou, 2013). Although some studies have highlighted sector-specific implications of adopting innovative HRM practices (see Arthur, 1994; MacDuffie, 1995; Appelbaum et al., 2000; Ordiz and Fernández, 2005), most of these studies have focused primarily on manufacturing and service sector organizations, leading to insufficient evidence as to the implications of HPWP in public sector organizations. This thesis fills this gap by investigating the employee-level impacts of HPWP in the British healthcare sector.

Specifically, the thesis aims to test propositions 1 to 4 within the context of the British NHS and thereafter compare findings with evidence from a representative sample of British establishments to expand on the ‘universalist’ principle of HRM.

4.4 DESCRIPTION OF STUDY 1 AND STUDY 2

The primary and secondary aims of this thesis were accomplished via two empirical studies. The first study (or Study 1) investigated the employee-level impacts of HPWP without paying particular attention to sector-specific characteristics. This study was undertaken using data from the 2004 Workplace Employment Relations Survey (WERS 2004), the fifth in a series of surveys first conducted in 1980. The WERS 2004 data consists of the management survey component, comprising a broad range of information about managerial strategies to work organization, as well as the employee survey component, containing information on corresponding employee experiences of these managerial strategies. Management-level information was gathered via a face-to-face interview with a single manager or a senior person in the organization whose role is related to HRM. Employee-level data were collected using an eight-page, self-completion questionnaire randomly distributed to employees in workplaces where the management interviews were carried out. Together, the management-level and employee-level components of the WERS 2004 data provide a useful framework for analyzing employment relations on a multilevel basis.

The second study (or Study 2) examined the employee-level implications of HPWP within the context of the British NHS. This study was designed to explore the role of sector-specific characteristics in explaining the consequences of adopting innovative workplace practices. Specifically, research findings from this study were compared with evidence from Study 1 to shed light on the extent to which HPWP outcomes are replicable across organizational settings. Study 2 was undertaken using data from the 2010 NHS Staff Survey,

the eighth in a series of annual surveys first conducted in 2003 by an Advice Centre in Aston University, on behalf of the Care Quality Commission. The survey provides useful information regarding NHS staff perspectives on various employment relations issues such as the organization of work and matters relating to employee attitudes and well-being within the NHS. Data were gathered via self-completion questionnaires distributed to a selection of NHS staff. Unlike the WERS 2004 data, the NHS data do not contain separate management-level and employee-level information. Therefore, management-level constructs were derived by averaging employee-level information via a statistical procedure known as data aggregation (details of this statistical procedure are provided later in this chapter).

4.5 OVERVIEW OF METHODOLOGY

To understand the complex array of statistical techniques and analytical procedures adopted in this thesis, an overview of the research methodology is presented in this section. The research methodology was conducted in two broad stages, the data preparation stage and the data analysis stage. These two stages are applicable to both Study 1 and Study 2. However, specific details of the analytical methods and procedures adopted in either Study 1 or Study 2 are provided in the respective methodology sections of each study.

The data preparation stage involved all preliminary steps (from the selection of relevant survey items to the derivation of research variables) undertaken to ensure that data were suitably processed and ready for data analysis. Data preparation was carried out using the SPSS software program. The SPSS software was preferred because it offers a user-friendly interface for organizing survey information, identifying invalid cases, viewing patterns of missing data and interpreting results of descriptive statistical analysis. The data analysis stage, on the other hand, involved the actual testing of hypothesized assumptions. Data analysis was carried out using the Mplus software program. The Mplus software was preferred because it presents a variety of estimators and algorithms for analyzing complex

models in both single-level and multilevel data, and allows the use of different types of observed variables such as binary, ordinal, nominal, continuous, censored, as well as various combinations of these (Muthén and Muthén, 1998-2010; Byrne, 2012).

4.5.1 Data preparation stage

The first step in this stage was to select relevant items from the respective surveys. Survey items for both Study 1 and Study 2 were carefully selected in accordance with prior HPWP studies (e.g., Ichniowski et al, 1997; Combs et al., 2006; Guest and Conway, 2007; Haile, 2007; Bryson and White, 2008; Wood and De Menezes, 2011). Care was also taken to ensure consistency between the survey items selected for Study 1 and those selected for Study 2. To improve data quality, patterns of missing values were verified and items with missing values on all cases were not selected. Observed items were also renamed to fit the particular context of each study. For example, the three job discretion items of the WERS 2004 management survey were renamed from ‘CDISCRETE’, ‘CONTROL’ and ‘CDESIGN’ to ‘job_desc1’, ‘job_desc2’ and ‘job_desc3’, respectively, to facilitate further processing of data.

Following the literature, some informed decisions were made to recode multiple-response questions (Haile, 2007; Guest and Conway, 2007) and questions with multi-faceted responses (Wood and De Menezes, 2011; Wood et al., 2012) into binary formats. This step was necessary to minimize measurement error due to ambiguity of responses to these questions. For example, one of the items on ‘training’ in the management survey of WERS 2004 required respondents to indicate whether ‘all’, ‘almost all’, ‘most’, ‘around half’, ‘some’, ‘just a few’ and ‘none’ of the employees have been given time off from their normal work duties to undertake training. Intuitively, at least, it would seem somewhat difficult for a respondent to distinguish between such responses as ‘almost all’ and ‘most’ or ‘some’ and ‘just a few’, since these responses are quite synonymic. Therefore, some informed decisions

were made to recode items with such multi-faceted responses into binary formats. Given that questions of this nature were different for Study 1 and Study 2, further details on the extent of recoding is provided in the respective methodology section of each study.

Not all selected items were eventually used in deriving measures for hypothesized constructs. The decision to eliminate some items was informed by two statistical procedures, exploratory factor analysis (EFA) and reliability statistics using Cronbach's alpha coefficient. These two statistical procedures were used to minimize measurement error and to ensure validity and reliability of observed items and their associated latent variables (Yu, 2001; Suhr, 2005; Edwards, 2008). Latent constructs (or latent variables) are variables that are not observed directly in research surveys but are measured indirectly based on their underlying influence on a set of observed items (Suhr, 2005; Kaplan, 2009; Byrne, 2012). Whereas EFA was used to uncover the underlying structure behind the observed items, reliability statistics was used to estimate the internal consistency between constituent items of each latent variable.

4.5.1.1 Exploratory factor analysis (EFA)

EFA is a widely used statistical procedure for exploring the possible latent factor structure underlying a set of observed items (Suhr, 2005; De Winter and Dodou, 2012). It is used in ascertaining the nature of underlying latent constructs that may explain the covariance between a set of observed items. A distinction is often made between an EFA and the closely related Principle Component Analysis (PCA). Although EFA and PCA may produce similar results when used as data reduction techniques, both procedures are thought to be conceptually different (Costello and Osborne, 2005; Suhr, 2005). PCA is a data reduction technique used in reducing a set of observed items into a set of linearly uncorrelated and orthogonal components (Suhr, 2005; Crawford et al., 2010). Unlike EFA, principal components in PCA are computed without consideration of the latent structure underlying the

observed items; instead, principal components are calculated based on the inclusion of all variability in the observed items (Costello and Osborne, 2005). Whereas EFA produces factors that are linear combinations that capture a shared proportion of the variance between a set of observed items, PCA produces factors that are linear combinations that capture the full variance between a set of observed items (Crawford et al., 2010).

There are several estimation and rotation methods available for conducting EFA; researchers need to decide on which method is most suitable for their investigation. Broadly speaking, the Maximum Likelihood (ML) and Principal Axis Factoring (PAF) estimation algorithms are the most commonly used methods for extracting factors in EFA procedures (Costello and Osborne, 2005; De Winter and Dodou, 2012). These two estimation methods produce consistent factor solutions for most data structures and sample sizes. Although there is little evidence as to which method performs better with respect to EFA, PAF was the preferred method for this thesis because it makes no assumption of normality of data, unlike ML estimation which is based on the normal distribution theory (Costello and Osborne, 2005; De Winter and Dodou, 2012). Nevertheless, ML estimation is more appropriate for procedures such as Structural Equation Modelling (SEM) in that it allows for calculation of model fit indices and estimation of statistical significance in latent factor relationships (Costello and Osborne, 2005; De Winter and Dodou, 2012).

In terms of the rotation methods available for EFA, a researcher may choose between an orthogonal rotation method and an oblique rotation method. The main difference between these two rotation methods is that orthogonal rotation does not allow for correlation between factors, whereas oblique rotation allows factors to be correlated (Costello and Osborne, 2005; Dien, Khoe and Mangun, 2007; Brown, 2009; Crawford et al., 2010). For this reason, an oblique rotation method known as 'Promax' was the preferred rotation method for this thesis. HRM practices are generally thought to exhibit a degree of inter-correlation given their

mutually supportive nature; therefore, an oblique rotation method was deemed appropriate for this thesis to accommodate inter-correlations between research variables.

4.5.1.2 Reliability analysis

Reliability in statistical analysis is commonly expressed in terms of Cronbach's alpha coefficient, a measure of the degree of internal consistency between a set of variables in relation to an underlying construct (Yu, 2001; Gliem and Gliem, 2003; Edwards, 2008). Cronbach's alpha values usually fall within the range of 0 and 1. There is generally no approved cut-off for a good Cronbach's alpha coefficient. As a rule of thumb, it is assumed that the closer the alpha coefficient is to 1 (usually 0.7 and above), the greater the internal consistency of the set of items constituting a scale. The caveat here, however, is that a high Cronbach's alpha coefficient for a set of items within a scale does not necessarily imply that the scale is unidimensional (Gliem and Gliem, 2003). Factor analysis is the recognized method for ascertaining dimensionality of a set of items. Whereas a low Cronbach's alpha value, usually below 0.6, may signal poor internal consistency and high measurement error between a set of items measuring a scale, it may also signify the existence of several latent constructs underlying the set of items. Therefore, a model should not be discarded simply because it has produced a low Cronbach's alpha coefficient value (Yu, 2001; Edwards, 2008).

4.5.1.3 Data aggregation

As mentioned earlier, data were analyzed on the basis of multilevel modelling in this thesis. The basic principle underlying multilevel modelling is that research variables are measured at different levels of analysis, the between- or organizational-level of analysis and the within- or employee-level of analysis (Hox, 1995; Heck and Scott, 2009). In organizational studies, for example, organizational-level constructs are developed using information derived from managers of an organization, whereas employee-level constructs are developed using information derived from employees. In some instances, however, data

may be gathered from employees only, so that organizational-level constructs are developed indirectly by averaging employee-level information. The analytical procedure by which employee-level information is averaged into management-level information is termed data aggregation.

Prior to aggregating employee-level information into organizational-level constructs, some statistical tests are recommended to ensure sufficient justification for data aggregation. The test for interrater reliability (IRR) and the test for interrater agreement (IRA) are among the two common statistical tests for ensuring sufficient justification for aggregation (LeBreton and Senter, 2008).

- *Interrater reliability (IRR)*

The test for IRR is used to measure the extent to which a set of raters (judges or observers or respondents in a survey) within a given population resemble each other with respect to a set of measurement scales. It is used to determine the degree of consistency between ratings provided by raters within the same population (Bliese, 2000; LeBreton and Senter, 2008; Biemann, Cole and Voelpel, 2012). For example, if a group of students in a class are asked to rate the behaviour of their psychology teacher in terms of a given measurement scale, IRR can be employed to ascertain the extent to which the ratings provided by the students are consistent in measuring the behaviour of the said psychology teacher. The most common IRR index is the Intraclass Correlation Coefficient (ICC), which measures the proportion of total variance in ratings that is explained by the observed variance between raters (LeBreton and Senter, 2008). Two forms of ICCs (ICC1 and ICC2) were adopted in this thesis and both forms of ICCs were computed based on one-way random effects ANOVA (Bliese, 2000; LeBreton and Senter, 2008; Biemann et al., 2012).

ICC1 measures the proportion of variance in a variable that one would expect if ratings supplied by a random rater from a given sample of raters are compared to the

estimated true score obtained from the overall sample of raters (Bliese, 2000; LeBreton and Senter, 2008). It is used to estimate the interrater reliability of a single rater. ICC1 values are usually interpreted in terms of effect sizes. Thus, an ICC1 value of .01 could be regarded as a ‘small’ effect, a value of .10 could be regarded as a ‘medium’ effect, and a value above .25 could be regarded as a ‘large’ effect (LeBreton and Senter, 2008). By contrast, ICC2 is used when the researcher is interested in understanding the reliability of the mean rating provided by a group of raters (LeBreton and Senter, 2008; Biemann et al., 2012). It is used to estimate interrater reliability of the group-level means for a number of raters. ICC2 values normally fall within the range of 0 and 1. There is no consensus in terms of an acceptable cut-off point for justifying aggregation when using ICC2; however, ICC2 values that are very close to 1 may provide sufficient justification for the reliability of mean ratings (LeBreton and Senter, 2008).

- *Interrater agreement (IRA)*

The test for IRA is used in estimating the level of absolute consensus between ratings supplied by multiple raters (Bliese, 2000; Biemann et al., 2012; LeBreton and Senter, 2008). Estimates of IRA address the issues of whether ratings supplied by a set of raters are interchangeable in terms of their absolute value. Arguably, the most commonly used measures of IRA have been the James, Demaree, and Wolf’s (1984) r_{WG} index for measures with a single item and $r_{WG(j)}$ index for multiple item measures. The decision to use either the r_{WG} index or the $r_{WG(j)}$ index depends entirely on the nature of measurement scales employed in the research (LeBreton and Senter, 2008; Biemann et al., 2012). If an organizational-level construct is to be represented using a single employee-level item, then r_{WG} is the relevant measure of IRA for justifying aggregation. However, if the organizational-level construct is to be measured using two or more employee-level items, then $r_{WG(j)}$ is used to ensure sufficient justification for aggregation (‘j’ is usually equal to the number of items or measures

used). The r_{WG} index is computed as the ratio of the observed variance and the variance expected when there is a complete lack of agreement among raters. The formula for the $r_{WG(J)}$ index is an extension of this formula to accommodate multiple-item measures (for more details see James et al., 1984; LeBreton and Senter, 2008; Biemann et al., 2012).

The r_{WG} and $r_{WG(J)}$ values normally fall within the range of 0 and 1, where 0 indicates no agreement between raters and 1 indicates perfect agreement between raters (James et al., 1984; LeBreton and Senter, 2008). Although the traditional cut-point for IRA using the r_{WG} and $r_{WG(J)}$ indices is generally set at 0.70, this cut-off has been criticized as being arbitrary (LeBreton et al., 2003; Biemann et al., 2012). According to LeBreton and Senter's (2008) recommendation, researchers may consider IRA in terms of .00 to .30 as indicating lack of agreement, .31 to .50 as weak agreement, .51 to .70 as moderate agreement, .71 to .90 as strong agreement, and .91 to 1.00 as very strong agreement (LeBreton and Senter, 2008: p. 836).

4.5.1.4 Measuring the integrated effects of HPWP (HPWP index measure)

In Chapter 2 of this thesis, three underlying principles of 'internal coherence' between individual HRM practices were described. The first, a 'complementary' system of HPWP, looks at the overall additive effect of individual HRM practices on outcomes (Delery, 1998; Combs et al., 2006; Wood and De Menezes, 2008). The second, a 'synergistic' system of HPWP, relates to the overall multiplicative effect of individual HRM practices on outcomes (Guerrero and Barraud-Didier, 2004; Wood and De Menezes, 2008). The third, an 'integrated' system of HPWP, illustrates internal coherence in terms of organizations' distinctive orientation towards HRM (Arthur, 1994; MacDuffie, 1995; Guest et al., 2004). Unfortunately, the theoretical differences between these three concepts are not fully established in the HPWP literature (Wood and De Menezes, 2008), and authors have tended to use these concepts interchangeably. In this thesis, the integrationist perspective of HPWP is estimated

based on an 'integrated' system of HPWP. This is because an 'integrated' system of HPWP is all-encompassing and reflects organizational orientation towards innovative HRM (Arthur, 1994; MacDuffie, 1995).

Several methods have been suggested for analyzing the integrationist perspective of HPWP; only three of these have been adopted widely in organizational studies (MacDuffie, 1995; Delery, 1998; Guest et al., 2004). The first method entails the use of reliability statistics to estimate the degree of internal consistency between a set of HRM practices, to identify plausible ways in which such practices can be combined into coherent systems. The second approach, which has been adopted more extensively in HPWP studies (see Huselid, 1995; Ramsay et al, 2000; Kalmi and Kauhanen, 2008; Kroon et al., 2009), involves using factor analysis or principal components analysis to explore the likelihood that a given set of HRM practices are explained by an underlying latent HPWP structure. However, these two techniques are presumed to be more suitable for deriving a 'scale' of inter-correlated HRM practices, rather than an integrated system of HRM practices, which is also regarded as an 'index' measure of HPWP (Delery, 1998; Macky and Boxall, 2007). A distinction is often made in the literature between a 'scale' and an 'index' with respect to HPWP (Delery, 1998; De Menezes and Wood, 2006; Macky and Boxall, 2007). Whereas a scale embodies a group of items (or HRM practices) that measure the same underlying construct, an index embodies a set of items (or HRM practices) that measure the level of the construct (Delery, 1998). The constituents of a scale are generally thought to be highly correlated and can therefore be measured using reliability statistics or factor analysis. By contrast, the constituents of an index may not necessarily have high inter-correlation, and therefore, the use of reliability statistics and factor analysis may be less appropriate for deriving an index (Delery, 1998; Guest et al., 2004; Macky and Boxall, 2007).

Consequently, cluster analysis is advocated as the preferred method for measuring integrated systems of HRM practices (Becker and Gerhart, 1996; Becker and Huselid, 1998; Delery, 1998; Guest et al., 2004). Cluster analysis is a data-driven technique that can be used to divide a given sample into systematic clusters based on a set of HRM variables. Cluster analysis does not rely on prior knowledge of possible clusters within the sample; instead, clusters are formed based on identification of existing patterns within the data (Vermunt and Magidson, 2002; Clatworthy, Buick, Hankins, Weinman and Horne, 2005; Burns and Burns, 2008). The main limitation of cluster analysis, however, is that it presents a plethora of clustering algorithms which makes it difficult to aptly derive and interpret cluster solutions (Delery, 1998; Mooi and Sarstedt, 2011).

Agglomerative hierarchical cluster analysis using the Ward's method algorithm and the squared Euclidean distance was adopted in this thesis. The Ward's method progressively merges separate sets of entities into fewer and more inclusive clusters such that at each step of the process, clusters whose fusion results in the smallest increase in error sum of squares are combined (Wishart, 1969; Lorr, 1983; Burns and Burns, 2008). Although the 'Euclidean distance' (or the straight-line distance) is sometimes used to assess proximity between entities in the Ward's method, the squared Euclidean distance was preferred as it places progressively greater weights on entities that are further apart (Wishart, 1969; Mojena, 1977; Burns and Burns, 2008).

The above clustering procedure was used to systematically divide the sample (in Study 1 and Study 2, respectively) into distinct clusters based on a set of innovative HRM practices. Information regarding membership to respective clusters was held in the cluster membership variable (otherwise called the HPWP index variable), which was then used in subsequent analysis to examine the integrated effects of HPWP. Details of this analysis are provided shortly in this chapter under the sub-heading 'multiple group analysis'. The HPWP

index variable is a categorical variable whose categories represent the different clusters in the sample. An ANOVA test (using Tukey Post Hoc test) was used to verify that the clusters were significantly different from each other in terms of their HRM profiles or relative use of innovative HRM practices. In other words, members of the same cluster have similar orientations towards HRM, but are significantly different from members of other clusters. The cluster with high scores on the HRM practices was considered as the 'HPWP cluster' or the more innovative group within the sample, whereas the cluster with low scores was considered as the less innovative group within the sample. The cluster with low-average (or moderate) scores on the HRM practices was considered as being in the middle between the more innovative and the less innovative clusters. This variety of cluster types was used to examine the integrated effect of HPWP on employee attitudes and well-being. If employees in the HPWP cluster were found to have higher scores on employee attitudes and well-being compared to employees in the other clusters, then there is evidence that HPWP have beneficial integrated effects on employee attitudes and well-being.

Recent developments in latent structure analysis have led to other methods for deriving groups or clusters of firms in organizational studies. A typical example of this is mixture modelling, a variant of Structural Equation Modelling (SEM). Mixture modelling is a useful technique for deriving subgroups or clusters of entities within a given population based on patterns of conditional probabilities (Jensen and Vinding, 2003; Asparouhov and Muthen, 2008). Just like cluster analysis, class or cluster membership is not known *a priori*, and a set of observed variables is used as the criteria for grouping entities into meaningful classes or clusters. Two types of mixture modelling procedures have been described in the literature, Latent Class Analysis (LCA) and Latent Profile Analysis (LPA). The main difference between both methods is that LCA is limited to the use of categorical observed variables only, whereas LPA is more flexible and can accommodate continuous variables (Jensen and

Vinding, 2003; Nylund, Asparouhov and Muthén, 2007; Morin, Morizot, Boudrias, and Madore, 2011). Both methods are considered more appropriate than cluster analysis for identifying coherent clusters of entities compared to cluster analysis because they rely on goodness-of-fit statistics, rather than mathematical clustering algorithms (Vermunt and Magidson, 2002; Jensen and Vinding, 2003; Morin et al., 2011).

This raises the question of why cluster analysis rather than LCA or LPA was preferred in this thesis. Firstly, unlike LCA or LPA, cluster analysis has been adopted widely in previous HPWP studies (see Arthur, 1992; Arthur, 1994; Huselid and Becker, 1997; Ichniowski et al., 1997; Becker and Huselid, 1998). As such, there is an extensive evidence base for useful empirical comparisons when cluster analysis is used to examine the integrationist perspective of HPWP. Secondly, there seems to be discrepancies in the use of Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) model fit indices in determining the number of classes in mixture models. Particularly, these two fit indices may point to contrasting latent class solutions as both indices are derived from different underlying theories (Vermunt and Magidson, 2002; Jensen and Vinding, 2003; Hu and Xu, 2004; Nylund et al., 2007; Morin et al., 2011). For example, Jensen and Vinding (2003) conducted a study using LCA to classify firms in a Danish sample. On interpreting the model output, the authors noted that AIC pointed to a three-class solution, whereas BIC pointed to a four-class solution. Based on their findings, the authors described AIC as being too liberal and prone to overestimating the number of classes in a given model, whereas BIC was described as being more conservative and prone to underestimating the number of classes in a given model. These concerns have been reiterated by other authors (see Hu and Xu, 2004; Nylund et al., 2007; Morin et al., 2011). Therefore, to avoid some of these complexities, a decision was made to employ cluster analysis for investigation in this thesis.

Moreover, the sample sizes of Study 1 and Study 2 are large enough for reliable use of cluster analysis.

4.5.2 Data analysis stage

Data analysis stage of the methodology was carried out using the Mplus software program. This stage entails all analytical procedures and statistical techniques used to test hypothesized assumptions. The data analysis stage was essentially geared towards accomplishing three tasks. The first task was to investigate the independent effects of HPWP on employee attitudes and well-being, and simultaneously examine the mediating role of work intensification in these relationships. This task was aimed at exploring the mutual gains and critical perspectives of HPWP in terms of the isolationist approach to HPWP (i.e., propositions 1 and 3 of the research aims). The second task was aimed at exploring the mutual gains and critical perspectives of HPWP in terms of the integrationist approach to HPWP (i.e., propositions 2 and 4 of the research aims). This task involved testing the integrated effects of HPWP on employee attitudes and well-being, and simultaneously examining the mediating role of work intensification in these relationships. To achieve this, multiple group analysis was used to compare differences in the latent factor means of the employee attitudes and well-being variables across the different clusters in the HPWP index variable. The third task involved a series of analytical models to examine simultaneously whether the integrationist perspective of HPWP has greater explanatory power on employee attitudes and well-being over the isolationist perspective of HPWP.

Considering the foregoing array of complex relationships involving both direct and indirect effects of multiple predictors on outcomes, as well as the nested nature of hypothesized models in Study 1 and Study 2, Multilevel Structural Equation Modelling (MSEM) was the preferred analytical procedure for this thesis. MSEM is an integration of the

basic ideas of Multilevel Modelling (MLM) and Structural Equation Modelling (SEM) into a comprehensive statistical framework.

4.5.2.1 Multilevel modelling (MLM)

MLM is a useful analytical technique for simultaneous testing of both organizational-level and employee-level phenomena in a single clustered research scheme (Hox, 1995; Asparouhov and Muthen, 2008; Williams, Vandenberg and Edwards, 2009; Heck and Scott, 2009). MLM is used to investigate organizational processes such as those involving employees nested within different departments of an organization, or educational processes involving pupils nested within different classes in a school. In these scenarios, MLM provides separate estimates of standard errors for the organizational- and employee-levels of analysis. The separation of standard errors into different levels of analysis is useful as individuals within the same organizational-level unit may share characteristics which are different from individuals in other organizational-level units. These differences need to be addressed in order to avoid unreliable statistical estimates. As an illustration, pupils within the same class (an organizational- or higher-level unit) are more likely to have similar classroom behaviours due to regular interaction with each other. However, the classroom behaviours of these pupils may differ from the behaviours of pupils in other classes. That means there is a proportion of variance in higher-level units which must be accounted for in order to avoid biased statistical estimates (MacKinnon, 2008; Heck and Scott, 2009). MLM addresses this type of variance by splitting standard error estimates into higher-level and lower-level components of the analysis (MacKinnon, 2008).

4.5.2.2 Structural Equation Modelling (SEM)

SEM is a statistical modelling technique for estimating the effects of multiple predictors on a number of outcomes simultaneously, in a single modelling procedure (Wu and Zumbo, 2008; Kaplan, 2009; Yeung and Li, 2011; Byrne, 2012). This technique is used in

specifying relationships between latent constructs to provide better estimates of measurement errors. This feature is one of the main advantages of using SEM over conventional statistical procedures such as Ordinary Least Squares (OLS) multiple regression models (Dion, 2008; Kaplan, 2009; Heck and Scott, 2009). Because OLS procedures are not capable of either evaluating or correcting measurement errors (MacKinnon, 2008; Byrne, 2012), such procedures often result in distorted regression coefficients, which are considerably less accurate compared to estimates from SEM procedures. SEM generally consists of two main analytical components: the measurement model (including exploratory factor analysis and confirmatory factor analysis) and the structural model (Brown, 1997; Schreiber, Stage, King, Nora, and Barlow, 2006; Williams et al., 2009).

- *The measurement model*

SEM is more of a confirmatory process than an exploratory one; therefore, the measurement model in SEM is commonly explained with reference to Confirmatory Factor Analysis (CFA) rather than exploratory factor analysis (Schreiber et al., 2006). CFA is a theory driven analytical procedure for which a series of equations are used to estimate the relationships between a set of observed items and their underlying latent constructs (Williams et al., 2009; Byrne, 2012). In these equations, the latent constructs serve as the independent variable, whereas the observed item indicators serve as the dependent variables. The regression coefficients in these equations are usually referred to as factor loadings (Williams et al., 2009). One of the main components of CFA is the concept of model identification, the process of determining the metric scale for latent constructs (Byrne, 2012). Because latent constructs are abstract variables with no definite metric scale, model identification is used to assign 'best' values that assist the SEM software program in arriving at a unique solution for the hypothesized model. Model identification is achieved by employing a scaling method in which the value of the first observed item indicator (known as the reference indicator) of the

latent factor is constrained to 'one' or a 'non-zero' value (Hox and Bechger, 1998; Muthén and Muthén, 1998-2010; Byrne, 2012).

- *The structural model*

The structural model of SEM is used in examining multivariate relationships between latent variables. Once the measurement model for a set of observed items is ascertained to have adequate model fit in relation to underlying latent constructs, the researcher may then specify a series of direct, mediated and moderated effects (or a combination of these) within the structural model of SEM to test relationships between latent constructs.

4.5.2.3 Multilevel Structural Equation Modelling (MSEM)

MSEM is an integration of the basic ideas of MLM and SEM into a comprehensive statistical framework. It is a useful development in modern organizational research for estimating the effects of multiple predictors on outcomes simultaneously in a single clustered analytical procedure (Asparouhov and Muthen, 2008; Heck and Scott, 2009; Kaplan, 2009; Preacher, Zyphur and Zhang, 2010; Yeung and Li, 2011). Whereas, the SEM component of MSEM serves as the platform for specifying and testing relationships between multiple predictors on outcomes simultaneously, the MLM component allows for estimation of separate standard errors for within (lower) and between (higher) levels of analysis in the model.

There are two approaches to MSEM in the Mplus software program. The first approach (which can be obtained by specifying TYPE = COMPLEX in the ANALYSIS command of the Mplus software program) is used to compute corrected, two-level standard error estimates. It is used to account for stratification of data, non-independence of observations due to cluster sampling, and/or unequal probability of selection (Muthén and Muthén, 1998-2010). This approach to MSEM is based upon the Multilevel Pseudo Maximum Likelihood (MPML) estimation method, an advancement from the single level

Pseudo Maximum Likelihood (PML) method first pioneered in the SUDAAN software package (Asparouhov and Muthen, 2005; Asparouhov and Muthen, 2006). One of the advantages of the PML estimator (and indeed the MPML variant of this estimator) over other multilevel estimators is its applicability to a wide variety of multilevel analytical models including two-level probit and logistic regressions, multilevel multinomial logistic regression, multilevel mixture models and multilevel continuous and discrete time survival models (Asparouhov and Muthen, 2006). The MPML estimator can also incorporate estimation of missing data based on the standard assumption of missingness at random (MAR).

The second approach to MSEM in the Mplus software program is obtained by specifying `TYPE = TWOLEVEL` in the `ANALYSIS` command of the Mplus program. This approach is also used to compute corrected two-level standard errors that account for stratification of data, non-independence of observations due to cluster sampling, and/or unequal probability of selection (Muthén and Muthén, 1998-2010). However, this approach is restrictive in that the within-level and between-level components of the model must be specified separately. In other words, a lower-level latent variable must be specified in the ‘within’ part of the analysis, whereas a higher-level latent variable must be specified in the ‘between’ part of the analysis. More so, variables in the ‘within’ part of the analysis do not have variance in the ‘between’ part of the model and vice versa. This restrictiveness makes it difficult to examine the direct links between organizational-level latent variables and employee-level latent variables. As a result, the first approach (i.e., the one obtained by specifying `TYPE = COMPLEX` in the `ANALYSIS` command), was the preferred estimation method in both Study 1 and Study 2.

4.5.2.4 Goodness-of-fit in SEM

SEM researchers have generally endorsed the practice of using several fit indices in assessing the overall fit of a model (Schreiber et al., 2006; Dion, 2008; Williams et al., 2009;

Byrne, 2012). The argument in favour of this practice stems from the idea that different fit indices represent different categories into which goodness-of-fit statistics have been classified. In other words, different fit indices reflect different aspects of model fit such that one model could be rejected on account of one fit index but accepted on another (Vandenberg and Lance, 2000; Hooper, Coughlan and Mullen, 2008). The use of multiple fit indices creates the necessary trade-off in model fit analysis and allows a researcher to achieve informed inferences regarding the overall fit of a hypothesized model (Vandenberg and Lance, 2000; Whiteside-Mansell and Corwyn, 2003; Milfont and Fischer, 2010).

Although several fit indices are available for measuring the overall fit of a hypothesized model in SEM, model fit analysis for this thesis is limited to the Comparative Fit Index (CFI) and the Tucker–Lewis Index (TLI) at cut-off levels of $\geq .95$, as well as the Root Mean Square Error of Approximation (RMSEA) and Standardized Root Mean Square Residual (SRMR) indices at cut-off levels of $< .08$. Whereas the first two indices represent incremental fit indices, the latter two represent absolute fit indices (Dion, 2008; Byrne, 2012). Considering the large sample size and the relative complexity of the models presented in this thesis, these fit indices are deemed suitable (Hooper et al., 2008).

The Chi-square Test of Model fit (X^2) does not feature prominently in this thesis due to the large sample sizes of data in Study 1 and Study 2. Although the Chi-square Test is perhaps the more traditional and popular fit statistic in many SEM studies, it has been criticized in recent times for its tendency to reject reasonable models with large sample sizes (Hooper et al., 2008; Byrne, 2012; Van de Schoot, Lugtig and Hox, 2012). Typically, a model is considered adequate and acceptable when the value of the Chi-square Test is small and not statistically significant, whereas models with large and significant Chi-square Test values are considered inadequate. When the Chi-square Test is used to assess goodness-of-fit in models with large sample sizes, its value tends to increase exponentially due to its arithmetic

dependence on the sample size of the given data. As a result, the Chi-square Test value becomes too large and statistically significant, leading to rejection of the model. Nevertheless, it is customary in SEM studies to always provide estimates of the Chi-square Test statistic, the degrees of freedom and the corresponding p-value, regardless of this caveat (Schreiber et al., 2006; Hooper et al., 2008). Therefore, these values are provided where appropriate.

In some instances, a suitable model might return poor model fit if the unique variances of latent factor indicators overlap or tend to explain the same underlying latent construct. To achieve adequate model fit in such circumstances, the Mplus software program (and indeed other SEM software packages) allows a researcher to add residual covariances (i.e., correlate error terms) or adjust factor loadings of observed items on corresponding latent constructs based on information derived from the modification index. The modification index is an index that shows the expected increase in model fit when a parameter is estimated freely or added to a different path (Hox and Bechger, 1998; Schreiber et al., 2006; Hooper et al., 2008; Williams et al., 2009; Byrne, 2012). Information from the modification index was used in Study 1 and Study 2 to achieve suitable models with acceptable goodness-of-fit.

4.5.2.5 Multiple group analysis

As stated earlier, the integrationist perspective of HPWP was examined using cluster analysis to divide the sample (in Study 1 and Study 2, respectively) into distinct clusters according to a set of innovative HRM practices. The cluster with high scores in their adoption of HRM practices was regarded as having the more innovative approach to HRM (or simply the HPWP cluster), whereas the cluster with low scores in their adoption of HRM practices was regarded as having the less innovative approach to HRM. Information regarding membership to the respective clusters was contained in the HPWP index variable.

To examine the integrated effects of HPWP on employee attitudes and well-being, multiple group analysis was employed. Multiple group analysis belongs to a family of SEM

procedures known as Mean and Covariance Structures (MACS) analyses (Little, 1997; Byrne, 2012). MACS analyses are suited for simultaneous modelling of a hypothesized factorial structure in two or more groups, as a way to examine the degree of homogeneity and/or heterogeneity across the groups. Just like conventional single-group SEM procedures, MACS analyses are usually guided by theoretical assumptions, and the level of fit between observations and the hypothesized model is also evaluated using goodness-of-fit statistics (Byrne, 2012; Little, 1997). However, research findings obtained via multiple group analysis are not interpreted in the same manner as conventional single-group SEM procedures (Byrne, 2012). Whereas in single-group SEM, the researcher's interest is to estimate and report the effects of one or more latent variables (the independent variables) on another latent variable (the dependent variable), in multiple group analysis, relationships are commonly inferred in terms of how the mean scores of a set of latent variables vary across the categories of a grouping variable.

In this thesis, multiple group analysis was conducted on the basis of multilevel analysis. The HPWP index variable (i.e., the categorical variable containing cluster membership information) was measured at the organizational-level of analysis, whereas employee attitudes and well-being variables were measured at the employee-level of analysis. The multiple group analysis involved fixing the latent factor means of employee attitudes and well-being variables at zero in the HPWP cluster (i.e., the cluster with high scores in their adoption of innovative HRM practices) while estimating the latent factor means freely in the other clusters. As such, the HPWP cluster served as the reference group against which the latent factor means of employee attitudes and well-being were estimated for the other clusters. If the latent factor means are significantly lower (or have negative values) in the other clusters, relative to the HPWP cluster, then there is evidence that HPWP produce beneficial integrated effects on employee attitudes and well-being. However, if the latent factor means

are significantly higher (or have positive values) in the other clusters, relative to the HPWP cluster, then there is evidence that HPWP produce unfavourable integrated effects on employee attitudes and well-being. This idea is analogous to the use of dummy variables in representing categories of a grouping variable in OLS regression procedures (Muthén and Muthén, 1998-2010).

Multiple group analysis was also used in this thesis to examine the synergistic (or statistical interaction) effects of HPWP on employee attitudes and well-being. Synergistic or statistical interaction effects are interpreted as conditional relationships between two sets of predictors in relation to their effects on outcomes (Cohen, Cohen, West and Aiken, 2003). One set of predictors assumes the role of a buffer or moderator of the effects produced by the other set of predictors on outcomes. In the context of this thesis, individual HRM practices (i.e., the independent effects of HPWP) and the HPWP index measure (i.e., the integrated effects of HPWP) served as two sets of predictors, whereas employee attitudes and well-being served as outcomes. If the integrated effects of HPWP accounts for variance above the independent effects of HPWP, then there is evidence of synergy within the respective clusters constituting the HPWP index measure. Investigating the synergistic effects of HPWP in this manner helped in ascertaining whether the integrationist perspective of HPWP has greater explanatory power on employee attitudes and well-being over the isolationist perspective of HPWP.

This analysis was achieved using three analytical models; with goodness-of-fit statistics used in determining the adequacy of each model. In the first model, the independent effects of HRM practices on employee attitudes and well-being (i.e., the regression slopes) were allowed to vary freely across the clusters. Note that the cluster intercepts were estimated to be distinct in this first model. In the second model, the regression slopes were then constrained to equality across the clusters, and the cluster intercepts were still estimated to be

distinct in this second model. If the first model had significantly better model fit than the second model, there would be evidence that the independent effects of HRM practices are conditional on the clusters. In the third model, the cluster intercepts were then constrained to be equal and the regression slopes were allowed to vary freely across the clusters. If the third model had significantly worse model fit than the first and second models, then there would be evidence that HPWP have synergistic effects because the independent effects of HPWP are controlled.

4.5.2.6 Measurement invariance testing

Pertinent to multiple group analysis is the need to perform measurement invariance testing to ensure that the observed items for a set of latent variables were interpreted consistently by members of the respective groups under study. If such equivalence is not established, any inferences made in terms of between-group differences in observed item scores and latent factor means may not be meaningful (Little, 1997; Koh and Zumbo, 2008; Wei, Heppner and Mallinckrodt, 2003; Whiteside-Mansell and Corwyn, 2003; Cheung and Rensvold, 2002). Measurement invariance testing involves a series of progressively restrictive statistical models used in ensuring generalizability of measurement parameters across groups. It helps in reducing the influence of group-specific biases in the measurement characteristics of a model, thereby minimizing the likelihood for problematic estimates in multiple group analysis (Little, 1997; Vandenberg and Lance, 2000; Milfont and Fischer, 2010). Four steps are generally recommended in the literature for establishing measurement invariance: invariance of covariance matrices model, configural invariance model, metric invariance model and scalar invariance model.

The process of measurement invariance testing begins with first establishing invariance of covariance matrices, which involves group-specific tests for the validity of measurement parameters (i.e., factor loadings, observed item intercepts and variances) for

each group in the model, separately. This step is necessary to ensure that observed items load uniquely and adequately on underlying factors in each group, separately. The next step is the configural invariance model, for which all the measurement parameters are estimated freely across groups. In effect, configural invariance involves a single model for which the same CFA is specified separately for each group in the analysis. It is generally considered as the baseline model which determines whether to proceed with further steps in measurement invariance testing (Little, 1997; Byrne, 2012; Van de Schoot et al., 2012). Following this step is the metric invariance model, for which factor loadings are constrained to equality across groups, while other measurement parameters remain freely estimated. This model is used to examine whether respondents across groups attribute the same meaning to the latent construct under study (Van de Schoot et al., 2012).

The next step after metric invariance is the test for scalar invariance. This is a model in which factor loadings and observed item intercepts are constrained to equality across groups, while other measurement parameters (mainly variances) remain freely estimated. This model is necessary to ensure that the factor loadings and underlying latent mean structure have equal meanings across groups. The scalar invariance test is arguably the less frequently examined model compared to configural and metric invariance tests (Koh and Zumbo, 2008). In fact, Vandenberg and Lance (2000), in their review of the measurement invariance literature, revealed that only 12% of all reviewed studies had examined scalar invariance, compared to 99% and 88% which had examined metric and configural invariance, respectively. This discrepancy may be due to the fact that scalar invariance testing is not a requisite step in measurement invariance testing, except in particular instances such as MACS analyses where the goal is to assess between-group differences in latent factor means. In the instance of MACS analyses, scalar invariance helps in ascertaining whether individuals with the same observed item intercept scores have similar or different latent factor mean

values despite the respective groups to which they belong (Cheung and Rensvold, 2002; Milfont and Fischer, 2010; Van de Schoot et al., 2012). An acceptable scalar invariance model implies that measurement parameters have similar operational definition across groups, and therefore latent factor means can be meaningfully compared across groups (Cheung and Rensvold, 2002; Milfont and Fischer, 2010).

Goodness-of-fit statistics serve in determining progression from one step of measurement invariance testing to another. There is disagreement in the literature regarding the adequacy of the Chi-square Difference Test index (ΔX^2) for use in measurement invariance testing. Although the Chi-square Difference Test is traditionally used in measurement invariance testing to determine progression from one model to another, several authors have found this index to exhibit similar weaknesses as the Chi-square Test of Model fit (Wei et al., 2003; Koh and Zumbo, 2008; Milfont and Fischer, 2010; Byrne, 2012). Generally, a relatively small and non-significant value for the Chi-square Difference Test indicates that the fit of a more constrained model is acceptable compared to a less constrained model of the same parameters. However, due to the Chi-square Difference Test's sensitivity to sample size, reasonable models with large sample sizes are often rejected (Cheung and Rensvold, 2002; Milfont and Fischer, 2010). This has led researchers to suggest other methods (such as assessing the overall fit of a model using multiple fit indices) of evaluating model fit in measurement invariance testing. If the overall fit of a model is deemed adequate in terms of several fit indices, then the model is considered acceptable (Vandenberg and Lance, 2000; Byrne, 2012). Moreover, model fit in measurement invariance testing can be assessed in terms of the difference in CFI (ΔCFI) values between two competing models (Vandenberg and Lance, 2000; Milfont and Fischer, 2010; Byrne, 2012). According to a Monte Carlo simulation study by Cheung and Rensvold (2002), the fit of a more constrained

model in relation to a less constrained model of the same parameters is considered acceptable if the ΔCFI value between both models is less than .01.

4.5.2.7 Mediation analysis

Mediation analysis is a statistical procedure in which the relationships between two variables are explained by the intermediary effect of a third variable (Little et al., 2007; Wu and Zumbo, 2008). Traditionally, mediation models are based upon the causal-steps approach described by Baron and Kenny (1986). This approach requires four conditions to satisfy the existence of mediated or indirect effects. Given three variables, X the independent variable, Y the dependent variable, and M the mediator variable, the causal-steps approach requires that: 1) M should be significantly affected by X, 2) Y should be significantly affected by M, 3) the direct effect of M on Y when controlling for X should be significant, and 4) the direct effect of X on Y when controlling for M should not be significant. Mediation models that satisfy all four conditions are considered as fully mediated models, whereas partially mediated models, are those in which the direct effect of X on Y when controlling for M is significant (Brown, 1997; Little et al., 2007; Wu and Zumbo, 2008).

In recent years, the causal-steps approach has gradually given way to the ‘difference-in-coefficients’ approach and the ‘product-of-coefficients’ approach. The difference-in-coefficients approach ($C - C^1$) is computed as the difference between the total effect of X on Y (C) and the direct effect of X on Y when controlling for M (C^1), and dividing by the standard error of the difference (Fritz and MacKinnon, 2007; Little et al., 2007). The value obtained is then compared against a t-distribution to determine the statistical significance of the test. On the other hand, the product-of-coefficients approach ($\alpha\beta$) is computed as the product of the regression coefficient between X and M (α), and the regression coefficient between M and Y (β), divided by the standard error of the product. The value obtained is then compared against a normal distribution to determine the statistical significance of the test

(Fritz and MacKinnon, 2007; Little et al., 2007; MacKinnon, 2008; Hayes, 2009). Generally, these two approaches to mediated or indirect effects are thought to produce similar results, except in certain models such as logistic regression analysis and multilevel analysis (MacKinnon, Lockwood, Hoffman, West and Sheets, 2002; MacKinnon, Fairchild and Fritz, 2007b). In this thesis, however, mediated effects are measured based on the product-of-coefficients approach, given its relevance in many organizational and psychological studies (MacKinnon et al., 2002; Preacher et al., 2010).

In SEM software programs such as Mplus, the product-of-coefficient approach is calculated based on the multivariate delta method, a formula which was made more widely applicable in SEM by Sobel (1982). Although this method is one of the most commonly used formula for measuring mediated effects, it is generally flawed due to the assumption that the sampling distribution of the product of the α and β parameters is normal (MacKinnon et al., 2002; Preacher and Selig, 2012; MacKinnon et al., 2002; MacKinnon, Fritz, Williams and Lockwood, 2007a; Fritz and MacKinnon, 2007). As a result, the Sobel test is generally considered less efficient in estimating mediated effects compared to more advanced methods such as the distribution of the product method (MacKinnon et al., 2002; MacKinnon et al., 2007a) and the Monte Carlo method for assessing mediation (Selig and Preacher, 2008; Preacher and Selig, 2012).

Based on the distribution of the product method, mediated effects are measured in terms of the product of the z scores of the α and β parameters, and determining its significance using tables of critical values (MacKinnon et al., 2002; Fritz and MacKinnon, 2007; MacKinnon et al., 2007a). This method does not assume symmetry for the sampling distribution of the product ($\alpha\beta$) of the α and β parameters, and therefore produces confidence intervals that are appropriately asymmetric (Preacher et al., 2010). MacKinnon et al. (2007a) developed the software program called PRODCLIN for estimating indirect effects using this

method. PRODCLIN is available online as a stand-alone executable program and allows users to input values of the α and β parameters alongside associated standard errors, to obtain asymmetric confidence intervals for mediated effects.

In terms of the Monte Carlo method, estimates of mediated effect are derived using values of the α and β parameters alongside their associated standard errors to simulate a sampling distribution of their product (Bauer, Preacher and Gil, 2006; Selig and Preacher, 2008; Preacher and Selig, 2012). This method is very easy to implement and produces reliable asymmetric confidence intervals without the need for raw data imputation. The Monte Carlo method is also available as an online program developed by Selig and Preacher (2008). The program also requires the user to enter values of the α and β parameters and corresponding standard errors in order to produce confidence intervals for mediated effects (Preacher et al., 2010)

Another relatively accurate method for estimating indirect effects is the bias corrected bootstrapping technique (Little et al., 2007; Preacher et al., 2010; Preacher and Selig, 2012). The bias corrected bootstrapping technique is a data re-sampling technique that can be used to generate an empirical sampling distribution of the product of the α and β parameters with adjustments that minimize the bias in percentile bootstrap interval bounds. However, this technique was excluded from this thesis due to unavailability of standard SEM software for implementing bias corrected bootstrapping in multilevel analysis.

4.6 CHAPTER SUMMARY

This chapter has provided an overview of the theoretical rationale for this thesis. The theoretical arguments developed in this thesis were shown to be centred on two key HPWP themes, ‘the integrationist and isolationist perspectives of HPWP’, as well as ‘the mutual gains versus the critical perspectives of HPWP’. Whereas the former theme relates to the integrated and independent effects of HPWP on outcomes, the later theme is concerned with

the beneficial employee-level impacts of HPWP, and the possibility that these beneficial impacts may be offset by increases in work intensification. These two theoretical themes led to the development of the two main research aims for this thesis. The primary, more general research aim of this thesis is to investigate the integrated and independent effects of HPWP on employee attitudes and well-being, and simultaneously examine the mediating role of work intensification in these relationships. The secondary, more specific research aim of this thesis is to examine whether there are sector-specific influences in terms of the independent and integrated effects of HPWP on employee attitudes and well-being. These two research aims were achieved using two empirical studies. Whereas the first study (Study 1) was undertaken using the WERS 2004 data, the second study (Study 2) was undertaken using data from the 2010 NHS Staff Survey.

The overall research methodology for this thesis has also been described in this chapter. The research methodology was carried out in two stages, the data preparation stage and the data analysis stage. The data preparation stage involved all preliminary steps (from the selection of relevant survey items to the derivation of research variables) undertaken to ensure that data were suitably processed for further analysis. In this stage, EFA and reliability statistics using Cronbach's alpha coefficient were used to ascertain the validity and reliability of research variables developed for the thesis (i.e., in Study 1 and Study 2, respectively). Cluster analysis was used to derive a HPWP index variable comprising clusters of firms with different orientations towards HRM. This HPWP index variable was then used in testing the integrated effects of HPWP on employee attitudes and well-being.

The data analysis stage involved the various procedures used in testing hypothesized assumptions. This stage was undertaken using the Mplus software program. The Mplus software program was used to perform various statistical analysis such as MSEM, multiple group analysis and mediation analysis. A single MSEM procedure was used to test the

independent effects of HPWP on employee attitudes and well-being, and simultaneously examine the mediating role of work intensification in these relationships. Multiple group analysis was used to compare differences in latent factor means of employee attitudes and well-being across the various clusters comprising the HPWP index variable. This procedure was used to test the integrated effects of HPWP on employee attitudes and well-being, and simultaneously examine the mediating role of work intensification in these relationships. The mediating role of work intensification was examined based on the product-of-coefficients approach in both cases. Due to unreliability of the multivariate delta method (the default method for mediation analysis in the Mplus software program), the distribution of the product method and the Monte Carlo method for mediation were used to validate estimates of mediated effects.

The next chapter, Chapters 5, is dedicated to the first empirical study of this thesis (i.e., Study 1). Chapter 5 is designed to fulfil the primary research aim of this thesis: to investigate the independent and integrated effects of HPWP on employee attitudes and well-being, and simultaneously examine the mediating role of work intensification in these relationships, without paying much attention to sector-specific characteristics. Chapter 5 also examines whether the integrated effects of HPWP has greater explanatory power on employee attitudes and well-being over the independent effects of HPWP. The chapter begins by highlighting the theoretical background of this thesis and illustrating how these arguments relate to the primary aim of this thesis. Thereafter, specific details of the methodology adopted in Study 1 are provided and some of the key findings of Study 1 are discussed.

CHAPTER 5 – STUDY 1: THE WERS 2004 STUDY

5.1 INTRODUCTION

The growing acceptance of High Performance Work Practices (HPWP) as a key management strategy for achieving organizational growth has given rise to two main scholarly debates: ‘the integrationist and isolationist perspectives of HPWP’ (Ichniowski et al., 1997; Kalmi and Kauhanen, 2008), and ‘the mutual gains versus the critical perspectives of HPWP’ (Ramsay et al., 2000; Sparham and Sung, 2007). Using linked employer-employee data from the 2004 Workplace Employment Relations Survey (WERS 2004), the present study contributes to the literature by simultaneously investigating these two HPWP debates. Few studies have simultaneously investigated both the integrationist and isolationist perspectives of HPWP on organizational-level outcomes using a single analytical procedure (Combs et al., 2006). The present study is probably the first to examine these perspectives simultaneously on employee-level outcomes.

The empirical study presented in this chapter fulfils the primary, more general aim of this thesis (as described under ‘research aims’ in Chapter 4). The chapter begins by reviewing the underlying tenets of the two HPWP debates. This leads to a set of four testable hypotheses. Thereafter, details of the methodology and analytical procedure adopted in this study are provided, followed by the presentation and discussion of research findings.

5.2 THEORETICAL BACKGROUND

The concept of HPWP is believed to have developed from the high-commitment (Walton, 1985; Arthur 1994) and high-involvement (Lawler, 1986; Guerrero and Barraud-Didier, 2004) principles of management. At the heart of these management principles is the assumption that employees should be involved actively in workplace activities and given greater scope to influence the nature of their work responsibilities, through employee

empowerment job designs (Wood, 1999; Boselie et al., 2003; Gould-Williams, 2004). These management systems are considered ‘innovative’ in that they enhance employees’ level of motivation at work and foster useful psychological links between management and employees (Boselie et al., 2003; Gould-Williams, 2004; Boxall and Macky, 2009). Moreover, through the implementation of such innovative workplace practices, organizations are able to develop a committed workforce who can be trusted to utilize their discretion in conducting their job roles in ways that are beneficial to the organization (Gould-Williams and Davies, 2005).

Employers who recognize the vital role of their employees in driving organizational growth and effectiveness tend to make useful investments in their Human Resource Management (HRM) domain to develop a highly skilled and unique human capital pool. This argument derives from the Resource-Based View (RBV) of an organization (Delery, 1998; Dunford et al., 2001); wherein several HPWP theories have been formulated. In the RBV paradigm, employees are considered as a primary source of sustainable competitive advantage for an organization. Sufficient investments in the HRM domain of an organization could lead to a competent and committed workforce that exudes desirable work-related attitudes which are both unique and difficult to imitate (Delery, 1998; Wood, 1999; Barling et al., 2003; Beltrán-Martín et al., 2008). Research on the RBV of an organization has inspired investigation into innovative workplace practices, and underlined the HPWP framework as a valuable means of eliciting the potentials embedded in the human capital pool of an organization.

5.2.1 The integrationist and isolationist perspectives of HPWP

There are two main approaches to operationalizing HPWP. Details of these approaches to HPWP have been provided in Chapter 2. The first, the integrationist perspective of HPWP, assumes that innovative HRM practices are mutually supportive of

each other, and organizations can achieve large gains by integrating innovative HRM practices into a coherent HPWP framework that captures the existing complementarities among such practices (Huselid, 1995; Ichniowski, et al., 1997; Beltrán-Martín et al., 2008). The second, the isolationist perspective of HPWP, assumes that individual HRM practices may produce varying levels of associations with outcomes and therefore their unique independent effects should not be overlooked in empirical studies (De Menezes and Wood, 2006; Kalmi and Kauhanen, 2008; Boxall et al., 2011). When individual HRM practices are analysed in combination with each other, their distinctive properties may be underplayed, leading to only a partial estimation of their unique effects (Kalmi and Kauhanen, 2008; Bryson and White, 2008). This phenomenon is often described in terms of ‘substitution effect’ (Guest et al., 2004; Combs et al., 2006; Bryson and White, 2008). Substitutable HRM practices are thought to produce identical effects on a given outcome. When two substitutable HRM practices are used together in combination, the overall effect achieved is similar to the effect of using only one of such practices (Delery, 1998). To appreciate the full benefits associated with the HPWP framework therefore, it is worthwhile to examine their unique independent effects and identify specific practices that contribute positively to organizational-level and employee-level outcomes (Guest et al., 2004; Boxall et al., 2011; Jiang et al., 2012).

Advocates of the integrationist perspective of HPWP believe that the effects of individual HRM practices should not be evaluated in isolation (Huselid, 1995; Ichniowski, et al., 1997; Schulte et al., 2006). Accordingly, HRM practices are driven from a common philosophy (Beltrán-Martín et al., 2008) and therefore, researchers should examine the various ways in which HRM practices interact and mutually strengthen one another, or risk oversimplifying the intricate nature of organizational processes (MacDuffie, 1995; Becker and Huselid, 1998). However, few studies have actually examined simultaneously whether the integrationist perspective of HPWP has greater explanatory power on outcomes over the

independent effects (or isolationist perspective) of HPWP (Guerrero and Barraud-Didier, 2004; Combs et al., 2006). In fact, only two studies according to Combs et al. (2006) have examined this hypothesis using organizational-level outcomes; researchers are yet to test this hypothesis on employee attitudes and well-being. This raises the possibility that most claims in favour of the integrationist perspective of HPWP rely on theoretical assumptions rather than actual empirical results. By simultaneously investigating the integrated and independent effects of HPWP on employee attitudes and well-being, the present study creates an overall picture of the underlying mechanisms by which innovative HRM practices impact on employee-level outcomes, and extends understanding of useful combinations of such practices that may produce favourable implications for an organization.

5.2.2 The mutual gains versus the critical perspectives of HPWP

Two themes have emerged regarding employee-level implications of HPWP. Extensive details of these two HPWP themes have been provided in Chapter 3 of this thesis. The first, the mutual gains perspective, assumes that HPWP enhance the work-related attitudes and well-being of employees alongside their positive influences on organizational performance (Ichniowski et al., 1997; Barling et al., 2003; Van De Voorde et al., 2012). As stated in Chapter 3, this thesis emphasizes employee-level outcomes of HPWP rather than organizational-level effects. Several studies have shown positive links between HPWP and improvements in employee attitude measures such as job satisfaction (Macky and Boxall, 2007; Bryson and White, 2008), organizational commitment and employee trust in management (Whitener, 2001; Paré and Tremblay, 2007). It is believed that HPWP enable employees to utilize their knowledge, skills and abilities in ways that enhance employees' experience of meaningfulness at work (Combs et al., 2006; Wood and De Menezes, 2011), and prompt feelings of contentment and commitment among employees. Pertinent here is the ability-motivation-opportunity (AMO) model of HRM. This model suggests that HPWP

promote organizational performance by enhancing the work-related abilities of employees, increasing employees' level of motivation at work, and creating opportunities for employees to contribute positively to organizational processes (Appelbaum et al., 2000; Boxall and Macky, 2009; Van De Voorde et al., 2012; Jiang et al., 2012). Where systems of HRM practices are centred on eliciting these three main components, employees are more likely to demonstrate better work-related attitudes and show improved commitment towards achieving organizational goals (Appelbaum et al., 2000).

Researchers have also reported varying degrees of positive associations between individual HRM practices and employee attitudes and well-being measures. For instance, job autonomy, flexible working, participative decision-making and team-based work systems have all been shown to have positive independent effects on job satisfaction and organizational commitment (Scott-Ladd et al., 2006; Wood and De Menezes, 2011) and negative independent effects on employees' perception of job strain (White et al., 2003; Macky and Boxall, 2008). These arguments draw on the Job Characteristics Model (JCM) by Hackman and Oldham (1976), which implicates five core job characteristics (including skill variety, task identity, task significance, job autonomy, and feedback) as key determinants of positive employee attitudes and well-being. Accordingly, the potential for employees to develop feelings of self-fulfilment and contentment at work is greatest where their jobs are designed to reflect at least three, if not all of these five job characteristics (Hackman and Oldham, 1976; De Jonge and Schaufeli, 1998).

Researchers have also proposed that the level of support offered to employees at work may increase feelings of job satisfaction and commitment among employees (Gould-Williams and Davies, 2005). Based on social exchange theory, it is argued that perceptions of care and support received from employers may instigate employees to respond by demonstrating positive work-related attitudes (Eisenberger et al., 1990; Whitener, 2001;

Gould-Williams and Davies, 2005). Indeed, some researchers have reported the beneficial effects of compensatory rewards, staff training and information sharing activities on employee levels of job satisfaction, trust and commitment to the organization (Paré and Tremblay, 2007; Kalmi and Kauhanen, 2008). It is believed that employees may interpret the provision of such services as a sign of care and support from the organization, and may therefore feel obligated to respond through desirable work-related behaviours (Whitener, 2001).

By contrast, the second debate, conceptualized as the critical perspective of HPWP, assumes that HPWP are often implemented at the expense of employee well-being (Ramsay et al., 2000; Sparham and Sung, 2007). Although HPWP may accrue positive gains for the organization and employees, these gains usually occur through increases in work demands and pressure, which in turn may contribute to poor employee attitudes and work-related stress outcomes (White et al., 2003; Kalmi and Kauhanen, 2008; Wood et al., 2012). In this light, work intensification is seen as the possible mediating factor explaining the intermediary processes between HPWP and undesirable employee attitudes and well-being.

To date, research evidence on the links between systems of HPWP and work intensification has been fairly inconclusive. For example, Kroon et al. (2009) in their study of Dutch employees found positive links between HPWP and undesirable employee outcomes such as intensified work demands and emotional exhaustion. The authors also found evidence that the effect of HPWP on emotional exhaustion was completely mediated by work intensification and increases in job demands. On the flipside, Macky and Boxall (2008) in a study of employees in New Zealand found a negative relationship between HPWP and work intensification. These authors also found HPWP to have negative correlation with feelings of fatigue, work-related stress and work–life imbalance among employees. Thus, unlike Kroon and his colleagues, Macky and Boxall's (2008) study portrays employee-level impacts of

HPWP in a positive light, showing little or no adverse relationship between HPWP and employee well-being. This suggests therefore, that the empirical links between systems of HPWP and work intensification could effectively drift either towards the favourable or detrimental direction, depending on the specific context of the study (Harley et al., 2007; Ramsay et al., 2000).

Studies have shown varying positions regarding the independent effects of HPWP on work intensification. For example, there is evidence that high-involvement work activities such as team-based work systems and group-based decision-making activities increase perceptions of work intensity among employees (Bainbridge, 1998; Nygaard and Dahlstrom, 2002; Tubre and Collins, 2000). The rationale behind this assumption is that high-involvement group-based forms of work may degrade hierarchical structures in the workplace, and lead to discrepancies in the delegation of authority among employees (Bainbridge, 1998). When there are discrepancies in the delegation of authority among employees, some employees may unduly exercise their decision-making authority over their colleagues, creating feelings of distrust and interpersonal conflict among employees. Given such circumstances, work intensification may ensue from increases in role overload, role ambiguity and role conflicts, all of which may lead to poor employee attitudes and well-being (Tubre and Collins, 2000).

Moreover, some authors have noted that information sharing activities, staff training and the provision of compensatory rewards may cause employers to have high expectations of their employees, leading to transfer of greater work responsibilities to employees. For example, although job-specific training may enhance employees' expertise at work, it also increases the likelihood that employers transfer more work responsibilities to their employees, perhaps in order to generate a return on employer investment on the training offered (Barling et al., 2003; Kalmi and Kauhanen, 2008). From this standpoint, staff training can be seen to

increase levels of work intensification and correspondingly contribute to poor employee attitudes. Similarly, the provision of performance-linked rewards may incite employees to expend more effort at work driven by their desire to obtain such rewards (White et al., 2003). If employees perceive an imbalance between the work effort expended and the expected rewards, feelings of not being adequately appreciated may ensue, leading to a decline in employee attitudes and well-being (Bakker and Demerouti, 2007).

5.3 HYPOTHESES

The foregoing review has highlighted the main arguments of ‘the integrationist and isolationist perspectives of HPWP’ and ‘the mutual gains versus the critical perspectives of HPWP’. The former debate looks at the theoretical questions surrounding two approaches to operationalizing HPWP; – Should firms adopt the integrationist approach, emphasizing the integrated properties of HPWP, or should firms adopt the isolationist approach, focusing on the independent effects of HPWP? The later debate is concerned with employee-level impacts of HPWP; – Do HPWP produce positive impacts on employee attitudes and well-being, or do they produce undesirable employee outcomes through work intensification? Putting these two research themes together, a set of testable hypotheses are formulated to reflect an overall picture of employee-level implications of HPWP. The hypotheses are depicted in Figure 2.

The first set of hypotheses represents the mutual gains perspective of HPWP. Hypothesis 1 refers to the isolationist perspective and hypothesis 2 refers to the integrationist perspective of HPWP.

Hypothesis 1: HPWP produce positive independent effects on employee attitudes such as job satisfaction, organizational commitment and employees’ trust, respectively; and negative independent effects on employees’ perception of job strain.

Hypothesis 2: HPWP produce positive integrated effects on employee attitudes such as job satisfaction, organizational commitment and employees' trust, respectively; and negative integrated effects on employees' perception of job strain.

The second set of hypotheses represents the critical perspective of HPWP. Hypothesis 3 refers to the isolationist perspective and hypothesis 4 refers to the integrationist perspective of HPWP.

Hypothesis 3: Work intensification mediates the independent effects of HPWP on job satisfaction, organizational commitment, employees' trust and employees' perception of job strain, respectively.

Hypothesis 4: Work intensification mediates the integrated effects of HPWP on job satisfaction, organizational commitment, employees' trust and employees' perception of job strain, respectively.

5.4 METHODOLOGY

5.4.1 Sample

This study was undertaken using the management and employee surveys of the WERS 2004 data. The WERS 2004 data is the fifth in a series of surveys first conducted in 1980. It provides an extensive range of information regarding various managerial strategies to work organization and corresponding employee experiences of these strategies. Together, the management and employee surveys of the WERS 2004 data offer linked employer-employee elements for multilevel analysis of employment relations. The WERS 2004 data covers around 30 per cent and is representative of all establishments in Britain and was collected based on variable probability sampling designs. Variable probability sampling is a stratified sampling technique for which a number of stratification variables are used to divide a study population into subgroups such that the overall data is representative of elements selected from each subgroup (Daniel, 2011). This sampling technique could, however, lead to biased

	Mutual gains perspective	Critical perspective
Isolationist perspective	HPWP produce positive independent effects on employee attitudes and well-being (H1)	Work intensification mediates the independent effects of HPWP on employee attitudes and well-being (H3)
Integrationist perspective	HPWP produce positive integrated effects on employee attitudes and well-being (H2)	Work intensification mediates the integrated effects of HPWP on employee attitudes and well-being (H4)

Figure 2 Pictorial representation of research hypotheses

estimates of the study population if elements from each subgroup are not selected proportionately. Therefore, the respective management and employee surveys of the WERS 2004 data were carefully weighted to overcome sampling bias and ensure that data are representative of all subgroups within the study population. Although the latest survey in the WERS series (i.e., 2011 WERS) has just been released, the WERS 2004 data was chosen for this study because it allows for consistent comparisons with existing and extensive evidence base. Moreover, it is expected that the results of this study should generalize across time since they are theoretically grounded and may not be affected by historical factors. Therefore, using the WERS 2004 data in this study does not pose any major methodological or theoretical dilemmas.

Organizational-level information for the WERS 2004 management survey was gathered via a face-to-face interview with a single manager or a senior person whose daily

responsibility pertained to industrial relations, employee relations, or personnel affairs. In the absence of a HRM manager, a senior person who specializes in a different area such as finance was interviewed. Before each interview, a four-page, self-completion Employee Profile Questionnaire (EPQ) concerning the composition of the workforce was sent out in advance to each workplace to guide respondents in preparing for the interview. Each management interview lasted about two hours and was performed on-site by a trained interviewer using Computer Assisted Personal Interview (CAPI) technology. The interviews were successful in a total of 2,295 of the 3,587 workplaces contacted, representing a response rate of 64 per cent.

The employee survey, on the other hand, was carried out using an eight-page, self-completion questionnaire distributed in 1,733 of the 2,295 workplaces where the management interviews were undertaken. About 37,000 questionnaires were initially distributed to a random sample of 25 employees in workplaces with 25 or more workers, and to all employees in workplaces with 5 to 24 employees. Upon completion, each questionnaire was returned in a sealed envelope and either posted directly to the fieldwork office by the respondent, or gathered at the workplace and returned to the interviewer as a single bunch. Around 22,451 questionnaires were completed and returned, representing a fieldwork response rate of 60 per cent.

5.4.2 Data preparation and measures

Data preparation was carried out using the SPSS software program. As mentioned earlier, the purpose of this study is to investigate the independent and integrated effects of HPWP on employee attitudes and well-being, and simultaneously examine the mediating role of work intensification in these relationships. Accordingly, relevant items were selected from the management and employee surveys of the WERS 2004 data to develop respective organizational-level and employee-level variables. Despite the extensiveness and suitability

of the WERS 2004 data for a study such as this, a few challenges were encountered during the data preparation stage of this study. Some items in the management survey seemed particularly problematic due to the multi-faceted nature of their responses. An example of this type of item is the question on training which required respondents to indicate whether ‘all’, ‘almost all’, ‘most’, ‘around half’, ‘some’, ‘just a few’ and ‘none’ of the employees were given time off to undertake training. Intuitively, at least, it would seem fairly difficult for a respondent to distinctively choose between such responses as ‘almost all’ and ‘most’ or ‘some’ and ‘just a few’, since these responses are quite synonymic. Therefore, in line with previous WERS 2004 studies (Guest and Conway, 2007; Haile, 2007; Bryson and White, 2008; Wood and De Menezes, 2011; Wood et al., 2012), questions with multi-faceted responses were recoded into binary formats to reduce the chances of measurement error.

Another key challenge in the data preparation stage emanated from multiple-response questions in the management survey of WERS 2004 data. Multiple-response questions are items that require respondents to choose from a set of closely related responses. A typical example is the question on selective hiring which required respondents to select factors they considered important for recruiting new employees from a list of eight options. Although multiple-response questions provide depth in the meaning and coverage of survey items, they may also contribute to measurement inconsistency due irregular distribution of item responses (Guest and Conway, 2007). Therefore, following precedents in the literature (see Haile, 2007; Guest and Conway, 2007), multiple-response questions were accommodated in this study by singling out their individual responses and recoding them into binary formats.

To accommodate the nested nature of the WERS 2004 data, the management sample was matched with the sample of firms from which employee responses were elicited; thus, the overall management sample was reduced from 2,295 cases to 1,733. Two sets of exploratory factor analysis (EFA) were performed, each for the management and employee

surveys, to derive distinct HRM practices and employee-level measures, respectively. Principal Axis Factoring (PAF) was the preferred method of extraction in each EFA because it can accommodate non-normally distributed data (Costello and Osborne, 2005; De Winter and Dodou, 2012). More so, an oblique rotation 'Promax' was preferred so as to see the actual patterns of correlation within the data (Costello and Osborne, 2005; Dien et al., 2007; Brown, 2009). The first round of EFA returned several factors with a number of cross-loadings, free-standing items and items loading on unrelated constructs. In the subsequent rounds of EFA, the cross-loading and free-standing items were eliminated, leading to a much cleaner output. Reliability tests were then performed to verify the internal consistency of constituent items of each factor.

Although confirmatory factor analysis (CFA) was performed during the data analysis stage of the methodology, it has been brought forward to highlight the reason why some items were excluded from the study. CFA was used to verify the fit between the selected items and their requisite factors. It was performed using the Mplus software program. By default, the Mplus program uses the maximum likelihood (ML) estimator for CFA; however, the robust maximum likelihood (MLR) estimator was used instead to accommodate the large sample size and the nested nature of the WERS 2004 data (Muthén and Muthén, 1998-2010). Model fit was assessed using the Standardized Root Mean Square Residual (SRMR) index and the Root Mean Square Error of Approximation (RMSEA) index at cut-off levels of $< .08$, and the Comparative Fit Index (CFI) and Tucker–Lewis Index (TLI) at cut-off levels of $\geq .95$ (Dion, 2008; Byrne, 2012). More information about model fit analysis can be found in Chapter 4 of this thesis, under the sub-heading 'Goodness-of-fit in SEM'. Details of the items, their corresponding factors, reliability estimates, means and standard deviations, as well as the nature of their response scales are presented in Table 2.

5.4.2.1 Employee attitudes and well-being measures

The dependent variables for this study include three employee attitude measures (job satisfaction, organizational commitment and employees' trust in management), one well-being measure (employees' perception of job strain) and one work intensification scale.

Job satisfaction – This scale measures the level of contentment and pleasure derived from various aspects of one's work. It was constructed based on seven items. Examples of these items are 'how satisfied are you with the sense of achievement you get from your work', 'how satisfied are you with the scope for using your own initiative', 'how satisfied are you with the amount of influence you have over your job' and 'how satisfied are you with the training you receive'. The response scale for these items ranged from: 1 = 'very satisfied' to 5 = 'very dissatisfied'. The alpha coefficient for this scale is acceptable at 0.83, indicating a high degree of internal consistency between the items.

Organizational Commitment – This scale was designed to capture organizational commitment in terms of 'affective' and 'normative' forms of commitment (see Chapter 3 for description of these forms of commitment). The scale measures employees' level of attachment and identification with the organization based on three items: 'to what extent do you agree or disagree that you share many of the values of your organisation', 'to what extent do you agree or disagree that you feel loyal to your organisation' and 'to what extent do you agree or disagree that you are proud to tell people who you work for'. These three items, although largely modified in both meaning and structure, are thought to be derived from the Lincoln-Kalleberg questionnaire, which has its roots in the Organizational Commitment Questionnaire (OCQ) (Bryson and White, 2008). The alpha coefficient of this scale is adequate at 0.85.

Employees' trust in management – Although there is no unanimous agreement amongst HRM scholars in terms of the appropriate measure for employees' trust in

Table 2 – Variables from WERS 2004 management and employee surveys

Variables (α)	Observed Items	Mean	SD	Response Scale
Job autonomy (0.71)	Extent of discretion over work	2.18	0.87	Scale from: 1 = ‘A lot’ to 4 = ‘None’
	Extent of control over work pace	2.25	0.87	
	Involvement in work design	2.10	0.84	
Team working (0.60)	Team depend on each other	0.72	0.45	1 = Yes or 0 = No
	Team rotates tasks among members	0.54	0.50	
Training (0.64)	Proportion of staff given time off for training	0.57	0.50	Binary coding <i>1 = 60% or more</i> <i>0 = Other</i>
	Type of matters covered in training	0.90	0.31	Binary coding <i>1 = Any items 1-11</i> <i>0 = None</i>
	Number of training days undertaken	0.28	0.45	Binary coding <i>1 = 5days or more</i> <i>0 = Other</i>
	Objectives of training offered	0.92	0.28	Binary coding <i>1 = Any items 1-5</i> <i>0 = Other</i>
Performance- related pay (0.84)	Proportion of staff paid by merit or results	0.27	0.45	Binary coding <i>1 = 40% or more</i> <i>0 = Other</i>
	Pay by merit or results	0.46	0.50	Binary coding <i>1 = Merit or result</i> <i>0 = None</i>
	Measures of performance that determine pay	0.28	0.45	Binary coding <i>1 = Any items 1-4</i> <i>0 = Other</i>
Employee representation (0.91)	Unions informed on staff selection	0.38	0.49	Binary coding <i>1 = Negotiate, consult or inform</i> <i>0 = None</i>
	Unions informed on staff training	0.43	0.50	
	Unions informed on staff grievances	0.54	0.50	
Flexible working (0.70)	Reduced working hours	0.84	0.37	Binary coding a multiple-response question
	Increased working hours	0.72	0.45	
	Compressed working hours	0.30	0.46	
Selective hiring (0.60)	Recruitment based on employee skill	0.90	0.30	Binary coding a multiple-response question
	Recruitment based on qualification	0.70	0.46	
	Recruitment based on employee experience	0.89	0.31	
Grievance procedures (0.91)	Grievance issues cover pay	0.48	0.50	Binary coding a multiple-response question
	Grievance issues cover redundancy	0.45	0.50	
	Grievance issues cover	0.48	0.50	

	organisation of work			
	Grievance issues cover health and safety	0.49	0.50	
	Proportion of staff covered by grievance procedures	0.58	0.49	Binary coding $1 = 60\%$ or more $0 = Other$
Supportive management (0.81)	Managers understand employee responsibilities outside work	2.54	0.49	Aggregated mean scores from employee items
	Managers encourage staff to develop their skills	2.49	0.49	
Information Sharing (0.93)	Information on the way job is done	2.80	0.54	Aggregated mean scores from standardized employee items
	Information on financial matters	2.66	0.48	
Participative decision-making (0.96)	Managers seek employee views	2.78	0.54	Aggregated mean scores from standardized employee items
	Managers respond to employee suggestions	2.86	0.48	
	Employees influence final decisions	3.13	0.53	
Job satisfaction (0.83)	With sense of achievement	2.24	0.94	Scale from $1 = \text{'Very satisfied'}$ to $5 = \text{'Very dissatisfied'}$
	With level of using own initiative	2.20	0.93	
	With influence on the job	2.47	0.95	
	With training received	2.69	1.08	
	With level of pay	3.14	1.13	
	With job security	2.44	1.01	
Organizational Commitment (0.85)	Share organizational values	2.47	0.91	Scale from $1 = \text{'Strongly agree'}$ to $5 = \text{'Strongly disagree'}$
	Feel loyal to organization	2.21	0.94	
	Proud to tell people about the organization	2.34	1.00	
Employee trust (0.92)	Managers are reliable to keep promises	2.75	1.06	Scale from $1 = \text{'Strongly agree'}$ to $5 = \text{'Strongly disagree'}$
	Managers are sincere	2.64	1.06	
	Managers are honest	2.59	1.05	
Job strain (0.85)	Feeling tense	3.27	0.98	Scale from $1 = \text{'All the time'}$ to $5 = \text{'Some of the time'}$
	Feeling worried	3.58	0.99	
	Feeling uneasy	3.79	1.02	
Work Intensity (0.70)	Work very hard	2.02	0.84	Scale from $1 = \text{'Strongly agree'}$ to $5 = \text{'Strongly disagree'}$
	Insufficient time to get work done	2.75	1.09	
	Worry over work outside working hours	3.32	1.16	

Note: $\alpha =$ Cronbach's alpha; SD = Standard Deviation

Supportive management: ICC(1) = 0.01; ICC(2) = 0.71; Mean $r_{WG(J)} = 0.72$ (90% ≥ 0.50)

Information sharing: ICC(1) = 0.01; ICC(2) = 0.71; Mean $r_{WG(J)} = 0.70$ (87% ≥ 0.50)

Participative decision-making: ICC(1) = 0.01; ICC(2) = 0.72; Mean $r_{WG(J)} = 0.75$ (94% ≥ 0.50)

management (Macky and Boxall, 2007), the concept of employees' trust is often described as the willingness of employees to accept managerial decisions based on assumptions that such decisions will ultimately amount to employee benefit (Whitener, 2001; Gould-Williams and Davies, 2005). Drawing on this definition, the employees' trust in management scale was developed using three items measuring: the extent to which managers can be relied upon to keep to their promises, the extent to which managers are sincere in attempting to understand employees' views, and the extent to which managers deal with employees honestly. The response scale for these items ranged from: 1 = 'strongly agree' to 5 = 'strongly disagree' (Cronbach's alpha = 0.92).

Job strain – The WERS 2004 employee survey features a set of six items, described by Wood and De Menezes (2011) as the anxiety-contentment measure of employee well-being. This set of items captures employee well-being in terms of three measures of positive emotional state (calm, relaxed and content), as well as three measures of negative emotional state (tense, worried and uneasy) on a five-point response scale ranging from 'all the time' to 'never'. The emphasis of the present study rests on the three negative components of the set (i.e., tense, worried and uneasy) given the close links between such emotional states and employees' experience of job strain due to work intensification. The Cronbach's alpha value for this three-item scale is 0.85, indicating high degree of internal consistency.

Work intensification – The work intensification scale was developed following assumptions that HPWP may lead to increases in work demands and pressure. This scale was derived from three items: 'my job requires that I work very hard', 'I never seem to have enough time to get my work done' and 'I worry a lot about my work outside working hours'. The response scale for these items ranged from 'strongly agree' to 'strongly disagree'. Together these items yielded a Cronbach's alpha coefficient of 0.70.

5.4.2.2 HRM practices measures

All HRM practices measures, except participative decision-making, information sharing and supportive management, were derived directly from the management survey of the WERS 2004 data. The three exceptions are aggregated scores derived from the employee survey. Aggregated scores of employee-level items were used here because the original items selected from the management survey yielded very low Cronbach's alpha coefficient and failed to load appropriately during the EFA. The original items selected from the management survey also contributed to poor model fit during the CFA, and were therefore excluded from the study.

To ensure sufficient justification for the aggregation, Intraclass Correlation Coefficient tests 1 and 2 (ICC1 and ICC2) were performed prior to the aggregation. Full details of these tests are provided in Chapter 4 of this thesis. Both ICC1 and ICC2 are used to measure the degree of consistency between ratings provided by raters of a given population (LeBreton and Senter, 2008; Biemann et al., 2012). Whereas ICC1 is used to measure the interrater reliability of a single rater, ICC2 is used to estimate the interrater reliability of group-level means for a number of raters. A third test, the test for multi-item interrater agreement ($r_{WG(j)}$) (see details in Chapter 4) was also used to ensure sufficient justification for aggregation. This test is used to measure the level of absolute consensus between ratings supplied by multiple raters (Biemann et al., 2012). All three tests yielded acceptable justification for the aggregation (see results in bottom of Table 2).

Based on the set of HRM practices for which some consensus has emerged regarding the main components of an effective HPWP system (see Table 1 in Chapter 2), as well as availability of relevant items in the WERS 2004 data, a total of eleven HRM practices were developed for the present study. Details of these variables are presented as follows:

Job autonomy – This scale was designed to measure the level of influence given to employees over their job tasks and responsibilities. The scale consists of three items measuring the level of discretion exercised by employees over how they did their work, the level of employee control over the pace at which they work and the level of employee involvement in decisions over how their work is organized. The reliability coefficient for this scale is acceptable at 0.71.

Team working – The team working scale was developed to capture work organization and activities within teams. The scale was originally composed of six items, but only two items were eventually selected. One of the items was eliminated because it correlated strongly with other items on the job autonomy and employee representation scales, whereas the other three items were dropped because of their contribution to poor model fit. The two items selected for this scale include: ‘team members depend on each other's work to be able to do their job’ and ‘tasks or roles rotate among the members of the team’. The response scale for these items had two options, ‘yes’ or ‘no’. This scale showed a high degree of internal consistency (Cronbach’s alpha = 0.92).

Staff training – The level of training offered to employees was measured using four items, all of which were recoded into binary formats. The first item measured the proportion of experienced employees who had been given time off work to undertake training over the past 12 months. The second item assessed the number of days of training undertaken during the past 12 months. The third and fourth items respectively assessed the type of issues covered during the training, and the main objectives for which the training was undertaken. Six items in all were originally selected for this scale but two items were deleted during the EFA. The Cronbach’s alpha coefficient for this scale is 0.64.

Performance-related pay – The performance-related pay scale is a three-item scale designed to assess: whether any employee in the workplace received pay by merit or by result,

the proportion of employees who received pay by merit or by result, and the measures of performance (including individual output, team output, workplace-based output and organization-based output) used to determine the amount of pay received by employees. All three items were recoded into binary formats, and reliability test showed the items to have high inter-correlation (Cronbach's alpha = 0.84).

Employee representation – This three-item scale was designed to measure the extent to which management normally negotiates, consults or informs unions about issues pertaining to staff selection, staff training and staff grievance. The responses to these questions were multi-faceted in nature, with 'negotiate', 'consult' and 'inform' separated into three different options. A decision was made to recode these items into binary formats such that 1 = negotiate, consult or inform, and 0 = none of these options. Although there were originally nine items of this kind measuring the level of management's negotiation and consultation with unions, a decision was made to exclude six of these items because of their contribution to poor model fit. The Cronbach's alpha coefficient for this scale is high at 0.91.

Flexible work arrangements – This scale was designed to measure workplace arrangements that allow employees some flexibility in terms of their working hours. The scale was developed based on three of eight responses to a multiple-response question. Each of the eight responses were singled out and recoded into binary formats. The three responses selected for this scale are reduced working hours, increased working hours and compressed working hours. The remaining five responses were excluded from this study because of their contribution to poor model fit. The Cronbach's alpha value for this scale is 0.70.

Selective hiring – This scale was designed to capture three factors (including employee skills, qualification and level of experience) which respondents considered important in recruiting new employees. These three factors were selected from a multiple-response question of nine responses, and were recoded into binary formats. The remaining six

factors were also recoded into binary formats, but were excluded from this study due to their contribution to poor model fit. The Cronbach's alpha coefficient for this three-item scale is low at 0.60. However, considering the three items loaded distinctly on a single 'selective hiring' factor during the EFA, and did not contribute to poor model fit during the CFA, a decision was made to keep this scale despite its marginal reliability coefficient.

Grievance systems – With the exception of a few studies (e.g., Arthur, 1994; Huselid, 1995; Ichniowski, et al., 1997; Ramsay et al., 2000), grievance systems have featured less prominently as a constituent of the HPWP regime. Generally, there has been little debate over the rationale for excluding grievance systems in HPWP studies. Some authors have described grievance systems as being unrelated to innovative models of management (Mohr and Zoghi, 2008); others consider grievance systems as representing a more traditional approach to HRM (Becker and Gerhart, 1996; Ramsay et al., 2000). Kalmi and Kauhanen (2008) further noted that scholars simply do not have good access to firm-level information on grievance systems and therefore tend to exclude such practices from their studies. Nevertheless, grievance systems are included in the present study due to their possible effects on improved employee attitudes (see Cohen-Charash and Spector, 2001; Judge and Colquitt, 2004; Walker and Hamilton, 2011). The grievance systems scale is composed of five items. One of the items is a multi-faceted response question which required respondents to indicate the proportion of employees covered by formal collective disputes procedures. This item was recoded into binary format. The remaining four items were singled out from a multiple-response question of five responses, and recoded into binary formats. The Cronbach's alpha value for this scale is 0.91.

Supportive management – This scale was designed to measure the level of supportiveness of management towards their employees. The scale was developed based on aggregated scores of two employee-level items. Employee-level aggregates were used to

derive this scale because the original items selected from the management survey were deemed inadequate. The two items used for this scale measured: the extent to which management understands about employees having to meet responsibilities outside work, and management's level of encouragement towards employees in terms of skills development. The response scale for these items ranged from: 1 = 'strongly agree' to 5 = 'strongly disagree'. The employee-level alpha coefficient for this scale is acceptable at 0.73, and the aggregate-level alpha coefficient is higher at 0.81. The tests for ICC1, ICC2 and $r_{WG(j)}$ yielded acceptable justification for the aggregation of these items (see bottom of Table 2).

Information sharing – The information sharing scale was designed to measure the extent to which employees are kept updated on vital information regarding various aspects of work. The scale was developed based on aggregated scores of two employee-level items measuring how good managers were at keeping employees informed about: changes in the way they perform their job and changes in financial matters including budgets or profits. Four employee-level items were originally selected for this scale, but two items were dropped due to their contribution to poor model fit. The response scale for these items ranged from: 1 = 'very good' to 5 = 'very poor'. The employee-level alpha coefficient obtained for this scale is acceptable at 0.77, and the aggregate-level alpha coefficient is higher at 0.93. Details of ICC1, ICC2 and $r_{WG(j)}$ scores for this scale can be found at the bottom of Table 2.

Participative decision-making – Participative decision-making was measured based on aggregated scores of three employee-level items measuring: how good managers were at seeking the views of employees or employee representatives, how good managers were at responding to suggestions from employees or employee representatives, and how good managers were at allowing employees or employee representatives to influence final decisions. The tests for ICC1, ICC2 and $r_{WG(j)}$ yielded acceptable justification for the aggregation of these items (see bottom of Table 2). The original management-level items

selected for this scale showed very poor Cronbach's alpha coefficient and were therefore deemed unsuitable for this study. The employee-level alpha coefficient for this scale is high at 0.93, and the aggregate-level alpha coefficient is higher at 0.96.

Control variables – Although factors such as organizational sector, employment status and company size are among the common control variables in HPWP studies, control variables of this sort have been excluded in this study to avoid confounding an already complex, multilevel analytical design, involving eleven latent independent variables, one latent mediator variable and four latent dependent variables. Note also that each latent variable is specified using two or more observed items. The decision to exclude control variables was taken because such variables may lead to correlations that alter the meaning of the substantive variables in models with several independent variables (Becker, 2005; Edwards, 2008; Williams et al., 2009; Spector and Brannick, 2011). Control variables may correlate with outcomes in ways that dictate different analyses and conclusions; therefore, they should be included only if driven by sound theoretical underpinnings (Becker, 2005; Williams et al., 2009).

5.4.2.3 HPWP index measure

As mentioned in Chapter 4, the integrationist perspective of HPWP is conceptualized in terms of an integrated system of HPWP. Cluster analysis is advocated as the preferred method for evaluating an integrated system of HPWP (Huselid and Becker; 1997; Ichniowski et al., 1997; Becker and Huselid, 1998; Delery, 1998; Guest et al., 2004). This technique does not depict the specific ways in which firms implement individual HRM practices; rather it emphasizes the identification of similarities in HRM systems across firms (Huselid and Becker; 1997; Becker and Huselid, 1998). Unlike the use of reliability statistics and factor analysis, cluster analysis can be used to statistically derive an 'index' measure of HPWP for which firms are divided into clusters or groups based on their respective orientations towards

HRM (MacDuffie, 1995; Delery, 1998; De Menezes and Wood, 2006; Macky and Boxall, 2007). The cluster whose members have high scores in their relative use of a wide range of innovative HRM practices is considered as having an innovative orientation toward HRM, or simply ‘the HPWP cluster’.

Agglomerative hierarchical cluster analysis with Ward’s method and squared Euclidean distance was used to derive an index measure of HPWP based on standardized scores of the eleven HRM practices. The Ward method was preferred because of its efficiency in producing consistent cluster solutions across different analytical settings (Mojena, 1977; Gong and Richman, 1995; Burns and Burns, 2008), whereas the squared Euclidean distance was preferred to the simple Euclidean distance because it places progressively greater weights on entities that are further apart (Wishart, 1969; Mojena, 1977; Burns and Burns, 2008). This analysis resulted in a three-cluster solution on interpreting the large ‘jumps’ in the coefficient values on the agglomeration schedule (a table containing information about the change in the distance measure at each stage of the clustering procedure), as well as large distances between nodes on the dendrogram (a hierarchical tree diagram showing the proximity of entities before being fused into clusters). Subsequently, an ANOVA test (using Tukey Post Hoc test) was performed to establish statistical differences between the three clusters, and to define the clusters according to their relative scores on the eleven HRM practices (see details of each cluster in Table 3).

The first cluster (526 firms, 6230 employees) is characterized by low scores on most innovative HRM practices, but high scores on staff training and selective hiring. Workplaces in this cluster are likely to have highly-skilled employees who are not given adequate opportunities to demonstrate their expertise at work. This cluster is considered the less innovative group of workplaces in the sample. The second cluster (666 firms, 9800 employees) represents the more innovative cluster in the study, or ‘the HPWP cluster’.

Table 3 – Cluster definition table (mean scores are derived from ANOVA test)

HRM Practices	CLUSTER 1 (Standardized mean scores)	CLUSTER 2 (Standardized mean scores)	CLUSTER 3 (Standardized mean scores)
Job autonomy	Low (-0.50)	Average (0.10)	High (0.36)
Team working	Low (-0.16)	High (0.27)	Average (-0.17)
Training	High (0.23)	Average (0.22)	Low (-0.51)
Performance-related pay	Low (-0.19)	High (0.11)	Average (0.04)
Employee representation	Average (-0.23)	High (0.69)	Low (-0.63)
Flexible working	Average (-0.11)	High (0.41)	Low (-0.41)
Selective hiring	High (0.21)	Average (0.09)	Low (-0.31)
Grievance procedures	Average (-0.11)	High (0.69)	Low (-0.74)
Supportive management	Low (-0.83)	High (0.45)	Average (0.25)
Information sharing	Low (-0.80)	High (0.50)	Average (0.16)
Participative decision-making	Low (-0.84)	High (0.51)	Average (0.19)

Sample size (N) = 1733 firms, 22451 employees

Cluster 1 (N = 526 firms, 6230 employees) – ‘Non-innovative’ HRM group

Cluster 2 (N = 666 firms, 9800 employees) – ‘Innovative’ HRM group or HPWP cluster

Cluster 3 (N = 541 firms, 6421 employees) – Moderately ‘innovative’ group

Workplaces in this cluster have high scores on all HRM practices, except job autonomy, staff training and selective hiring, for which they have average scores. The third cluster (541 firms, 6421 employees) is characterized by low-average scores on the HRM practices, except job autonomy for which they have a high score. Workplaces in this cluster are likely to have low-skilled employees who may be unable to maximize the level of discretion given to them at

work. Workplaces in this cluster are considered moderately innovative in their approach to HRM.

5.4.3 Data analysis

Hypothesized assumptions in this study were tested in three phases using the Mplus software program. The Mplus program presents a variety of estimators and algorithms for analyzing complex models in both single-level and multilevel data, using different types of observed variables including binary, ordinal, nominal, continuous, censored, as well as various combinations of these (Muthén and Muthén, 1998-2010; Byrne, 2012). Considering the nested nature of the WERS 2004 data, and the complex array of hypothesized relationships in this study (i.e., involving both direct and indirect effects of multiple predictors on multiple outcomes), Multilevel Structural Equation Modelling (MSEM) was the preferred analytical procedure for this study. MSEM is a useful approach for testing cluster-level effects of multiple predictors on multiple outcomes simultaneously in a single analytical model (Asparouhov and Muthen, 2008; Heck and Scott, 2009; Kaplan, 2009). When MSEM is used to analyze multilevel data, measurement errors are partitioned into between-level and within-level components of analysis, thereby producing better estimates of cluster-level effects (MacKinnon, 2008; Heck and Scott, 2009; Yeung and Li, 2011). The MLR estimator, which is thought to be efficient in multilevel analysis (Asparouhov and Muthen, 2008; Preacher et al., 2010), was used in each of the three phases of data analysis.

5.4.3.1 Phase I (hypotheses 1 and 3, the independent effects of HPWP)

This phase involved a single MSEM procedure to evaluate the independent effects of HRM practices on employee attitudes and well-being (hypothesis 1), and simultaneously examine the mediating role of work intensification in these relationships (hypothesis 3). The model involved eleven independent variables (i.e., the HRM practices), the work

intensification variable as a mediator, as well as three employee attitude measures and one well-being measure (job strain) as outcome variables.

An initial run of the MSEM procedure yielded acceptable goodness-of-fit values for RMSEA (0.014) and SRMR (0.035), but marginal values for CFI (0.943) and TLI (0.935). This prompted a review of the modification indices (an index showing the expected improvement in model fit when a parameter is estimated freely or added to a different path) for suggestions on how to improve overall model fit. The modification indices revealed that model fit could be improved by adding residual covariances (i.e., allowing correlations between error terms) for some management-level and employee-level items. Based on recommendations by some authors (Hox and Bechger, 1998; Hooper et al., 2008; Byrne, 2012), a decision was made to add residual covariances for within-factor residuals only, rather than across-factor residuals. Moreover, residual covariances were added for items with modification indices greater than 100 only. After these adjustments to the model, acceptable model fit was derived on all goodness-of-fit indices.

Mediated or indirect effects were estimated based on the product-of-coefficients ($\alpha\beta$) method (see Chapter 4 for more details on this). In the Mplus software program, the product-of-coefficients ($\alpha\beta$) and corresponding statistical significance is calculated using the multivariate delta method, which is the statistical procedure underlying the Sobel's test (1982). Unfortunately, this method produces poor estimates of mediated effects due to assumptions that the distribution of the $\alpha\beta$ coefficient is normal. Therefore, mediated effects derived from the multivariate delta method are not reported in this study.

Two advanced methods, the distribution of the product method (MacKinnon et al., 2002; MacKinnon et al., 2007a) and the Monte Carlo method for assessing mediation (Selig and Preacher, 2008; Preacher and Selig, 2012), were used to construct confidence intervals to validate mediated effects derived using the multivariate delta method. Details of these two

methods are provided in Chapter 4. Essentially, mediated effects in the distribution of the product method are measured using the product of z scores for the α and β parameters, and determining its significance using tables of critical values that do not assume that the coefficient $\alpha\beta$ is normally distributed. For the Monte Carlo method, mediated effects are estimated using values of α and β , alongside their associated standard errors, to simulate a sampling distribution of their product.

5.4.3.2 Phase II (hypotheses 2 and 4, the integrated effects of HPWP)

The integrated effects of HPWP on employee attitudes and well-being, as well as the mediating role of work intensification in these relationships, were examined simultaneously in this phase. This analysis was achieved using multiple group analysis to compare differences in the latent factor means of the employee-level variables across the three clusters comprising the HPWP index measure. The multiple group analysis involved fixing the latent factor means of the employee attitudes and well-being measures at zero in the reference group (i.e., Cluster 2 or the HPWP cluster), but freely estimated in the other two clusters. This analysis can be conceptualized in a similar way as the use of a categorical independent variable in a linear regression model. If the latent factor means of employee attitude measures (i.e., job satisfaction, organizational commitment and employees' trust in management) are significantly lower in Clusters 1 and 3, relative to the reference group (i.e., Cluster 2), then there is evidence that HPWP have beneficial integrated effects on employee attitudes. In other words, employees in workplaces with more innovative orientation towards HRM tend to have better work-related attitudes compared to employees in workplaces with less innovative orientation towards HRM. On the other hand, if the latent factor means of work intensification and job strain are lower in Clusters 1 and 3, relative to Cluster 2, then there is evidence that HPWP have undesirable integrated effects on employee well-being.

The mediating role of work intensification in terms of the integrated effects of HPWP was also estimated based on the product-of-coefficients ($\alpha\beta$) method. Just as in Phase I, estimates of mediated effects derived from the multivariate delta method were validated using the distribution of the product method and the Monte Carlo method.

5.4.3.3 Phase III (comparing the integrationist and isolationist perspectives of HPWP)

This phase was used to verify whether the individual HRM practices have synergistic (or statistical interaction) effects on employee attitudes and well-being. Three models were tested to examine simultaneously the explanatory power of the integrationist perspective of HPWP over the isolationist perspective of HPWP. Goodness-of-fit statistics were used to determine the adequacy of each of the three models. The first model involved allowing the regression slopes (i.e., the independent effects of each HRM practice on the employee-level variables) to vary freely across the three clusters. In this first model, the three cluster intercepts were modelled to be distinct. In the second model, the regression slopes were then constrained to equality across the three clusters to ascertain whether the independent effects of HRM practices are conditional on the clusters. In this second model, the three cluster intercepts were still modelled to be distinct. A significant drop in model fit from the first to the second model would provide evidence for conditional effects. In the third model, the three cluster intercepts were now modelled to be equal and the regression slopes were freely estimated across clusters. Poor fit for this third model will establish that the three clusters are distinct with respect to variance accounted for by the independent effects of HPWP.

Thereafter, evidence from Phase II (i.e., the phase where the integrated effects of HPWP were examined without accounting for independent effects) was compared with evidence from this phase to determine whether there are variations in latent factor means of employee-level outcomes across the three clusters. Significant variations between Phase II and Phase III in terms of latent factor means of employee-level outcomes across the three

clusters will establish whether the isolationist perspective (or independent effects) of HPWP accounts for variance in employee-level outcomes over and above the integrationist perspective (or integrated effects) of HPWP.

5.4.3.3 Testing for measurement invariance

Due to the multiple group comparisons in Phases II and III, measurement invariance was tested to ensure that measurement parameters were interpreted consistently by members of the three HRM clusters. Measurement invariance involves a series of progressively restrictive models for which model fit statistics are used to determine progression from one model to the next (Vandenberg and Lance, 2000; Cheung and Rensvold, 2002; Byrne, 2012). Although the Chi-square Test (X^2) and the Chi-square Difference Test (ΔX^2) are among the traditional fit indices for measurement invariance testing, these indices do not feature prominently in this study due to their sensitivity to large sample sizes (Vandenberg and Lance, 2000; Koh and Zumbo, 2008; Williams et al., 2009; Byrne, 2012). As a result, progression from one model to another is assessed using the CFI and TLI at cut-off levels of $\geq .95$, as well as the RMSEA and SRMR at cut-off levels of $< .08$ (Schreiber et al., 2006; Williams et al., 2009). More details on goodness-of-fit statistics can be found in Chapter 4 of this thesis. Progression from one model to the next in measurement invariance testing is also ascertained when the difference in CFI values between competing models is less than .01 (Cheung and Rensvold, 2002).

Four steps were undertaken to establish the invariance of the management-level and employee-level parameters across the three clusters. The first step involved group specific tests for the validity of the measurement parameters (i.e., factor loadings, observed item intercepts and variances) in each group. This step is necessary to ensure that observed items load uniquely and adequately on underlying factors in each group. This step was followed by the configural invariance model, for which all the measurement parameters were estimated

freely across groups. A well-fitting configural model confirms that factor patterns are similar across clusters, though no claims of between-group equality can yet be made at this stage (Cheung and Rensvold, 2002; Byrne, 2012). Following the configural model was the more restrictive metric invariance test, for which the factor loadings of the employee-level variables were constrained to equality across the three HRM clusters. In the subsequent step, the observed item intercepts were constrained to equality across the three clusters to test for scalar invariance. A well-fitting scalar invariance model suggests that measurement parameters are strongly invariant across the three HRM clusters. In all, each of the four steps yielded acceptable model fit for the management-level and employee-level measurement parameters, respectively (see results in Table 4). Based on this, meaningful between-group comparisons can therefore be made across the three HRM clusters.

5.5 RESULTS

In this study, two central debates of the HPWP literature have been investigated using the management and employee surveys of the WERS 2004 data. The first debate, entitled ‘the integrationist and isolationist perspectives of HPWP’ is concerned with the integrated and independent effects of individual HRM practices, whereas the second debate, entitled ‘the mutual gains versus the critical perspectives of HPWP’, looks at the active ingredients in the ‘win-win’ conceptualization of HPWP. These two debates were investigated in three data analytical phases. The first phase involved a single MSEM model to evaluate the independent effects of HPWP on employee attitudes and well-being, and simultaneously examine the mediating role of work intensification in these relationships. This model yielded adequate fit based on four goodness-of-fit indices (RMSEA = 0.011; CFI = 0.965; TFI = 0.960; SRMR = 0.031). In the second phase, multiple group analysis was used to evaluate the integrated effects of HPWP on employee attitudes and well-being, and simultaneously examine the mediating role of work intensification in these relationships. The integrative properties of

Table 4 - Measurement invariance testing for WERS 2004 data

Employee-level parameters						
MODELS	X² (df) p < .000	RMSEA	CFI	ΔCFI	TLI	SRMR
Group 1 only	1545.951 (138)	0.042	0.968	-	0.960	0.041
Group 2 only	2858.293 (138)	0.046	0.961	-	0.952	0.044
Group 3 only	2025.864 (138)	0.048	0.961	-	0.951	0.047
Configural invariance	6417.070 (414)	0.045	0.963	-	0.954	0.044
Metric invariance	6490.654 (442)	0.044	0.963	0.000	0.957	0.045
Scalar invariance	6780.742 (470)	0.043	0.961	0.002	0.957	0.046
Management-level parameters						
MODELS	X² (df) p < .000	RMSEA	CFI	ΔCFI	TLI	SRMR
Group 1 only	696.855 (436)	0.038	0.967	-	0.960	0.040
Group 2 only	709.030 (436)	0.035	0.963	-	0.955	0.038
Group 3 only	697.343 (436)	0.038	0.968	-	0.961	0.037
Configural invariance	2103.053 (1308)	0.035	0.966	-	0.959	0.038
Metric invariance	2294.289 (1352)	0.037	0.960	0.006	0.953	0.044
Scalar invariance	2583.498 (1396)	0.041	0.951	0.009	0.943	0.047

HPWP were captured using cluster analysis to statistically divide the WERS 2004 sample into three distinct HRM clusters based on the eleven innovative HRM practices. The multiple group analysis also yielded acceptable model fit (RMSEA = 0.041; CFI = 0.963; TFI = 0.953; SRMR = 0.040). The third phase involved three analytical models to simultaneously examine

whether the integrationist perspective has greater explanatory power on employee attitudes and well-being over the isolationist perspective of HPWP. This phase was used to verify whether individual HRM practices have synergistic (or statistical interaction) effects on employee attitudes and well-being.

5.5.1 Phase I results (hypotheses 1 and 3)

The independent effects of HPWP on employee attitudes and well-being are reported in the upper portion of Table 5, whereas the mediating role of work intensification is reported in the lower portion of the table. The upper portion of the table contains standardized regression coefficients, their corresponding residuals and the statistical significance for the independent effects of each HRM variable on the respective employee-level outcomes and work intensification. Standardized regression coefficients were used in order for relationships between predictors and outcomes to be interpreted on the same measurement scale.

The table shows mixed support for the assumption that HPWP produce positive independent effects on employee attitudes and well-being (hypothesis 1). All HRM practices, except grievance systems, are statistically related to at least one employee-level outcome. HRM practices such as staff training, performance-related pay, flexible working and supportive management, produced positive independent effects on job satisfaction, whereas staff training, flexible working, and supportive management produced positive independent effects on organizational commitment. Staff training, selective hiring and supportive management also produced positive independent effects on employees' trust in management. These findings indicate that less than half of the HRM practices (i.e., five out of eleven) are positively related to at least one employee attitude measure. Of these five HRM practices, supportive management produced the strongest effect on job satisfaction ($\beta = 0.565$, $p < 0.001$), organizational commitment ($\beta = 0.496$, $p < 0.001$) and employees' trust in management ($\beta = 0.538$, $p < 0.001$), respectively. Staff training, performance-related pay,

Table 5 – Phase I Results

HRM practices → employee-level outcomes

Variables	Job Satisfaction (residuals)	Organizational Commitment (residuals)	Employee Trust (residuals)	Job Strain (residuals)	Work Intensity (residuals)
Work Intensity	-0.149*** (0.011)	0.023* (0.010)	-0.130*** (0.009)	0.780*** (0.007)	-
Job autonomy	-0.017 (0.018)	-0.016 (0.018)	-0.042** (0.014)	-0.002 (0.012)	0.063** (0.019)
Team working	-0.040* (0.016)	-0.026 (0.015)	0.001 (0.013)	0.001 (0.011)	0.017 (0.026)
Training	0.075*** (0.019)	0.042* (0.018)	0.058*** (0.014)	-0.030* (0.014)	-0.070** (0.021)
PRP	0.029** (0.011)	0.003 (0.011)	0.004 (0.008)	-0.023** (0.008)	0.004 (0.012)
Employee rep.	0.003 (0.014)	-0.022 (0.014)	0.002 (0.011)	0.030** (0.010)	-0.027 (0.015)
Flexible working	0.024* (0.012)	0.032** (0.012)	0.012 (0.009)	-0.040*** (0.010)	0.008 (0.015)
Selective hiring	-0.006 (0.020)	-0.012 (0.019)	0.059*** (0.015)	0.030* (0.013)	-0.073*** (0.019)
Grievance systems	-0.010 (0.013)	0.011 (0.012)	0.017 (0.009)	-0.002 (0.009)	0.018 (0.015)
Supportive management	0.565*** (0.092)	0.496*** (0.086)	0.538*** (0.074)	-0.171** (0.050)	0.186* (0.077)
Information sharing	-0.004 (0.049)	-0.036 (0.048)	-0.070 (0.037)	0.045 (0.031)	-0.142** (0.048)
PDM	-0.175** (0.058)	-0.082 (0.056)	0.042 (0.046)	0.030 (0.033)	-0.056 (0.053)

HRM practices → work intensity → employee-level outcomes

HRM Practices	Job Satisfaction CI = 95%		Organizational Commitment CI = 95%		Employee Trust CI = 95%		Job Strain CI = 95%	
	DOPM	MCM	DOPM	MCM	DOPM	MCM	DOPM	MCM
Job autonomy	-0.015	-0.015	0.000	0.000	-0.013	-0.013	0.020	0.020
Team working	-0.004	-0.004	0.003	0.003	-0.003	-0.003	0.078	0.079
Training	-0.010	-0.010	-0.001	-0.001	-0.009	-0.009	-0.026	-0.026
PRP	0.005	0.005	0.002	0.002	0.004	0.004	0.053	0.053

Training	0.004 0.017	0.004 0.017	-0.004 0.000	-0.004 0.000	0.004 0.015	0.004 0.015	-0.087 -0.022	-0.087 -0.023
PRP	-0.004 0.003	-0.004 0.003	-0.001 0.001	0.000 0.001	-0.004 0.003	-0.004 0.003	-0.015 0.021	0.015 0.022
Employee rep.	0.000 0.009	0.000 0.009	-0.002 0.000	-0.002 0.000	0.000 0.007	0.000 0.007	-0.044 0.002	-0.044 0.002
Flexible working	-0.006 0.003	-0.006 0.003	-0.001 0.001	-0.001 0.001	-0.005 0.003	-0.005 0.003	-0.017 0.029	-0.017 0.029
Selective hiring	0.005 0.017	0.005 0.017	-0.004 0.000	-0.004 0.000	0.005 0.015	0.005 0.015	-0.086 -0.028	-0.086 -0.028
Grievance systems	-0.007 0.002	-0.007 0.002	0.000 0.001	0.000 0.001	-0.006 0.001	-0.006 0.001	-0.009 0.037	-0.009 0.037
Supportive management	-0.051 -0.005	-0.051 -0.005	0.000 0.010	0.000 0.011	-0.044 -0.005	-0.045 -0.005	0.027 0.263	0.029 0.264
Information sharing	0.007 0.036	0.007 0.036	-0.007 0.000	-0.008 0.000	0.006 0.031	0.006 0.031	-0.184 -0.037	-0.184 -0.037
PDM	-0.007 0.024	-0.007 0.024	-0.005 0.001	-0.005 0.001	-0.006 0.021	-0.006 0.021	-0.125 0.037	-0.125 0.037

Sample size (N) = 1733 firms, 22451 employees

Note: all regression coefficients and residuals are standardized scores

Chi-square (X^2) = 4175.310; degrees of freedom (df) = 1146; p-value < 0.00

RMSEA = 0.011; CFI = 0.965; TFI = 0.960; SRMR = 0.031;

*Confidence Interval (CI) = 95%; Significance: *** = $p < .001$, ** = $p < .01$, * = $p < .05$*

DOPM = Distribution of product method; MCM = Monte Carlo Method

flexible working and supportive management are negatively associated with job strain, whereas staff training, selective hiring and information sharing have negative associations with work intensification (see Table 5).

Team working and participative decision-making have negative independent effects on job satisfaction, and job autonomy produced a negative independent effect on employees' trust in management. Of these three HRM practices, participative decision-making has the strongest negative independent effect on employee attitudes, in this case job satisfaction ($\beta = -0.175$, $p < 0.01$). Furthermore, employee representation and selective hiring produced

positive independent effects on job strain, whereas in terms of work intensification, job autonomy and supportive management have positive relationships (see Table 5).

The lower portion of Table 5 provides confidence intervals for the mediating role of work intensification in terms of the independent effects of HPWP on employee attitudes and well-being (hypothesis 3). The confidence intervals were derived from the distribution of the product method and the Monte Carlo method, which were used to validate mediated effects derived from the multivariate delta method.

Table 5 shows that work intensification is negatively related to job satisfaction and employees' trust in management, and positively associated with organizational commitment and job strain. Work intensification does not mediate the indirect effects of any HRM practice on organizational commitment. However, through work intensification, five out of eleven HRM practices produced significant indirect effects on job satisfaction, employees' trust in management and job strain, respectively. Staff training, selective hiring and information sharing produced significant indirect effects on job satisfaction, employees' trust in management and job strain through work intensification. Whereas the indirect effects of these practices on job satisfaction and employees' trust are positive, their effects on job strain are in the opposite direction. That means through significant reductions in work intensification, staff training, selective hiring and information sharing may enhance job satisfaction and employee's trust in management, and reduce employees' perceptions of job strain.

Through corresponding increases in work intensification, supportive management produced reducing indirect effects on job satisfaction and employees' trust in management, and an increasing indirect effect on employees' perception of job strain. Given the beneficial independent effects of supportive management on job satisfaction and employees' trust in management, it is safe to say that employees are generally pleased with the level of support

received from management, even though they may experience work intensification as a result. The case for job autonomy also suggests an overall negative implication for employee-level outcomes. Through corresponding increases in work intensification, job autonomy produced reducing indirect effects on job satisfaction and employees' trust in management, and an increasing indirect effect on employees' perception of job strain (see Table 5).

5.5.2 Phase II results (hypotheses 2 and 4)

The results of the multiple group analysis for the integrated effects of HPWP on employee attitudes and well-being are presented in Table 6. The effects of Clusters 1 and 3 (Cluster 2 is the HPWP cluster and modelled as the reference group) on the employee attitude measures, job strain and work intensification, respectively, are presented in the upper portion of the table, whereas the lower portion of the table shows confidence intervals for the mediating role of work intensification.

Table 6 shows that the latent factor means of job satisfaction, organizational commitment and employees' trust in management are significantly lower in Clusters 1 and 3 relative to Cluster 2, the reference group for which latent factor means were constrained to zero. This implies that employees in workplaces with high scores in their use of the eleven HRM practices are generally more likely to display better work-related attitudes compared to their counterparts in firms with lower scores. The table also shows that the latent factor mean of job strain is significantly higher for Cluster 1 relative to Cluster 2, but no significant difference was found between Cluster 3 and Cluster 2. That means employees in workplaces representing the less innovative cluster (i.e., Cluster 1) are generally more likely to experience higher levels of job strain compared to their counterparts in the other two clusters. Also, the latent factor mean of work intensification is significantly lower for Cluster 1 and significantly higher for Cluster 3, relative to Cluster 2. Of the three HRM clusters, employees in the less innovative HRM cluster experienced the lowest degree of work intensification,

Table 6 – Phase II Results

HPWP index → employee-level outcomes

Variables	Job Satisfaction (residuals)	Organizational Commitment (residuals)	Employee Trust (residuals)	Job Strain (residuals)	Work Intensity (residuals)
Work Intensity	-0.138*** (0.011)	0.035** (0.010)	-0.131*** (0.010)	0.770*** (0.007)	-
Cluster 1	-0.222*** (0.012)	-0.229*** (0.012)	-0.306*** (0.011)	0.068*** (0.008)	-0.042** (0.013)
Cluster 2	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Cluster 3	-0.062*** (0.013)	-0.041** (0.013)	-0.104*** (0.013)	0.012 (0.008)	0.035** (0.013)

HPWP index → work intensity → employee-level outcomes

HRM Groups	Job Satisfaction CI = 95%		Organizational Commitment CI = 95%		Employee Trust CI = 95%		Job Strain CI = 95%	
	DOPM	MCM	DOPM	MCM	DOPM	MCM	DOPM	MCM
	Cluster 1	0.002 0.010	0.002 0.010	-0.003 0.000	-0.003 0.000	0.002 0.009	0.002 0.009	-0.052 0.013
Cluster 2	-	-	-	-	-	-	-	-
Cluster 3	-0.009 -0.001	-0.009 -0.001	0.000 0.003	0.000 0.002	-0.008 -0.001	-0.008 -0.001	0.007 0.047	0.008 0.046

Sample size (N) = 1733 firms, 22451 employees

Cluster 1 (N = 526 firms, 6230 employees) – ‘Non-innovative’ HRM group

Cluster 2 (N = 666 firms, 9800 employees) – ‘Innovative’ HRM group or HPWP cluster

Cluster 3 (N = 541 firms, 6421 employees) – Moderately ‘innovative’ group

Note: all regression coefficients and residuals are standardized scores

Chi-square (X^2) = 6172.902; degrees of freedom (df) = 166; p-value < 0.00

RMSEA = 0.041; CFI = 0.963; TFI = 0.953; SRMR = 0.040

Confidence Interval (CI) = 95%; Significance: *** = p < .001, ** = p < .01, * = p < .05

DOPM = Distribution of product method; MCM = Monte Carlo Method

whereas employees in the moderately innovative HRM cluster experienced the highest degree of work intensification.

The lower portion of Table 6 shows results of the mediating role of work intensification in terms of the integrated effects of HPWP on employee attitudes and well-being (hypothesis 4). The table provides confidence intervals derived from the distribution of the product method and the Monte Carlo method. Relative to Cluster 2, the respective indirect effects of Clusters 1 and 3 on job satisfaction and employees' trust in management did not exceed 9% of the direct effect in each case. That means the direct and beneficial effects of Cluster 2 on job satisfaction and employees' trust in management may outweigh any adverse indirect effects through work intensification. In terms of job strain, the indirect effect of Cluster 1 ($\alpha\beta = -0.032$) relative to Cluster 2, was 47% of the direct effect ($\alpha = 0.068$) and in the opposite direction; however, this effect was not statistically significant. Therefore, Cluster 2 has no significant indirect effect on job strain, relative to Cluster 1. The indirect effect of Cluster 3 on job strain ($\alpha\beta = 0.027$) relative to Cluster 2, was 225% of the direct effect ($\alpha = 0.012$), and in the same direction. Therefore, Cluster 2 may be associated with both direct and indirect increases in job strain relative to Cluster 3.

5.5.3 Phase III results (comparing the integrated and independent effects of HPWP)

Table 7 provides model fit information for the three analytical tests in this phase. The first test for which the regression slopes and intercepts were estimated freely across the three clusters returned acceptable model fit (RMSEA = 0.013, CFI = 0.946, TLI = 0.940, and SRMR = 0.040). The second test for which the regression slopes were constrained to equality across the three clusters but intercepts estimated freely also yielded acceptable model fit (RMSEA = 0.013, CFI = 0.945, TLI = 0.940, and SRMR = 0.040). There is no significant difference in model fit between the first and second models (only a slight change of 0.001 in CFI values), and the patterns of means for the outcomes are the same for both models. This implies that the independent effects of HPWP are not conditional on the broad approaches to HRM across the three HRM clusters. The third model for which the three clusters were

Table 7 - Model fit information for Phase III

MODELS	X ² (df) p < .000	RMSEA	CFI	ΔCFI	TLI	SRMR
Test 1	7676.414 (3582)	0.013	0.946	-	0.940	0.040
Test 2	7898.125 (3692)	0.013	0.945	0.001	0.940	0.040
Test 3	11687.314 (3614)	0.018	0.894	0.050	0.883	0.194

constrained to equality returned poor model fit (RMSEA = 0.018, CFI = 0.894, TLI = 0.883, and SRMR = 0.194). That means the three HRM clusters are distinct with respect to variance accounted for by the independent effects of HPWP.

On comparing the results of this phase with the results of Phase II (i.e., the phase where the integrated effects of HPWP were examined without accounting for independent effects), there were significant variations in latent factor means of employee-level outcomes across the three clusters (see Table 8). The independent effects of HPWP accounted for variance in employee attitudes and well-being over and above the integrated effects of HPWP. Cluster 1 (i.e., the cluster representing workplaces with low adoption of innovative HRM practices) was found to have higher job satisfaction compared to Cluster 2 (the HPWP cluster), whereas Cluster 3 (i.e., the cluster representing workplaces with moderate adoption of innovative HRM practices) was found to have higher levels of organizational commitment compared to Cluster 2. Cluster 3 was also found to have lower levels of job strain and work intensification compared to the HPWP cluster.

This result lends support to the argument that individual HRM practices produce unique independent effects and that any beneficial integrated effects of HPWP are apparent in workplaces with a narrower adoption of innovative HRM practices. When the integrated effects of HPWP were examined in Phase II without accounting for independent effects, workplaces adopting an extensive range of innovative HRM practices achieved better

Table 8 – Comparing results of Phase II and Phase III

Clusters	Job Satisfaction (residuals)		Organizational Commitment (residuals)		Employee Trust (residuals)		Job Strain (residuals)		Work Intensification (residuals)	
	Phase II	Phase III	Phase II	Phase III	Phase II	Phase III	Phase II	Phase III	Phase II	Phase III
Cluster 1	-0.222*** (0.012)	0.130** (0.038)	-0.229*** (0.012)	0.062 (0.040)	-0.306*** (0.011)	0.025 (0.027)	0.068*** (0.008)	-0.040 (0.037)	-0.042** (0.013)	-0.024 (0.043)
Cluster 2	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Cluster 3	-0.062*** (0.013)	0.063 (0.038)	-0.041** (0.013)	0.086* (0.039)	-0.104*** (0.013)	0.044 (0.027)	0.012 (0.008)	-0.134** (0.049)	0.035** (0.013)	-0.114** (0.038)

Sample size (N) = 1733 firms, 22451 employees

Cluster 1 (N = 526 firms, 6230 employees) – ‘Non-innovative’ HRM group

Cluster 2 (N = 666 firms, 9800 employees) – ‘Innovative’ HRM group or HPWP cluster

Cluster 3 (N = 541 firms, 6421 employees) – Moderately ‘innovative’ group

Note: all regression coefficients and residuals are standardized scores

Significance: *** = $p < .001$, ** = $p < .01$, * = $p < .05$

employee outcomes. However, in Phase III, where the integrated and independent effects of HPWP were tested simultaneously, employees in workplaces adopting an extensive range of innovative HRM practices have less favourable employee outcomes compared to employees in the other clusters. Thus, the isolationist perspective of HPWP has additional explanatory power on employee attitudes and well-being compared to the integrationist perspective of HPWP.

5.6 DISCUSSION

In the present study, the independent and integrated effects of HPWP on employee attitudes and well-being have been investigated alongside the mediating role of work intensification in these relationships. The study has also examined whether individual HRM practices have synergistic or statistical interaction effects on employee attitudes and well-being. The study found evidence that individual HRM practices produce beneficial as well as detrimental independent effects on employee attitudes and well-being. Five out of eleven HRM practices produced beneficial independent effects on employee attitudes, whereas only three practices have detrimental independent effects on employee attitudes. The study also found evidence that HPWP have beneficial integrated effects on employee attitudes and well-being. By adopting a wide range of innovative HRM practices, organizations are able to maximize the mutually supportive properties of some HRM practices and offset the negative influences of other HRM practices.

The present study found support for the mediating role of work intensification in terms of the independent and integrated effects of HPWP on employee attitudes and well-being. Five out of eleven HRM practices were found to have significant indirect effects on job satisfaction, employees' trust in management and job strain through work intensification. With regard to the integrated effects of HPWP, work intensification was found to mediate the indirect effects of Cluster 1 (with Cluster 2, the HPWP cluster, modelled as the reference

group), on job satisfaction and employees' trust in management. Work intensification was also found to mediate the indirect effects of Cluster 3, relative to Cluster 2, on job satisfaction, employees' trust in management and job strain. These results indicate that work intensification may mediate the integrated effects of HPWP in workplaces adopting an extensive range of HRM practices (i.e., the HPWP cluster). However, employees' experience of work intensification in this cluster may be compensated for by higher levels of job satisfaction, organizational commitment and employee's trust in management among employees. Finally, the present study revealed that the isolationist perspective of HPWP has additional explanatory power on employee attitudes and well-being compared to the integrationist perspective of HPWP. On examining variance accounted for by the independent effects of HPWP, the beneficial integrated effects of HPWP were overturned in favour of workplaces adopting a narrower range of innovative HRM practices.

5.6.1 The mutual gains perspective of HPWP (hypotheses 1 and 2)

The present study has shown support for the mutual gains perspective of HPWP. Some innovative HRM practices have been shown to have beneficial independent effects on employee attitudes and well-being. Specifically, supportive management was found to have positive independent effects on job satisfaction, organizational commitment and employees' trust in management. This result supports the assumption that employees' perception of care and support from their employer may prompt employees to respond through desirable work-related attitudes (Whitener, 2001; Barling et al., 2003; Macky and Boxall, 2008). Based on the norm of reciprocity, employees may interpret the positive treatment received from their employers as a sign that their positive contributions towards the organization are well appreciated (Eisenberger et al., 1990; Wayne et al., 1997; Gould-Williams and Davies, 2005; Beltrán-Martín et al., 2008). This in turn may prompt employees to respond through work-related behaviours that are beneficial to the organization. The positive independent effects of

flexible working on job satisfaction and organizational commitment may further illustrate the argument that employees who are offered time flexibility at work could reciprocate through increased levels of attachment to the organization (Kelliher and Anderson, 2010). Flexible work arrangements are designed to allow employees some discretion in terms of when and where to perform their work responsibilities (Kelliher and Anderson, 2010; Atkinson and Hall, 2011). Such work arrangements have been associated with reductions in work-life imbalance, as well as improved feelings of happiness and contentment among employees (Atkinson and Hall, 2011). Employees form positive opinions about their employers through these types of HRM practices and therefore feel obligated to return the 'favour' by displaying desirable work-related attitudes.

The study found staff training and performance-related pay to have beneficial independent effects on job satisfaction, organizational commitment and employees' trust in management. Indeed, previous studies have linked employee skills development and training programs to desirable employee attitudes at work (Bartlett, 2001; Barling et al., 2003; Combs et al., 2006; Macky and Boxall, 2008; Wood and De Menezes, 2011; Newman et al., 2011). Through staff training and skills development programs, employees develop greater work capabilities, become more self-confident in performing their jobs, and consequently display better work-related attitudes at work. Likewise, several studies have reported positive links between compensatory reward schemes such as performance-based pay and various employee attitude measures such as job satisfaction (Macky and Boxall, 2008; Bauer, 2004; Heywood and Wei, 2006), organizational commitment and employees' trust (Whitener, 2001). Importantly, the beneficial independent effects of staff training and performance-related pay on employee attitudes evince two aspects of the AMO model of HRM. Whereas the beneficial effects of staff training lend support to the 'abilities' domain of the model, the

beneficial impacts of performance-related pay lend support to the ‘motivation’ domain of the model (Appelbaum et al., 2000; Jiang et al., 2012).

Still on the beneficial independent effects of HPWP, selective hiring based on assessment of employees’ skills, qualifications and level of experience was found to have a beneficial impact on employees’ trust in management. This finding throws light on assumptions that employees develop positive feelings towards the employing organization if there is congruence between their work-related abilities and the requirements of the job (O’Reilly et al., 1991; Schneider et al., 1995; Green and Tsitsianis, 2005). When the right job candidate, with requisite skills, knowledge and abilities, is hired for the right job through extensive selective hiring procedures, there is increased likelihood for such individual to display desirable work-related attitudes and behaviours (Allen and Van der Velden, 2001; Sekiguchi, 2004; Carless, 2005).

Contrary to mainstream arguments in favour of the mutual gains perspective of HPWP, this study has shown job autonomy, team working and participative decision-making to have unfavourable effects on employee attitudes. Job autonomy produced a negative effect on employees’ trust in management, whereas team working and participative decision-making are negatively related to job satisfaction. These outcomes are particularly contradictory to the ‘opportunity’ domain of the AMO model of HRM. According to the AMO model, employees derive a sense of meaningfulness from workplace practices that create opportunities for employees to utilize their work-related competencies in conducting their jobs (Appelbaum et al., 2000; Boxall and Macky, 2009; Van De Voorde et al., 2012). The AMO model also posits that such practices may increase employees’ level of motivation at work and therefore promote better employee attitudes and behaviours. Surprisingly, the present study has not shown support for these claims.

Although job autonomy offers opportunities for employees to exert operational influence and control over their work responsibilities (Hunter and Hitt, 2001; Kalmi and Kauhanen, 2008; Cañibano, 2011), the present study raises the possibility that such practices may also weaken employer-employee relationships. Perhaps, employees in this study perceive the level of autonomy offered to them as a managerial decoy to transfer more work responsibilities to employees, and consequently, tend to demonstrate lower levels of trust towards management. The case for team working and participative decision-making is particularly unexpected because these practices are commonly cited in the HPWP literature as mechanisms that allow employees to demonstrate their creative abilities at work (see Huselid, 1995; Appelbaum et al., 2000; Hunter and Hitt, 2001; Barling et al., 2003; Ichniowski, et al., 1997). Some authors have explained why active employee involvement through team working and participative decision-making activities may lead to poor employee attitudes. According to Tubre and Collins (2000), active employee involvement in workplace decision-making activities may degrade hierarchical structures at work and cause discrepancies in the delegation of authority among employees. Such discrepancies are likely to increase peer pressure, peer conflict and peer surveillance among employees, leading to poor work-related attitudes (Bainbridge, 1998; Macky and Boxall, 2008; Kalmi and Kauhanen, 2008). Employee representation, another mechanism for active employee participation in organizational processes, was also found to increase employees' perception of job strain. This finding throws further light on claims that HRM practices that reduce the power distance between management and employees may lead to role and interpersonal conflict among employees and produce adverse effects on employee well-being (Bainbridge, 1998; Tubre and Collins, 2000).

Grievance resolution is the only HRM practice with no significant independent effect on any employee-level outcome. This result highlights some of the reasons why grievance

systems have been excluded from many HPWP studies, despite reports that such systems are central to organizational justice systems (see Cohen-Charash and Spector, 2001; Judge and Colquitt, 2004; Inoue et al., 2010; Walker and Hamilton, 2011). According to Mohr and Zoghi (2008), grievance systems have been excluded from most theorizing on high-involvement management because they signal undesirable employee outcomes such as work dissatisfaction and absenteeism. Moreover, Arthur (1994) and Becker and Gerhart (1996) argued that grievance systems represent elements of the more traditional, bureaucratic forms of management and may not align appropriately with innovative management models. On the whole, it seems safe to say that there is no general agreement in the literature as to the independent effects of grievance systems on employee-level outcomes. Any significant relationship realized in terms of the independent effects of grievance systems on employee-level outcomes may depend largely on the manner in which such practices are being implemented (Walker and Hamilton, 2011).

Perhaps, the most unique outcome of the present study lies around the integrated effects of HPWP. This study has shown that HPWP have mutually supportive properties, and workplaces adopting an extensive range of innovative HRM practices are more likely to benefit from a more satisfied and committed workforce compared to workplaces adopting a narrower range of innovative HRM practices. When an extensive range of innovative HRM practices are used together in a coherent manner, such practices produce mutually reinforcing effects that promote better employee attitudes and well-being (Macky and Boxall, 2007). This argument is consistent with prior studies where firms adopting a wide range of innovative HRM practices were found to have greater organizational-level gains compared to firms with weak adoption of innovative HRM practices (Arthur, 1994; Huselid and Becker; 1997; Ichniowski et al., 1997). When organizations adopt an extensive range of innovative HRM practices together in a coherent manner, they are able to activate the useful interdependencies

between such practices to accrue far-reaching organizational benefits and drive organizational growth (Arthur, 1994; MacDuffie, 1995; Huselid, 1995; Barling et al., 2003).

The present study has also demonstrated how existing complementarities among HRM practices may offset the negative independent effects of some practices in the system. In particular, the study showed how the negative independent effects of team working and participative decision-making on job satisfaction were offset by the mutually supporting properties of HPWP. In the upper portion of Table 5, team working ($\beta = -0.040$, $p < 0.05$) and participatory decision-making ($\beta = -0.175$, $p < 0.01$) are shown to have negative independent effects on job satisfaction. However, in the upper portion of Table 6, Clusters 1 ($\beta = -0.222$, $p < 0.001$) and 3 ($\beta = -0.062$, $p < 0.001$) can be seen to have lower scores on job satisfaction compared to Cluster 2, the HPWP cluster and reference group for which the score on job satisfaction has been constrained to zero. Considering that workplaces in Cluster 2 are those with high scores in their adoption of team working and participative decision-making (see Table 3), it therefore implies that extensive use of team working and participative decision-making alongside other innovative HRM practices may have subdued the undesirable independent effects of team working and participative decision-making on job satisfaction.

Based on the foregoing results therefore, it is concluded that managers may enjoy the full benefits associated with the HPWP paradigm if they adopted the integrationist approach to HPWP rather than just focusing on the positive isolated impacts of specific HRM practices (Huselid, 1995). In particular, this study has shown how these benefits may be extended towards the work-related attitudes and well-being of employees. By adopting the integrationist perspective of HPWP, the mutually supportive properties of innovative HRM practices are fully maximized to produce mutual gains for the organization and the workforce.

5.6.2 The critical perspective of HPWP (hypotheses 3 and 4)

This study has shown support for the critical perspective of HPWP. Work intensification was found to mediate the independent effects of five out of eleven HRM practices on employee attitudes and well-being. Specifically, the effects of selective hiring on job satisfaction, employees' trust in management and job strain were mediated by work intensification. Whereas selective hiring produced positive indirect effects on job satisfaction and employees' trust in management, the indirect effect on employees' perception of job strain was in the opposite (or negative) direction. By interpretation, selective hiring based on assessment of employees' skills, qualifications and level of experience may reduce employees' perception of job strain and increase employees' level of job satisfaction and trust in management through corresponding decreases in work intensification. This result is consistent with arguments derived from the Person-Job (P-J) fit theory (Ahmad and Schroeder, 2002; Sekiguchi, 2004; Carless, 2005). Accordingly, where employees are hired in such a way that there is adequate fit between their work-related capabilities and the requirements of the job, employees become better off in handling the high work demands and pressure associated with work.

This study has revealed that work intensification may mediate the indirect effects of staff training on job satisfaction, employees' trust in management and job strain. These intermediary effects were shown to be positive for job satisfaction and employees' trust in management, and in the reducing direction for employees' perception of job strain. In other words, the provision of staff training may reduce employees' perception of job strain and may increase employees' level of job satisfaction and trust in management through corresponding decreases in work intensification. These findings lend support to claims that employee skills development and training may enhance workers' ability to handle the high demands associated with work (Barling et al., 2003). Through staff training and skills

development programs, employees develop better decision-making skills, become more motivated and confident in handling their job tasks, and ultimately demonstrate positive attitudes towards their jobs (Newman et al., 2011; Combs et al., 2006; Bartlett, 2001).

Similarly, the impacts of information sharing on job satisfaction, employees' trust in management and job strain were mediated by work intensification. In this case, information sharing is shown to be associated with lower job strain, as well as higher levels of job satisfaction and employee trust in management through corresponding decreases in work intensification. This outcome therefore portrays information sharing activities in the positive light. Where employees are kept abreast with relevant information regarding the organization and the nature of their job, they become empowered to deal with the high demands of work. Several studies have linked information sharing with reduced feelings of work pressure, emotional distress and job strain among employees (Wilkinson, 1998; Bakker and Demerouti, 2007; Kuye and Sulaimon, 2011). These studies draw on the assumption that information sharing activities allow employees to adjust appropriately to managerial decisions regarding their job. In other words, by keeping employees abreast with relevant work-related information, employees are able to align their job roles with managerial objectives and consequently exert full operational control over high work demands (Fox, 1998; Macky and Boxall, 2008; Kuye and Sulaimon, 2011).

The beneficial impacts of staff training and information sharing, as illustrated above, provide support for the Job Demand–Resources (JD–R) model of stress. The JD–R model assumes that the provision of valuable job resources, such as supervisory feedback, staff training and coaching, adequate levels of managerial supports etc., may serve in reducing feelings of work-related distress, and may therefore promote desirable employee attitudes and well-being (Bakker and Demerouti, 2007; Demerouti and Bakker, 2011; Balducci et al., 2011). Drawing on this model, however, it is surprising that the beneficial independent

effects of supportive management on job satisfaction and employees' trust in management were offset by the intermediary role of work intensification. Supportive management was found to increase employees' perception of job strain and reduce employees' level of job satisfaction and trust in management through corresponding increases in work intensification. This result illustrates a scenario where employees feel quite happy and contented with the level of support received from management, and yet feel obligated to expend more effort at work. It may well be that the employers provide adequate levels of support for employees, but in return, expect employees to work harder towards achieving organizational goals. As such, the employers resort to transferring more work responsibilities to their employees (Barling et al., 2003; Kalmi and Kauhanen, 2008).

Another important finding of the present study is the significant indirect effect of job autonomy on job satisfaction, employees' trust in management and job strain through work intensification. Through the intermediary effect of work intensification, job autonomy produced an enhancing indirect effect on employees' perception of job strain and reducing indirect effects on employees' level of job satisfaction and trust in management. This result sheds light on claims that job autonomy does not necessarily translate into having full control over one's actual volume of work responsibilities (Kalmi and Kauhanen, 2008; Kelliher and Anderson, 2010). Discretionary work may indeed afford employees greater control over how to conduct their job tasks; however, employees may remain quite susceptible to work intensification due to tight deadlines and time constraints imposed on them by their employers. Moreover, some employees may consider job autonomy as an opportunity to show initiative and influence workplace outcomes, over and above performing their routine job tasks. This in turn may prompt employees to expend greater work effort and experience higher levels of job strain.

Furthermore, the integrated effects of HPWP on employee attitudes and well-being were mediated by work intensification. The present study found evidence that work intensification may explain the indirect effects of Cluster 1 (with Cluster 2, the HPWP cluster, modelled as the reference group) on job satisfaction and employees' trust in management. Both indirect effects were significant and in the positive direction. That means work intensification mediated the beneficial indirect effects of Cluster 1 on job satisfaction and employees' trust in management. Employees in workplaces with less innovative orientation towards HRM achieved higher levels of job satisfaction and trust in management due to corresponding reductions in work intensification. This result seems logical considering employees in such workplaces are those who possibly have less work demands owing to low adoption of innovative HRM practices by their employers.

Work intensification was also found to mediate the indirect effects of Cluster 3, relative to Cluster 2, on job satisfaction, employees' trust in management and job strain. However, unlike Cluster 1, the indirect effects of Cluster 3 on job satisfaction and employees' trust in management were in the decreasing direction, whereas the effect on job strain was in the positive direction. That means employees in workplaces with moderate adoption of innovative HRM practices are likely to experience higher levels of job strain and demonstrate lower job satisfaction and trust in management due to corresponding increases in work intensification. These unfavourable outcomes are reasonable and may be traced to the 'limited' extent to which innovative HRM practices are adopted in Cluster 3.

Drawing on these results therefore, it can be inferred that across the broad spectrum of approaches to HRM (i.e., the distinct orientations to HRM in Clusters 1, 2 and 3), the integrated effects of HPWP on employee attitudes and well-being may be mediated by work intensification. However, workplaces adopting a wide range of innovative HRM practices (i.e., Cluster 2 or the HPWP cluster) are likely to have higher levels of job satisfaction,

organizational commitment and employees' trust in management compared to workplaces adopting a lower range of innovative HRM practices. These direct effects on employee attitudes may therefore compensate for feelings of job strain and work intensification among employees in the HPWP cluster.

5.6.3 Comparing the integrated and independent effects of HPWP

Three models were tested to examine simultaneously whether the integrationist perspective of HPWP has additional explanatory power on employee attitudes and well-being compared to the isolationist perspective of HPWP. The result showed that the independent effects of HPWP are not conditional on the different approaches to HRM adopted across the three HRM clusters. The results also showed that the three HRM clusters are distinct with respect to variance accounted for by the independent effects of HPWP.

On evaluating the integrationist and isolationist perspectives of HPWP simultaneously, individual HRM practices produced unique independent effects that overturned the beneficial integrated effects of HPWP on employee attitudes and well-being (see Table 8). The isolationist perspective (or independent effects) of HPWP accounted for variance in employee attitudes and well-being across the three HRM clusters. It may be argued based on the results that the 'integrationist-isolationist' debate of the HPWP paradigm is not a foregone conclusion in the HPWP literature. On the one hand, when the integrated effects of HPWP were examined in Phase II without accounting for independent effects, employees in the HPWP cluster were found to have better employee outcomes compared to employees in the other two clusters (see Table 6). That means the implementation of an extensive range of innovative HRM practices resulted in an overall favourable implication for employees. This outcome is consistent with reports in prior studies (see Arthur, 1994; Huselid and Becker; 1997; Ichniowski et al., 1997), where organizations with higher adoption of innovative HRM practices were found to have better organizational-level gains compared to organizations with

lower adoption of such practices. On the other hand, if one goes beyond the ‘overall favourable’ employee-level benefits associated with integrated systems of HPWP to examine the respective contributions of each HRM practice in the system, then the outcome might not necessarily seem beneficial for employees. The unique independent properties of innovative HRM practices may serve in explaining the underlying mechanisms via which integrated systems of HPWP impact on employee-level outcomes.

5.7 CONCLUSION AND CHAPTER SUMMARY

This chapter has empirically investigated two prominent debates of the HPWP literature to fulfil the primary, more general aim of this thesis (as described under ‘research aims’ in Chapter 4). The first debate, ‘the integrationist and isolationist perspectives of HPWP’ is concerned with two approaches to operationalizing HPWP, whereas the second debate, ‘the mutual gains versus the critical perspectives of HPWP’, is concerned with the employee-level outcomes associated with HPWP. These two debates were investigated using the management and employee surveys of the WERS 2004 data. Data analysis was undertaken in three phases. The first phase involved a single MSEM procedure to evaluate the independent effects of HPWP on employee attitudes and well-being, and simultaneously examine the mediating role of work intensification in these relationships. The second phase involved the use of multiple group analysis to evaluate the integrated effects of HPWP on employee attitudes and well-being, and simultaneously examine the mediating role of work intensification in these relationships. The third phase involved three models to examine simultaneously whether the integrationist perspective of HPWP has additional explanatory power on employee attitudes and well-being compared to the isolationist perspective of HPWP.

The study showed evidence that individual HRM practices produce varying independent effects on employee attitudes and well-being. Whereas HRM practices such as

staff training and supportive management were found to have beneficial relationships with job satisfaction, organizational commitment and employees' trust in management, HRM practices such as team working and participative decision-making were found to have negative independent effects on job satisfaction. Moreover, staff training, performance-related pay, flexible working and supportive management were found to have negative independent effects on employees' perception of job strain. Importantly, the study showed that employees in workplaces with high scores in their adoption of innovative HRM practices are more likely to experience greater levels of job satisfaction, organizational commitment and trust in management compared to their counterparts in workplaces with lower scores in their use of HPWP. That is to say, HPWP have mutually supportive properties, and organizations can achieve large employee-level gains when they adopt a wide range of HPWP in a coherent manner.

The study has also shown support for the critical perspective of HPWP. Work intensification was found to mediate both the independent and integrated effects of HPWP on employee attitudes and well-being. Job autonomy, for example, was featured as having an unfavourable indirect effect on employee outcomes. Specifically, job autonomy was found to increase employees' perception of job strain, and reduce job satisfaction and employee's trust in management through corresponding increases in work intensification. Furthermore, work intensification was found to mediate the integrated indirect effects of HPWP on employee attitudes and well-being. These indirect effects through work intensification were found to be less favourable for workplaces with moderate scores in their adoption of innovative HRM practices (i.e., workplaces in Cluster 3) and more favourable for workplaces with low scores in their adoption of innovative HRM practices (i.e., Cluster 1).

Finally, in the combined model where the integrationist perspective of HPWP was compared simultaneously against the isolationist perspective of HPWP, individual HRM

practices produced unique independent effects that accounted for variance in employee attitudes and well-being across the three HRM clusters. Individual HRM practices produced synergistic effects on employee attitudes and well-being, but the synergistic effects were favourable for workplaces adopting a narrower range of innovative HRM practices. Thus, when the integrated effects of HPWP were examined without accounting for independent effects, employees in workplaces adopting an extensive range of HPWP achieved better employee-level outcomes compared to employees in other workplaces. However, on examining the independent and integrated effects of HPWP simultaneously, employee-level outcomes became less favourable for workplaces in the HPWP cluster. This led to a conclusion that across the broad spectrum of approaches to HRM, the isolationist perspective of HPWP has additional explanatory power on employee outcomes compared to the integrationist perspective of HPWP.

The next chapter, Chapter 6, addresses the need for research into the sector-specific implications of adopting HPWP. Some researchers have suggested that the impacts of HPWP as described in the context of particular business settings may not apply uniformly across other sectors due to existing differences in the implementation of strategic HRM systems. Other authors, however, believe that HPWP represent the ‘one best approach’ to HRM, and produces effects that are generalizable across organizational settings. These two contrasting perspectives are considered extensively in the next chapter to set the scene for the second empirical study of this thesis.

CHAPTER 6 – SECTOR-SPECIFIC IMPLICATIONS OF HPWP

6.1 INTRODUCTION

In recent times, there have been calls for research to explore the sector-specific implications of adopting High Performance Work Practices (HPWP) (Ordiz and Fernández, 2005; Combs et al., 2006; Harley et al., 2007; Baarspul and Wilderom, 2011). These calls became necessary due to the tendency for mainstream Human Resource Management (HRM) researchers to generalize findings on innovative HRM practices across economic settings without strong empirical evidence for such generalizations. There seems to be two contrasting views on the generalizability of HPWP outcomes across organizational settings. On the one hand, some researchers argue that HPWP outcomes may not diffuse uniformly across organizational settings due to differences in the implementation of HRM strategies across economic sectors. Other researchers, however, believe that the implementation of a set of ‘best’ HRM practices, which are considered analogous to the HPWP framework, may produce effects that are replicable across organizational settings, regardless of organizational characteristics such as size, organizational culture and corporate strategies. On account of these two contrasting views therefore, it should not be assumed overtly that HPWP produce beneficial outcomes across organizational settings, unless there is strong empirical evidence to back up such claims.

The aim of this chapter is to highlight the role of sector-specific characteristics in explaining the implications of adopting innovative workplace practices. As stated in Chapter 4, the secondary aim of this thesis is to examine the integrationist and isolationist approaches to HPWP and their effects on employee attitudes and well-being, using data from the British National Health Service (NHS). The outcomes of this investigation will then be compared with evidence from Study 1 (the WERS 2004 study) in Chapter 5, to ascertain the extent to

which HPWP outcomes are generalizable across organizational settings. The present chapter begins with an overview of two perspectives on the generalizability of HPWP outcomes across organizational settings and addresses the HPWP framework within the context of healthcare organizations. Emphasis is placed on the nature of work within the British NHS. Thereafter, a brief summary of the important points raised in this chapter is provided.

6.2 THE NEED FOR SECTOR-SPECIFIC RESEARCH ON HPWP

There seems to be two contrasting views on the generalizability of HPWP outcomes across organizational settings. Central to the first view is an assumption that the outcomes of HRM systems may differ considerably across economic settings owing to differences in organizational structures and strategies to performance (Boxall and Macky, 2009). For example, the HRM strategies adopted in private sector organizations may differ considerably from those adopted in public sector organizations (Brown, 2004; Nutt, 2005; Boselie, 2010; Baarspul and Wilderom, 2011). Because private sector organizations are predominantly profit-oriented, managerial processes in such organizations are often channelled towards accruing profits for shareholders and corporate stakeholders. Therefore, HRM strategies within private sector organizations tend to be less bureaucratic and more adapted to economic competition. Public sector organizations, however, are usually run and managed by the government, funded from public finances, and serve to provide basic services to the citizens. As such, HRM strategies within public sector organizations tend to be more bureaucratic with highly centralized managerial systems (Brown, 2004; Nutt, 2005). Ultimately, researchers who do not support the cross-sectoral applicability of innovative HRM practices believe that the nature work and associated outcomes as described in a particular economic sector (e.g., the private sector) may not diffuse across other economic sectors (e.g., the public sector) due to differences in approaches to HRM.

The alternative view on the generalizability of HPWP outcomes across organizational settings draws on the ‘universalist’ principle of HRM (Pfeffer, 1994; Delery and Doty, 1996; Vanhala and Stavrou, 2013). In the ‘universalist’ principle of HRM, HPWP are considered as ‘best practices’ or ‘the one best approach’ to organizational effectiveness. By adopting an extensive range of innovative HRM practices, organizations are able to achieve far-reaching organizational benefits irrespective of their size, culture and managerial strategies to performance. Authors in the vanguard of the ‘universalist’ principle of HRM argue that innovative HRM practices shape employee attitudes and enhance employees’ level of motivation and commitment to the organization. This in turn may lead to employees’ willingness to work hard towards achieving organizational growth and effectiveness (Delery and Doty, 1996; Gould-Williams, 2004). The caveat, however, of the ‘universalist’ principle of HRM is that commentators are yet to identify a unanimous set of ‘best practices’ which produce beneficial effects across all organizations (Becker and Gerhart, 1996; Gould-Williams, 2004). This lack of consensus has served as a major drawback for assumptions that there is a ‘one best approach’ to HRM.

A number of studies showcasing sector-specific elements in relation to HPWP outcomes have been conducted within the manufacturing sector (see Arthur, 1994; MacDuffie, 1995; Youndt et al., 1996; Ichniowski et al., 1997; Appelbaum et al., 2000; Patterson et al., 2004; Ordiz and Fernández, 2005; Combs et al., 2006). These studies have generally demonstrated how the use of high-quality management practices may enhance organizational performance through discretionary work activities, employee skills development programs and higher levels of employee participation in workplace activities. However, research findings from these studies are not necessarily generalizable across other sectors such as the service sector, due to differences in the nature of work and organizational outcomes across sectors (Preuss, 2003; Ordiz and Fernández, 2005). For example, ‘services’

unlike ‘manufactured products’ are intangible and are often delivered in the presence of the consumer (Ordiz and Fernández, 2005). That means production and consumption processes in service sector settings would normally take place simultaneously, whereas in manufacturing settings, production and consumption processes occur separately. In this light, it might be easier to supervise workers’ productivity and ensure quality control in manufacturing settings as opposed to service sector settings where quality control depends largely on workers’ performance at the point of delivery of service. These differences would undoubtedly have strong implications on approaches to HRM across both sectors; therefore, assumptions of cross-sectoral applicability of HPWP outcomes in this regard might be misleading, unless there is strong empirical evidence to support such assumptions.

Having investigated the impacts of HPWP in Chapter 5 (i.e., Study 1) using data from a large nationally representative sample of British establishments, it is useful to compare results with evidence from a highly institutionalised public sector organization such as the British National Health Service (NHS) to determine the extent to which HPWP outcomes are generalizable across organizational settings. For the most part, it is expected that Study 1 results will be replicated in the context of the British NHS. There are indications that public sector employers are gradually beginning to embrace private sector models of high-quality management (Preuss, 2003; West et al., 2006; Boselie, 2010; Bonias et al., 2010). West et al. (2006), for example, described the existence of coherent systems of innovative HRM practices, comprising performance appraisal systems, staff training, team-based working, compensatory payments, participatory management and selective hiring, in 52 hospitals in England. According to the West et al. (2006), greater use of HPWP allows healthcare workers to demonstrate useful work-related expertise and perform their job roles in ways that promote high quality healthcare services. The following sections of this chapter address the

need for research on HPWP outcomes in the healthcare sector, emphasizing the nature of work and implementation of HPWP in the British NHS.

6.3 HPWP IN THE HEALTHCARE SECTOR

Two fundamental factors serve as imperatives for investigating the implications of HPWP within the healthcare sector. Firstly, scholars have raised concerns about the paucity of research on the impacts of innovative HRM practices within highly institutionalised service sector organizations, such as healthcare organizations (Preuss, 2003; Truss, 2003; Boselie, 2010; Bonias et al., 2010). Although several studies have featured reports on ongoing organizational reforms within healthcare organizations, little attention has been devoted towards understanding the particular role of HRM in these discussions (Boselie, 2010). Secondly, organizational performance in existing HPWP studies is often described in terms of profitability and return on investments; not least because prior studies have relied mainly on data from private sector organizations, which are mostly profit-oriented. As such, evidence from existing HPWP studies may not necessarily apply in healthcare settings where organizational performance is often measured in terms of patient care quality and avoidance of death due to illnesses (Preuss, 2003). Therefore, to understand how HPWP may influence organizational outcomes within the healthcare sector, this thesis aims to investigate the employee-level impacts of innovative HRM practices using data from the British NHS.

6.3.1 The British National Health Service (NHS)

With a workforce of over one million employees, the NHS is arguably the largest employer of labour in Europe (Buchan, 2000; Miller et al., 2007). It is a public healthcare sector organization, funded generally from taxation. The staff composition of the NHS is a cohort of medical professionals ranging from medical doctors and nurses to health therapists, administrative secretaries, porters and cleaners. The NHS is a labour-intensive organization

with staff expenditure (mainly in terms of salaries and wages) representing about three-quarters of organizational spending.

In the early 1990s, budgetary constraints and the changing role of the British healthcare sector (particularly in terms of the need to increase patients' choice over healthcare services) led to a series of reforms aimed at introducing private sector models of management into the NHS (Bach, 1998; Buchan, 2000; Truss, 2003). The NHS reforms of the early 1990s were centred on three main elements: 1) the decentralization of regional health authorities, 2) the creation of autonomous hospitals and primary care units and 3) the separation of healthcare purchasers from healthcare providers as a way to create an internal market system. Prior to these reforms, organization of work within the British healthcare sector was deemed paternalistic and patients were offered limited choices over healthcare services. The NHS reforms were introduced to increase efficiency in healthcare delivery by reducing NHS staffing problems (e.g., national shortage of nurses) and tackling some of the financial pressures straining on the NHS (Buchan, 2000). Moreover, the proliferation of healthcare authorities into autonomous NHS trusts, or 'separate business units' as it were, served to encourage a more competitive business environment within the British healthcare sector. Each NHS Trust was required to compete for government funding. Regional health authorities ceased to oversee the overall activities of all hospitals but were required to supervise strict monitoring of the financial performance and service standards of NHS Trusts (Bach, 1998).

Despite the introduction of these reforms, the organization of work within the British healthcare sector has remained highly centralized and bureaucratic due to persistent public sector constraints (Bach, 1998; Truss, 2003; Boselie et al., 2003; Boselie, 2010). One factor which stands out as a key constraint undermining the effective implementation of private sector models of management within the NHS is the level of governmental influence over

corporate activities within the healthcare sector. According to Boselie (2010), "...central government remains a powerful and influential actor as far as health care organisations and their HR policies for managing people in times of reforms are concerned" (Boselie, 2010: p. 43). This is not surprising as many healthcare sector organizations such as the British NHS are funded through taxation. Reliance on government funding may prevent HRM directors from taking a more innovative approach to HRM in healthcare settings; especially as such directors may be subjected to severe scrutiny from government officials if they do not make clear the importance of any HRM changes implemented under their regime (Truss, 2003; Miller et al., 2007; Boselie, 2010). Thus, HRM directors within the British NHS are faced with the task of providing low cost medical services amidst huge budgetary constraints, and this in turn could limit their freedom of exploring more flexible HRM policies and practices.

6.3.2 HPWP within the British NHS

Attempts have been made to examine the principles of HPWP within the context of the British NHS (West et al., 2006; Miller et al., 2007; Boselie, 2010; Bonias et al., 2010; Atkinson and Hall, 2011; Sang et al., 2012). These studies have been inspired by reports that HPWP produce beneficial effects on organizational outcomes in non-healthcare, profit-oriented organizations (Arthur 1994; Huselid, 1995; Youndt et al., 1996; Combs et al., 2006; Beltrán-Martín et al., 2008). Just like profit-oriented organizations, HRM activities in healthcare organizations are geared towards maximizing organizational effectiveness, albeit through the provision of quality healthcare services and avoidance of deaths due to illnesses (Adams and Bond, 2000; Preuss, 2003; Sang et al., 2012). Therefore, HPWP may also be implemented in healthcare settings to create opportunities that allow healthcare workers to make positive contributions towards achieving organizational effectiveness.

Preuss (2003), in his study of registered nurses and nursing assistants, investigated the effects of HPWP in 50 acute-care hospital units and found evidence for the beneficial

influences of HPWP in healthcare settings. According to Preuss (2003), systems of innovative HRM practices enhance healthcare outcomes by improving the quality of information sharing and decision-making activities among healthcare workers. Similarly, West et al. (2006), in their study of 52 acute hospitals in England investigated the relationships between systems of HRM practices and patient mortality rates. Drawing on previous HPWP studies like Arthur (1994), Guthrie (2001) and Wright et al. (2005), West et al. (2006) identified a single HPWP index measure comprising HRM practices such as training, appraisal, participative decision-making, team working and job security. The authors identified existing complementarities among these HRM practices as a vital ingredient for achieving improved patient care quality in hospital settings.

In line with the high-commitment and high-involvement models of management, which emphasize achievement of organizational performance through improved employee empowerment and active involvement in workplace activities, the British NHS has in recent times adopted a range of innovative HRM policies as part of their Improving Working Lives (IWL) framework. This framework was instituted primarily to improve NHS staff well-being and enable employees achieve adequate work-life balance (Miller et al., 2007; NHS Staff Council, 2009; Atkinson and Hall, 2011). The IWL framework is considered as the NHS employers' guide towards becoming a 'model employer'. It provides guidelines that aid NHS managers in creating a flexible working environment through the implementation of a range of innovative HRM practices (NHS Staff Council, 2009). The IWL framework also provides standards that guide NHS employers in measuring the level of performance attained by their Trusts and in identifying areas that require improvement (NHS Staff Council, 2009). The authority to handle matters pertaining to the IWL framework and other issues regarding new approaches to HRM is entrusted with the NHS Institute for Innovation and Improvement (Miller et al., 2007).

To provide an overall picture of employee-level impacts of HPWP within the healthcare sector, the tenets of two HPWP debates are investigated empirically in the next Chapter, using data from the British NHS. The first debate, ‘the integrationist and isolationist perspectives of HPWP’, examines two approaches to operationalizing HPWP, whereas the second debate, ‘the mutual gains versus the critical perspectives of HPWP’, looks at the employee-level impacts of HPWP. Details of these two debates have been discussed extensively in Chapter 2 (for the integrationist and isolationist perspectives of HPWP) and Chapter 3 (for the mutual gains versus the critical perspectives of HPWP) of this thesis. Due to the peculiar nature of work within the British public healthcare sector (e.g., the sector’s susceptibility to strong political influence), research on the impacts of HPWP on NHS employees will prove valuable for making comparisons with research evidence from non-healthcare settings such as manufacturing (Appelbaum et al., 2000; Patterson, et al., 2004) and service sector organizations (Yoon, 2001; Harley et al., 2007). Generally, it is expected that research findings from the WERS 2004 study, a nationally representative sample of British establishments, will replicate within the context of the British NHS.

6.4 CHAPTER SUMMARY

This chapter has underscored the role of sector-specific characteristics in explaining the implications of adopting HPWP. Over the years, HRM researchers have tended to generalize research findings on innovative HRM practices as being applicable across organizational settings without strong empirical evidence to support such generalizations. This has led to recent calls for more research on the sector-specific implications of adopting HPWP. Whereas a number of studies have incorporated sector-specific elements within the context of HPWP, these studies have centred mainly on the manufacturing sector organizations, leading to insufficient understanding of HPWP outcomes in other sectors such

as the public healthcare sector. This thesis therefore attempts to fill this gap by investigating employee-level impacts of HPWP using data from the British NHS.

The British NHS is arguably the largest employer of labour in Europe, with a workforce of over one million employees. This chapter has described the nature of work within this large British organization, and has discussed some of the British government's initiatives to enhance healthcare services and patient care quality within the NHS. Prominent among these initiatives is the NHS reforms of the early 1990s. Due to financial constraints, staffing problems, and the need to increase patients' choice over healthcare services, the British government had established a number of reforms aimed at implementing private sector models of management in the NHS. These reforms comprised three main elements: the decentralization of regional health authorities, the creation of autonomous hospitals and primary care units, and the creation of an internal market system by separating purchasers of healthcare from the providers of healthcare. This chapter has also introduced the NHS's IWL framework. The IWL framework serves as a guide for NHS employers towards becoming a 'model employer'. It was introduced primarily to improve NHS staff well-being and enable NHS employees achieve adequate work-life balance through the creation of a supportive working environment and the implementation of innovative HRM practices and policies. The framework also provides guidelines to assist NHS employers in measuring the overall performance of their respective Trusts.

The next chapter, Chapter 7, is designed to accomplish the secondary, more specific research aim of this thesis. The chapter considers the integrationist, isolationist, mutual gains and critical perspectives of HPWP using data from the British NHS. In doing so, the chapter highlights the sector-specific implications of HPWP in healthcare settings and provides a framework for ascertaining the extent to which HPWP outcomes are generalizable across organizational settings.

CHAPTER 7 – STUDY 2: THE 2010 NHS STAFF STUDY

7.1 INTRODUCTION

Two contrasting perspectives on the cross-sectoral implications of High Performance Work Practices (HPWP) have been discussed in Chapter 6. The first perspective assumes that the impacts of innovative workplace practices may not diffuse uniformly across economic sectors due to differences in corporate strategies to organizational performance (Ordiz and Fernández, 2005; Harley et al., 2007; Baarspul and Wilderom, 2011). Central to this perspective is the presumed differences between private sector and public sector models of management (Brown, 2004; Nutt, 2005; Boselie, 2010; Baarspul and Wilderom, 2011). Whereas private sector organizations are predominantly profit-oriented, run by private individuals, and generally guided by activities in the global market, public sector organizations are often run and managed by the government, funded from public finances, and serve to provide civic amenities to the citizens (Nutt, 2005; Baarspul and Wilderom, 2011). The second perspective, however, suggests that innovative HRM practices represent ‘the one best approach’ to organizational effectiveness (Pfeffer, 1994; Delery and Doty, 1996). Drawing on the ‘universalist’ approach to Human Resource Management (HRM), some researchers have argued that the beneficial effects of innovative HRM practices may generalize across organizational settings, irrespective of size, industry, corporate objectives and organizational culture (Pfeffer, 1994; Hughes, 2002; Vanhala and Stavrou, 2013). Owing to these two contrasting perspectives therefore, caution needs to be applied in making claims regarding the cross-sectoral applicability of innovative HRM practices, unless there is strong empirical support for such claims.

A number of studies indicating sector-specific characteristics with respect to HPWP have been carried out within the manufacturing sector (see Arthur, 1994; MacDuffie, 1995;

Ichniowski et al, 1997; Appelbaum et al., 2000; Patterson et al., 2004; Ordiz and Fernández, 2005; Combs et al., 2006); this has led to insufficient knowledge of HPWP outcomes in other sectors such as the public healthcare sector (Preuss, 2003; Boselie et al., 2003). To complement the HPWP literature therefore, the present study investigates the employee-level impacts of HPWP using data from the British National Health Service (NHS), a public health sector organisation. This study aims specifically to explore the relevance of ‘the integrationist and isolationist perspectives of HPWP’ and ‘the mutual gains versus the critical perspectives of HPWP’ within the context of the British NHS. This provides a framework for comparing with evidence from Study 1 (i.e., the WERS 2004 study in Chapter 5) and determining the extent to which HPWP outcomes are generalizable across organizational settings.

This chapter begins with an overview of the theoretical rationale for the present study, and highlights the main arguments of the two HPWP debates that form the basis for this thesis. Thereafter, a set of four testable hypotheses is developed. Details of the methodology and analytical procedure adopted in this study are then provided, followed by a presentation and discussion of research findings.

7.2 THEORETICAL BACKGROUND

Since the advent of HPWP in the mid-1990s, researchers have found links between innovative work practices and organizational outcomes such as reduced staff turnover (Arthur, 1994; Guthrie, 2001), organizational profits (Huselid, 1995; Wright et al., 2005) and increased productivity (MacDuffie, 1995; Askenazy, 2001). Similarly, studies investigating the impacts of HPWP in healthcare settings have also found links between HPWP and healthcare quality (Preuss, 2003; West et al., 2006; Bonias et al., 2010), the common parameter for measuring organizational performance in healthcare settings (West et al., 2006). Drawing on assumptions that employees are central to organizational effectiveness, these studies have shown how systems of innovative HRM practices may influence healthcare

quality and overall performance in hospital settings. In particular, West et al. (2006) in their study of 52 hospitals in England reported positive links between an index measure of HPWP and measures of effectiveness in patient care delivery. According to these authors, coherent systems of innovative HRM practices promote high quality healthcare delivery and lower patient mortality by creating opportunities for employees to demonstrate valuable work-related skills and expertise. Moreover, Bonias et al. (2010) investigated the effects of HPWP on patient care quality using data from 541 hospitals in a large regional Australian health service. The authors concluded that healthcare employers who wish to improve the standard of their healthcare services should give priority to implementing systems of HPWP; not least because such practices serve in creating committed workers who are willing to promote high-quality patient care.

In line with the HPWP theory and particularly, the assumption that employees play a vital role in driving organizational success, the British NHS has recently adopted a range of innovative HRM policies through the Improving Working Lives (IWL) framework. This framework was introduced to guide NHS employers towards becoming a ‘model employer’ through the implementation of flexible work arrangements and HRM policies that promote employees’ work-life quality (Miller et al., 2007; NHS Staff Council, 2009; Atkinson and Hall, 2011). The IWL framework also provides guidelines that help NHS employers in measuring the level of performance achieved by their Trusts and in identifying areas that require considerable improvements (NHS Staff Council, 2009). As such, it is expected that HPWP outcomes as described in the context of private sector organizations (particularly, those adopting innovative HRM practices), may replicate within the context of the British NHS.

7.2.1 The integrationist and isolationist perspectives of HPWP

Pertinent to the studies by West et al. (2006) and Bonias et al. (2010) is the integrationist perspective of HPWP (see Chapters 2 and 4 for extensive details of this perspective). In general, the integrationist perspective of HPWP assumes that innovative HRM practices are mutually supportive of each other and should be analysed in coherent combinations, rather than in isolation, to capture their existing complementarities and accrue the largest organizational gains (Guerrero and Barraud-Didier, 2004; Macky and Boxall, 2007; Beltrán-Martín et al., 2008). Proponents of the integrationist perspective believe that it is more beneficial to examine the integrated effects of HPWP on outcomes as opposed to analysing their independent effects (MacDuffie, 1995; Ichniowski, et al., 1997; Becker and Huselid, 1998; Schulte et al., 2006; Beltrán-Martín et al., 2008). Accordingly, isolated systems of HPWP do not capture the interdependencies between individual HRM practices, and therefore constitute both theoretical and methodological dilemmas. Moreover, by isolating the effects of individual HRM practices, such studies do not fully represent the intricate nature of organizational processes, but portray the HRM domain as comprising only a handful of HRM practices (MacDuffie, 1995; Becker and Huselid, 1998).

The isolationist perspective of HPWP, on the other hand, is presumably the more traditional approach to the study of innovative workplace practices (also see Chapters 2 and 4 for details of this perspective). Unlike the integrationist perspective, the isolationist perspective of HPWP emphasizes the unique independent characteristics of HRM practices, and underlines the assumption that such practices produce varying and/or opposing levels of associations with outcomes (Kalmi and Kauhanen, 2008; Bryson and White, 2008; Boxall et al., 2011). Research on the isolationist perspective of HPWP is deemed important for two main reasons. First, researchers are yet to agree upon a unanimous set of HRM practices comprising a mutually supportive HPWP framework. This lack of agreement is even more

evident in the healthcare sector where there is paucity of research on HPWP. By enhancing understanding of the unique independent effects of individual HRM practices on outcomes, the isolationist perspective sheds light on plausible sets of HRM practices that may constitute an effective HPWP system. Secondly, knowledge of the unique independent properties of HPWP through the isolationist perspective is useful for ascertaining whether specific combinations of HPWP may lead to clear beneficial outcomes for an organization. This argument is made based on the possibility that some HRM practices may combine to produce ‘substitution effects’, a condition where the effects of one HRM practice is subdued by the presence of another (Delery, 1998), or a ‘deadly combination’, a condition where two or more practices combine to produce detrimental effects on outcomes (Becker et al., 1997).

The present study aims to uncover sector-specific characteristics in terms of ‘the integrationist and isolationist perspectives of HPWP’. In doing so, the study does not undermine the possibility that integrated systems of HPWP may produce far-reaching benefits for healthcare organizations through considerable improvements in employee attitudes and well-being. However, it eschews the assumption that examination of the unique independent properties of HPWP is irrelevant in modern theorizing of HPWP outcomes. The study takes the position that knowledge of the isolationist perspective of HPWP (and indeed the integrationist perspective of HPWP) is useful especially in the context of healthcare organizations where there seems to be insufficient understanding of the active ingredients in the conceptualization of innovative workplace practices.

7.2.2 The mutual gains versus the critical perspectives of HPWP

As described in Chapters 3 and 4 of this thesis, two broad perspectives have emerged regarding employee-level impacts of HPWP. The first, referred to as the mutual gains perspective of HPWP, links HPWP to far-reaching benefits for an organization and employees (Harley et al., 2007; Kalmi and Kauhanen, 2008; Van De Voorde et al., 2012). In

this perspective, employees are argued as being instrumental for driving organizational growth and effectiveness. In fact, the likelihood for employers to achieve beneficial outcomes through HPWP lies in the potential for such practices to promote desirable work-related attitudes among employees, and improve employees' willingness to contribute positively towards organizational effectiveness (Gould-Williams, 2003; Barling et al., 2003; Hughes et al., 2008; Boselie, 2010; Sang et al., 2012). Just like Study 1, the present study emphasizes employee-level outcomes of HPWP rather than organizational-level gains.

Some studies have shown support for the mutual gains perspective of HPWP in healthcare settings (see Preuss, 2003; Bonias et al., 2010; Boselie, 2010; Sang et al., 2012). Boselie (2010), for example, demonstrated the beneficial effects of three unitary measures of HPWP (with each measure representing the ability, motivation and opportunity components of the AMO model of HRM) on employees' affective commitment and organisational citizenship behaviours. Boselie's (2010) study showed how greater use of HPWP may foster a healthy and committed workforce through employee skills development and task enrichment job designs. In another study, Sang et al. (2012) found positive links between a coherent set of HPWP (including opportunities for training and skills development, effective communication and equitable reward systems) and desirable employee attitudes and behaviours. The authors showed how positive employee reactions to HPWP may translate into improved customer satisfaction and customer loyalty to their hospitals.

Evidence also exists in terms of the direct independent effects of HPWP on employee attitudes and well-being in healthcare settings (Adams and Bond, 2000; Laschinger et al., 2001; Campbell, Fowles and Weber, 2004; Atkinson and Hall, 2011). In their study of Canadian staff nurses, for example, Laschinger et al. (2001) reported the beneficial independent effects of employee empowerment practices on increased job satisfaction and reduced job strain. In this study, employee empowerment was defined in terms of four main

elements: employees' experience of meaningfulness at work, employees' level of confidence in their work-related abilities, job autonomy, and the level of employees' influence on the job. Moreover, flexible work arrangements have been found to improve healthcare quality in the NHS through their positive effects on desirable employee attitudes (Atkinson and Hall, 2011). According to Atkinson and Hall (2011), the beneficial effects of flexible working on NHS employees may include feelings of contentment with work, feelings of reduced work-related stress and feelings of being valued and cared for by the organization. Considering the high level of physical interaction between healthcare workers and patients in hospital settings, knowledge of the various ways in which HPWP may affect employee attitudes and emotions is deemed essential (Bonias et al., 2010; Sang et al., 2012). Where healthcare workers are dissatisfied with work, they are more likely to display unpleasant behaviours towards their patients, and this in turn may ruin patients' expectations of quality healthcare service during their visits to the hospital.

The second perspective, referred to as the critical perspective of HPWP, argues that HPWP may indeed accrue far-reaching benefits for both the organization and employees; however, these benefits may be offset by increases in work intensification and corresponding reductions in employee work-life quality (Ramsay et al., 2000; Harley et al., 2007; Sparham and Sung, 2007). In other words, the plausible pay-offs from adopting HPWP may occur through increases in job demands and work pressure, which may contribute to poor employee attitudes and work-related stress outcomes (Kalmi and Kauhanen, 2008; Harley et al., 2007).

The HPWP literature is generally lacking in terms of empirical evidence on the critical perspective of HPWP (Kalmi and Kauhanen, 2008; Kelliher and Anderson, 2010; Cañibano, 2011). This lack of evidence has been attributed to the tendency for researchers to focus on the beneficial implications of HPWP, while neglecting the possibility that such practices may also elicit detrimental consequences on employee attitudes and well-being. The

present study is arguably among the few studies to examine the critical perspective of HPWP within the healthcare sector. The impetus for investigating the critical perspective in this study derives from the links between HPWP and undesirable employee-level outcomes such as increased levels of work-related pressure (Godard, 2001), work spill-overs (White et al., 2003) and emotional exhaustion (Kroon et al., 2009). Considering that work organization within the British NHS is inherently prone to staff shortages (Adams, Lugsden, Chase, Arber and Bond, 2000; Buchan, 2000; Miller et al., 2007), increased susceptibility to political influence (Truss, 2003; Boselie, 2010) and huge budgetary constraints (Buchan, 2000), it is therefore worthwhile to examine the various ways in which systems of HPWP may provoke higher job demands and work-related pressure among NHS employees.

Some studies have shown evidence for the independent effects of HPWP on employees' perception of work intensification within the healthcare sector. Soh (1998), for example, found a positive relationship between performance appraisal and increases in work intensification among surgeons. According to Soh (1998), the intricate nature of a surgeon's job (with job tasks spanning a range of clinical and administrative functions) implies that it might be unrealistic to effectively appraise a surgeon's job. As such, performance appraisals for surgeons may often lead to imposition of conflicting performance measurement criteria on surgeons, prompting feelings of role ambiguity and work intensification. Moreover, Adams et al. (2000) showed how active employee involvement at work and changes in employee job design may contribute to higher levels of work intensification and pressure among NHS nurses. According to Adams et al. (2000), NHS nurses who were compelled to take up extra specialist job roles and supervisory responsibilities, in addition to their routine clinical functions, were more likely to report higher levels of work-related pressure. These nurses were reportedly more likely to be absent from work compared to their colleagues who were not involved in extra specialist job functions.

Increased workloads and work intensification are among the main antecedents of both physical and emotional illnesses among healthcare professionals in the UK (Michie and Williams, 2003). Where there is high incidence of both physical and emotional ill health among healthcare professionals, there also tends to be overall increases in absenteeism and corresponding reductions in overall patient care quality. Therefore, knowledge of possible links between HPWP and work intensification is necessary to the extent that practitioners may utilize such information in developing plausible intervention strategies for tackling work-related illnesses and sickness absence among healthcare workers (Adams et al., 2000; Michie and Williams, 2003).

7.3 HYPOTHESES

The foregoing literature review has illustrated two prominent HPWP debates: ‘the integrationist and isolationist perspectives of HPWP’ and ‘the mutual gains versus the critical perspectives of HPWP’; with emphasis on healthcare organizations. The foregoing literature review has also underlined the paucity of research in terms of the sector-specific implications of adopting HPWP. Although a number of studies have incorporated sector-specific characteristics in the study of HPWP, most of these studies have focused on the manufacturing sector, leading to insufficient knowledge on cross-sectoral implications of HPWP in healthcare settings. Using data from the British NHS, therefore, the present study evaluates the independent and integrated effects of HPWP on employee attitudes and well-being, and simultaneously examines the mediating role of work intensification in these relationships. To this end, the following set of hypotheses is developed. The hypotheses are also depicted in Figure 3.

The first set of hypotheses represents the mutual gains perspective of HPWP. Hypothesis 1a refers to the isolationist perspective and hypothesis 2a refers to the integrationist perspective of HPWP.

Hypothesis 1a: HPWP produce positive independent effects on employee attitudes (such as job satisfaction and organizational commitment) and employee well-being in the NHS.

Hypothesis 2a: HPWP produce positive integrated effects on employee attitudes and well-being in the NHS.

The second set of hypotheses represents the critical perspective of HPWP. Hypothesis 3a refers to the isolationist perspective and hypothesis 4a refers to the integrationist perspective of HPWP.

Hypothesis 3a: Work intensification mediates the independent effects of HPWP on employee attitudes (such as job satisfaction and organizational commitment) and employee well-being in the NHS.

Hypothesis 4a: Work intensification mediates the integrated effects of HPWP on employee attitudes and well-being in the NHS.

7.4 METHODOLOGY

7.4.1 Sample

This study was undertaken using data from the 2010 NHS Staff Survey. The 2010 NHS Staff Survey is the eighth in a series of annual surveys first conducted in 2003 by an Advice Centre in Aston University, on behalf of the Care Quality Commission. This survey was chosen because it was the most recent and available survey in the series at the time of this study. The survey covers employees of all NHS Acute Trusts, Ambulance Trusts, Mental Health/Learning Disability Trusts, Care Trusts and Primary Care Trusts in England. NHS Trusts are corporations or authorities that provide services on behalf of the British NHS in England and Wales (Edwards and Peccei, 2010). The survey provides useful information regarding staff perspectives on various employee management issues ranging from the organization of work, to matters of occupational health and safety management within the

	Mutual gains perspective	Critical perspective
Isolationist perspective	HPWP produce positive independent effects on employee attitudes and well-being in the NHS (H1a)	Work intensification mediates the independent effects of HPWP on employee attitudes and well-being in the NHS (H3a)
Integrationist perspective	HPWP produce positive synergistic effects on employee attitudes and well-being in the NHS (H2a)	Work intensification mediates the synergistic effects of HPWP on employee attitudes and well-being in the NHS (H4a)

Figure 3 Pictorial representation of research hypotheses

NHS. Data were gathered via self-completion questionnaires, each questionnaire was marked with a unique employee identification number. The questionnaires were distributed to a selection of NHS staff by an external survey contractor appointed by the Care Quality Commission. The survey contractor was also responsible for collecting completed questionnaires and returning them to the Advice Centre in Aston University. To enhance participation of NHS staff in this survey, at least two reminder letters were sent out to staff members who had not responded to the survey. A total of 164, 916 questionnaires from 386 NHS Trusts in England were completed and returned.

Due to the tendency for NHS Trusts to have varying numbers of employees in various occupational groups (particularly, as certain services such as catering and cleaning are often contracted to external organizations), data collected were carefully weighted to ensure that the sample was reasonably representative of the study population. The weighting was

necessary to reduce biased survey results due to discrepancies in the composition of occupational groups across NHS Trusts, as well as the likelihood for different occupational groups to respond differently to survey questions. For example, employees in senior occupational groups such as medical and dental staff or general management groups are more likely to respond positively to survey questions compared to employees in lower-ranking occupational groups like administration and clerical staff. NHS Trusts with a larger number of employees in lower-ranking occupational groups are therefore more likely to produce less positive responses to personnel management surveys compared to NHS Trusts with a smaller number of employees in lower-ranking occupational groups. To achieve a reasonably representative sample, occupational groups within each type of NHS Trust were classified into six broad categories, and then statistical weighting was applied by dividing the proportion of staff in a particular type of Trust by the average proportion of staff in a single Trust of that type.

7.4.2 Data preparation and measures

The SPSS software program was used for preliminary analysis of data. Following the primary purpose of this study (i.e., to investigate the independent and integrated effects of HPWP on employee attitudes and well-being in the NHS), relevant items were selected from the 2010 NHS Staff Survey to develop HRM practices and employee attitudes and well-being measures. The items were selected in conformity with the measures used in Study 1 (the WERS 2004 study), as well as measures used in prior HPWP studies (Huselid, 1995; Combs et al., 2006; Guest and Conway, 2007; Kalmi and Kauhanen, 2008). Exploratory factor analysis was performed to identify the patterns of loadings of each item on their requisite factors. Principal Axis Factoring (PAF) and an oblique rotation ‘Promax’ were the preferred methods of extraction and rotation, respectively. These methods were preferred because study items were selected based on *a priori* theoretical knowledge (Costello and Osborne, 2005).

After eliminating a number of cross-loading items and items loading on unrelated constructs, ten distinct factors were derived as measures of innovative HRM practices, and four factors as employee attitudes and well-being measures. Subsequently, reliability tests were conducted to verify the internal consistency of the constituent items of each factor.

As is usually the case with the use of secondary data, some changes were made to the 2010 NHS Staff data to improve its suitability for the present study. For example, the multiple-response question on flexible work arrangements (which required respondents to select the flexible work arrangements applicable to their jobs, from a list of eight options) was recoded prior to the data analysis. Multiple-response questions were previously encountered in Study 1 and such questions were accommodated by singling out their individual responses and recoding them into binary formats. In the present study, an attempt to adopt this method failed due to poor internal consistency between the individual responses of the flexible work arrangements question. Following precedents from prior studies therefore (see Bauer, 2004; Guest and Conway, 2007; Bryson and White, 2008), the multiple-response question on flexible work arrangements was recoded as a binary, index variable: where 1 = at least one of five flexible work options (flexi-time, working reduced hours, working from home, working an agreed number of hours over the year and job sharing) are applicable in the workplace, and 0 = none of the five flexible work options are applicable.

Performance appraisal was also measured as a single-item variable due to constraints in the 2010 NHS Staff data. Although the data contains four items on appraisals or Knowledge and Skills Framework (KSF) development reviews, these items were found to have very poor internal consistency (Cronbach's $\alpha = 0.28$). Therefore, a decision was made to utilize only one of the items (the one which required respondents to select 'yes' if they had undertaken an appraisal and/or KSF development review in the last 12 months, or 'no' if otherwise) as a single-item measure for appraisal. Some authors have cautioned

against the use of single-item variables in empirical studies (Rushton, Brainerd and Pressley, 1983; Little, Cunningham and Shahar, 2002). These authors have argued that single-item variables are statistically less reliable compared to multiple-item variables, and may not fully represent the construct that is being measured. Nevertheless, there are suitable ways of specifying single-item variables in Structural Equation Modelling (SEM) to minimize measurement errors (Hayduk, 1987; Little et al., 2002; Rogers and Schmitt, 2004; Williams et al., 2009). In SEM, single-item latent variables may be specified by fixing their residual variances to zero or to a non-zero estimate of unreliability (Hayduk, 1987; Muthén and Muthén, 2009).

Confirmatory factor analysis (CFA) was used to examine the fit between the data and the hypothesized model. CFA was actually carried out during the data analysis stage of this study; however, it has been brought forward to illustrate why some items were eliminated from this study. The robust maximum likelihood (MLR) estimator was used during the CFA because it offers a more robust estimation for large multilevel data (Muthén and Muthén, 1998-2010). Goodness-of-fit was assessed using the Comparative Fit Index (CFI) and the Tucker–Lewis Index (TLI) at cut-off levels of $\geq .95$, as well as the Root Mean Square Error of Approximation (RMSEA) and Standardized Root Mean Square Residual (SRMR) at cut-off levels of $< .08$. Further details on model fit analysis can be found in Chapter 4 of this thesis, under the sub-heading ‘Goodness-of-fit in SEM’. A summary of the items, their corresponding factors, reliability coefficients, means and standard deviations, as well as the nature of their response scales are presented in Table 9.

7.4.2.1 Employee attitudes and well-being measures

The dependent variables for this study include two employee attitude scales (job satisfaction and organizational commitment), one employee well-being scale and one work intensification scale.

Job satisfaction – This scale was developed to measure employees' level of contentment with various aspects of their job. The scale was initially composed of eight items but was reduced to a three-item scale as five items were eliminated due to poor model fit. The three items include 'how satisfied are you with the recognition you get for good work', 'how satisfied are you with the extent to which your work is valued by the organization' and 'how satisfied are you with the level of pay you receive'. These items were measured on a five-point Likert scale ranging from: 1 = 'very dissatisfied' to 5 = 'very satisfied'. The alpha coefficient for this scale is acceptable at 0.73.

Organizational commitment – This is a three-item scale designed to measure employees' level of attachment and intent to remain with the NHS Trust. The three items are 'I often think about leaving this NHS Trust', 'I will probably look for a job at a new organisation in the next 12 months' and 'as soon as I can find another job, I will leave this NHS Trust'. These items were measured on a five-point Likert scale ranging from: 1 = 'strongly disagree' to 5 = 'strongly agree' (Cronbach's alpha = 0.92).

Well-being – Unlike Study 1, where employee well-being was measured based on three negative emotional states (or feelings of anxiety and job strain), the well-being measure in the present study reflects a positive representation of the physical and emotional health of NHS employees. The scale was developed based on three items: 'overall, how would you rate your health during the past four weeks', 'during the past four weeks, how much difficulty did you have doing your daily work, both at home and away from home, because of your physical health' and 'during the past four weeks, how much did personal or emotional problems keep you from doing your usual work or other daily activities'. The first item was measured on a five-point Likert scale ranging from: 1 = 'excellent' to 5 = 'very poor', whereas the other two items were measured on a five-point scale ranging from: 1 = 'not at all' to 5 = 'could not do daily work'. The Cronbach's alpha coefficient for this scale is 0.75.

Work intensification – This is a two-item scale measuring employees' perception of work demands and pressure. The two items include: 'I cannot meet all the conflicting demands on my time at work' and 'I do not have time to carry out all my work'. Both items were measured on a five-point Likert scale ranging from: 1 = 'strongly disagree' to 5 = 'strongly agree'. This variable has acceptable Cronbach's alpha coefficient of 0.79.

7.4.2.2 HRM practices measures

In contrast to the nested nature of the WERS 2004 data, organizational-level information is not directly obtainable from the 2010 NHS Staff Survey as all respondents were sampled as employees of the British NHS. Therefore, HRM practices were derived as aggregated mean scores of corresponding employee-level items. Considering that both the HRM practices and the employee attitudes and well-being measures were derived from a single source (i.e., employees of the NHS), data aggregation served in minimizing the possible adverse consequences of common method variance (Kawachi, 2006; Kouvonen et al., 2006). Moreover, aggregation of employee-level items into organizational-level constructs enabled the use of multilevel analysis in the present study. Multilevel analysis allows estimation of separate standard errors for organizational-level and employee-level components of a model (Heck and Scott, 2009; Yeung and Li, 2011). Adopting multilevel analysis in the present study provides suitable estimates for contrasting with results of Study 1.

Prior to the aggregation, three statistical tests were conducted to ensure sufficient justification for the aggregation. Two of these tests, Intraclass Correlation Coefficient 1 and 2 (ICC1 and ICC2) were used to examine the degree of interrater reliability among raters of the selected employee-level items. Extensive details of ICC1 and ICC2 tests have been provided in Chapter 4 of this thesis. Whereas ICC1 is associated with interrater reliability of a single rater, ICC2 estimates interrater reliability of the group-level means for several raters (Bliese,

Table 9 – Variables from the 2010 NHS Staff Survey

Variables (α)	Observed Items	Mean	SD	Response Scale	ICC(1) & ICC(2)	Mean $r_{WG(J)}$
Job autonomy (0.95)	Frequent opportunities to show initiative at work	3.62	0.12	Aggregated mean scores from employee items	0.03	0.73 (99% ≥ 0.50)
	Able to make improvements happen at work	3.48	0.16		0.92	
Team working (0.85)	Team members have shared objectives	3.79	0.07	Aggregated mean scores from employee items	0.01	0.77 (100% ≥ 0.50)
	Team members communicate closely with each other	3.91	0.09		0.72	
Training (0.96)	Training helped in doing job better	3.68	0.09	Aggregated mean scores from employee items	0.01 0.75	0.81 (100% ≥ 0.50)
	Training helped in staying up-to-date with job.	3.71	0.09			
	Training helped in staying up-to-date with professional requirements	3.70	0.09			
Career opportunities (0.94)	Support to keep up-to-date with developments in my field.	3.41	0.13	Aggregated mean scores from employee items	0.03	0.67 (99% ≥ 0.50)
	Strong support for training in my area of work	3.20	0.18		0.91	
Flexible working (N/A)	Flexible work arrangements including flexi-time, reduced hours, work from home, working agreed hours and job sharing	0.57	0.11	Single-item binary index variable	0.05 0.95	0.88 (100% ≥ 0.50)
Appraisal (N/A)	Appraisal or Knowledge and Skills Framework (KSF) development review in the last 12 months	0.78	0.09	Single-item binary variable	0.04 0.95	0.92 (100% ≥ 0.50)
Grievance procedures (N/A)	Know how to report concerns about fraud, malpractice or wrongdoing	0.89	0.04	Aggregated mean scores from employee items	0.02 0.86	0.98 (100% ≥ 0.50)
	Feel safe raising concerns about fraud, malpractice or wrongdoing	0.87	0.04			
	Feel confident that Trust would address concern	0.79	0.07			
Supportive Management (0.96)	Immediate manager helps you with a difficult task at work.	3.79	0.13	Aggregated mean scores from employee items	0.02	0.60 (94% ≥ 0.50)
	Immediate manager gives clear feedback on work	3.54	0.16		0.88	
Information Sharing	Senior management and staff communicate effectively	2.79	0.23	Aggregated mean scores from	0.05 0.95	0.66 (99% ≥ 0.50)

(0.87)	Different parts of the Trust communicate effectively	2.72	0.19	employee items		
PDM	Senior managers involve staff in important decisions	2.80	0.23	Aggregated mean scores from employee items	0.04	0.61
(0.92)	Senior managers encourage staff to suggest new ideas	3.05	0.20			
Job satisfaction (0.84)	Recognition for good work	3.23	1.06	Scale from 1 = 'Very dissatisfied' to 5 = 'Very satisfied'	-	-
	Extent to which work is valued	3.02	1.05			
	Level of pay	3.05	1.09			
Organizational Commitment (0.87)	I often think about leaving this Trust	2.77	1.19	Scale from 1 = 'Strongly disagree' to 5 = 'Strongly agree'	-	-
	I will probably look for a job at a new organisation	2.63	1.16			
	I will leave this Trust as soon as I find another job	2.43	1.13			
Well-being (0.90)	Rate your health during the past four weeks	2.70	1.17	Scale from 1 = 'Excellent' to 5 = 'Very poor'	-	-
	Difficulty in doing daily work due to physical health	1.60	0.91	Scale from 1 = 'None at all' to 5 = 'Could not do daily work'		
	Personal or emotional problems keep you from daily work	1.57	0.86			
Work Intensity (0.77)	I cannot meet the conflicting demands at work.	3.18	1.10	Scale from 1 = 'Strongly disagree' to 5 = 'Strongly agree'	-	-
	Insufficient time to carry out all my work	3.25	1.07			

Note: α = Cronbach's alpha; SD = Standard Deviation

2000; LeBreton and Senter, 2008; Biemann et al., 2012). Both tests provided adequate justification for aggregation (see Table 9). The third test used to justify aggregation was the interrater agreement index, r_{WG} for single-item measures and $r_{WG(j)}$ for multiple-item measures (James et al., 1984; Bliese, 2000; LeBreton and Senter, 2008; Biemann et al., 2012). Full explanations for these tests have also been provided in Chapter 4. The interrater agreement index is computed by comparing values of observed within-group variances to the variance expected when there is no agreement among raters. This test yielded adequate justification for aggregation (also see Table 9).

As can be expected from the use of data with a large number of employees (164, 916 NHS employees) nested within a small number firms (386 NHS Trusts), the level of correlation between several items in the model increased after data aggregation. This resulted in more cross-loading items and overall poor model fit during the CFA. To achieve a well-fitting model therefore, several management-level items were further eliminated from the model, resulting in the use of only two items as indicators for six out of ten HRM practices. Moreover, a decision was made to combine the constituent items of two factors (grievance systems and information sharing) into composite scales to minimize possible correlations with unrelated items, and maximize their usability in this study. These composite scales were then used as single-item variables to represent these two factors. Details of the ten HRM practices and their constituent items are presented as follows:

Job autonomy – This scale was developed based on two items: ‘there are frequent opportunities for me to show initiative in my role’ and ‘I am able to make improvements happen in my area of work’. These items were measured on a five-point Likert scale ranging from: 1 = ‘strongly disagree’ to 5 = ‘strongly agree’. Both items showed good internal consistency at the employee-level (0.83) and aggregate-level (0.95).

Team working – The nature of working relationships between team members within the NHS was captured using two items: ‘team members have a set of shared objectives’ and ‘team members have to communicate closely with each other to achieve the team's objectives’. These two items were measured on a five-point Likert scale ranging from: 1 = ‘strongly disagree’ to 5 = ‘strongly agree’. Their employee-level alpha coefficient was 0.77, but the aggregate-level alpha coefficient was higher at 0.85.

Staff training – This variable was designed to measure employees’ perception of the quality and value of training (both formal and informal forms of learning) undertaken during the last 12 months. The scale includes three items: ‘my training, learning and development have helped me to do my job better’, ‘my training has helped me stay up-to-date with my job’, and ‘my training has helped me stay up-to-date with professional requirements’. These three items showed acceptable employee-level alpha coefficient of 0.92 and an aggregate-level alpha coefficient of 0.96.

Career-enhancement opportunities – Owing to the absence of items on compensatory payments and rewards in the NHS survey, the career-enhancement opportunities scale was used to capture mechanisms for extrinsic motivation among NHS employees. Career-enhancement opportunities have been associated with the ‘motivation’ domain of the AMO model of HRM (Jiang et al., 2012). The 2010 NHS staff survey contains a block of five items measuring employees’ perception of career-enhancement opportunities at work. These items were measured on a five-point Likert scale ranging from: 1 = ‘strongly disagree’ to 5 = ‘strongly agree’. Only two items were retained for this scale as the other three items contributed to significantly poor model fit. The two items include: ‘I am supported to keep up-to-date with developments in my field’ and ‘there is strong support for training in my area of work’. Admittedly, the second item depicts elements of staff training. However, it is presumed that respondents were less likely to mistake this item for staff training because it

belongs to a block of items specific to employees' perception of career-enhancement opportunities at work. The two items showed acceptable employee-level alpha coefficient of 0.87 and an aggregate-level alpha coefficient of 0.96.

Flexible working – This is a single-item variable derived from a multiple-response question. Respondents were required to select the flexible work arrangements applicable to their jobs from a list of eight options. Five of these options including 'working flexi-time', 'working reduced hours', 'working from home in normal working hours', 'working an agreed number of hours over the year' and 'job sharing with someone else' were combined and recoded as a single, binary index measure. That is, 1 = at least one of the five flexible work arrangements are applicable, and 0 = none of the five work arrangements are applicable. The five flexible working options are comparable with the items used in Study 1.

Performance appraisal – Although the NHS survey contains four items on appraisal or KSF development reviews, these items yielded very poor internal consistency during reliability analysis. As a result, performance appraisal was measured using a single-item variable. The preferred item for this scale was the item which required respondents to select 'yes' if they had undertaken any appraisal and/or KSF development review during the past 12 months, or 'no' if otherwise.

Grievance systems – Grievance resolution was captured using three items: 'if you were concerned about fraud, malpractice or wrongdoing, would you know how to report it', 'would you feel safe raising your concern' and 'would you feel confident that your Trust would address your concern'. These three items are binary ('yes' or 'no') questions with acceptable Cronbach's alpha coefficients at the employee-level (0.66) and aggregate-level (0.79). The CFA showed two of these items were cross-loading on three other latent constructs, thereby contributing to poor model fit. A decision was therefore made to combine

these items into a composite scale, which was then used as a single-item measure for grievance systems.

Supportive management – As operationalized in this study, supportive management refers to the level of support offered to employees in carrying out their job tasks. Five items were initially selected for this scale, but three items were eliminated due to poor model fit. The two items retained for this scale include: ‘my immediate manager can be counted on to help me with a difficult task at work’ and ‘my immediate manager gives me clear feedback on my work’. These two items were found to have good employee-level internal consistency (Cronbach’s alpha = 0.82). After aggregation, the alpha coefficient increased to 0.94.

Information sharing – This scale was derived from two items: ‘communication between senior management and staff is effective’ and ‘on the whole, the different parts of the Trust communicate effectively with each other’. The CFA showed these two items to have high inter-correlation with each other and with items of the participative decision-making and job autonomy variables. A decision was therefore made to combine these two items into a composite scale, which was then used as a single-item measure for information sharing. The two items were measured on a 5-point Likert scale ranging from: 1 = ‘strongly disagree’ to 5 = ‘strongly agree’. The items showed acceptable Cronbach’s alpha coefficients at both the employee-level (0.80) and aggregate-level (0.94).

Participative decision-making – Employees’ level of involvement in workplace decision-making activities was measured using two items: ‘senior managers here try to involve staff in important decisions’ and ‘senior managers encourage staff to suggest new ideas for improving services’. These items were measured on a five-point Likert scale ranging from: 1 = ‘strongly disagree’ to 5 = ‘strongly agree’. The items have acceptable Cronbach’s alpha coefficients both at the employee-level (0.83) and aggregate-level (0.92).

Control variables – Just as in Study 1, control variables were excluded from this study to avoid confounding an already complex, multilevel analytical design. This decision was made because control variables may lead to contaminated research outcomes in models with several predictors and outcomes (Becker, 2005; Edwards, 2008; Williams et al., 2009; Spector and Brannick, 2011). Indeed, the present study features ten independent latent variables, one latent mediator variable and three latent dependent variables; therefore, inclusion of additional control variables may produce unwarranted correlations with variables of interest, alter their meaning, and lead to misleading analytical inferences (Becker, 2005). It is important to stress also that each latent variable in the present study (except the single-item variables) comprises two or more items.

7.4.2.3 HPWP index measure

As with Study 1, cluster analysis was used to statistically derive an index measure of HPWP for which NHS Trusts were divided into clusters or groups based on their respective orientations towards HRM. Cluster analysis is recommended as a suitable, data-driven method for evaluating an integrated system of HPWP (Becker and Gerhart, 1996; Delery, 1998; Guest et al., 2004). Cluster analysis can be used to divide a given sample into distinct clusters based on their relative use of a given set of HRM practices. The cluster with high scores on the HRM practices is said to be the ‘HPWP cluster’ or the more innovative group within the sample, whereas the cluster with low scores on the HRM practices represents the less innovative group within the sample.

Agglomerative hierarchical cluster analysis with Ward’s method and squared Euclidean distance was used to divide the NHS Trusts into distinct clusters according to their relative use of the HRM practices (or their orientations towards HRM). The Ward's method is one of the most commonly used algorithms for cluster analysis (Gong and Richman, 1995; Burns and Burns, 2008). In this method, clusters are formed by progressively combining pairs

of entities whose fusion result in the smallest increase in the error sum of squares (Lorr, 1983; Burns and Burns, 2008). The process is repeated until all possible clusters are formed. A three-cluster solution was derived on interpreting the large ‘jumps’ in the coefficient values on the agglomeration schedule (a numerical table containing information about the change in the distance measure at each stage of the clustering process), and the large distances between nodes on the dendrogram (a hierarchical tree diagram that shows how distant or close entities were before clustering). Subsequently, an ANOVA test (using Tukey Post Hoc test) was performed to establish statistical differences between the three clusters, and to define the clusters according to their mean scores on the HRM practices (see details of each cluster in Table 10).

The first cluster (N = 233 Trusts, 103075 employees) is the ‘HPWP’ cluster, or the more innovative group within the sample. NHS Trusts in this cluster are characterized by high scores on all the ten HRM practices. The second cluster (N = 142 Trusts, 58017 employees) is characterized by average scores on all HRM practices. NHS Trusts in this cluster are thought to be moderately innovative in terms of their orientation towards HRM. The third cluster (N = 11 Trusts, 3824 employees) is characterized by low scores on all HRM practices. NHS Trusts in this cluster are considered less innovative in terms of their approach to HRM.

7.4.3 Data analysis

Following the same procedures as Study 1, hypothesized assumptions in the present study were tested using the Mplus software program. Data analysis was carried out in three phases using the MLR estimator in each phase.

7.4.3.1 Phase I (hypotheses 1a and 3a, the independent effects of HPWP)

In this phase, a single MSEM model was used to evaluate the independent effects of HRM practices on employee attitudes and well-being, and simultaneously examine the role of

Table 10 – Cluster definition table (mean scores are derived from ANOVA test)

HRM Practices	CLUSTER 1 (Standardized mean scores)	CLUSTER 2 (Standardized mean scores)	CLUSTER 3 (Standardized mean scores)
Job autonomy	High (0.47)	Average (-0.48)	Low (-3.72)
Team working	High (0.35)	Average (-0.32)	Low (-3.28)
Training	High (0.22)	Average (-0.33)	Low (-2.23)
Career development	High (0.44)	Average (-0.46)	Low (-3.36)
Flexible working	High (0.31)	Average (-0.36)	Low (-1.96)
Appraisal	High (0.24)	Average (-0.33)	Low (-0.86)
Grievance procedures	High (0.52)	Average (-0.67)	Low (-2.51)
Supportive Management	High (0.51)	Average (-0.62)	Low (-2.81)
Information sharing	High (0.50)	Average (-0.61)	Low (-2.81)
Participative decision-making	High (0.53)	Average (-0.66)	Low (-2.68)

Sample size (N) = 386 Trusts, 164, 916 employees

Cluster 1 (N = 233 Trusts, 103075 employees) – Innovative’ HRM group or HPWP cluster

Cluster 2 (N = 142 Trusts, 58017 employees) – ‘Moderately ‘innovative’ group

Cluster 3 (N = 11 Trusts, 3824 employees) – ‘Non-innovative’ HRM group

work intensification as a mediator in these relationships. The model involved ten HRM practices as independent variables (four of which were single-item variables: flexible working, performance appraisal, grievance systems and information sharing), work intensification as a mediator variable, as well as three employee attitudes and well-being measures as dependent variables. The four single-item variables were specified differently from the other six independent variables so as to minimize measurement errors (Little et al., 2002). The factor loadings of these single-item variables were fixed at one for model

identification, whereas their residual variances were fixed at a non-zero value θ ; where θ is equal to '(1– reliability) * sample variance' (Hayduk, 1987; Muthén and Muthén, 2009). In the case of flexible working, grievance systems and information sharing, where θ was too small (<0.001), the residual variances were fixed at zero to avoid a non-converging model. Non-convergence is a model specification problem in SEM that forces a model to stop when the maximum number of iterations has been exceeded or when the maximum likelihood process fails to optimize the model fit function (Muthén and Muthén, 1998-2010; Byrne, 2012).

Just as in Study 1, the mediating role of work intensification was estimated based on the product-of-coefficients ($\alpha\beta$). Two advanced methods, the distribution of the product method (MacKinnon et al., 2002) and the Monte Carlo method for assessing mediation (Bauer et al., 2006), were used to compute confidence intervals for the distribution of the $\alpha\beta$ coefficient. Details of these two methods have been provided in Chapter 4. The two advanced methods were used to validate mediated effects derived from the multivariate delta method, which is the default algorithm for assessing mediated effects in the Mplus software program. As noted in Study 1, the multivariate delta method tends to produce inaccurate estimates of mediated effects due to assumptions of normality (MacKinnon et al., 2002; Preacher and Selig, 2012); therefore, mediated effects derived using this method are not reported in this study.

7.4.3.2 Phase II (hypotheses 2a and 4a, the integrated effects of HPWP)

In this phase, the integrated effects of HPWP on employee attitudes and well-being, and the role of work intensification as a mediator in these relationships were examined simultaneously using multiple group analysis. Just as in Study 1, multiple group analysis was used to compare differences in the latent factor means of the employee-level variables across the three NHS clusters. This type of analysis can be considered in the same way as the use of

a categorical independent variable in ordinary least squares linear regression models. The test involved fixing the latent factor means of employee attitudes and well-being at zero in the reference group (i.e., Cluster 1 or the HPWP cluster), but allowing the means to vary across the other two clusters. If the latent factor means of the employee attitudes and well-being variables are significantly lower (or negative) in Clusters 2 and 3, relative to the reference Cluster 1, then there is evidence that HPWP have beneficial integrated effects on NHS employees' level of job satisfaction, organizational commitment and improved well-being. Moreover, if the latent factor means of work intensification is higher (or positive) in Clusters 2 and 3, relative to Cluster 1, then there is further evidence that employees in the HPWP cluster are less likely to experience increases in work demands compared to employees in the other two clusters.

The mediating role of work intensification in the integrated effects of HPWP on the employee outcomes was also estimated based on the product-of-coefficients ($\alpha\beta$) method. In line with Phase I, estimates of mediated effects were validated using the distribution of the product method and the Monte Carlo method.

7.4.3.3 Phase III (comparing the integrationist and isolationist perspectives of HPWP)

This phase was used to verify whether the individual HRM practices have synergistic (or statistical interaction) effects on employee attitudes and well-being. Just like Study 1, three analytical models were used to simultaneously compare the explanatory power of the integrationist and isolationist perspectives of HPWP on employee outcomes. Goodness-of-fit statistics were used to determine the adequacy of each of the three models. In the first model, the cluster intercepts, as well as the regression slopes (i.e., the independent effects of HRM practices on the employee-level variables) were estimated freely across the three clusters. In other words, the three clusters were presumed to be different in this first model, and the regression slopes were allowed to vary across the three clusters. In the second model, the

regression slopes were constrained to equality across the three clusters, while the cluster intercepts remained freely estimated. This step was useful in determining whether the independent effects of HRM practices are conditional on the clusters. A significant drop in model fit between the first model and the second model would provide evidence for conditional effects. In the third model, the cluster intercepts were then constrained to equality across the three clusters, whereas the regression slopes remained freely estimated. That means the three clusters were now modelled to be equal at this point. A poor-fitting model for this test will confirm that the three NHS clusters produce synergistic effects over and above the independent effects of HPWP.

Subsequently, the results of data analysis Phase II were compared with the results of this phase to determine the extent of variation in latent factor means of employee-level outcomes across the three NHS clusters. Any significant variations between Phase II and Phase III in terms of latent factor means of employee-level outcomes across the three NHS clusters will establish that the isolationist perspective (or independent effects of HPWP) accounts for variance in employee-level outcomes over and above the integrationist perspective (or integrated effects) of HPWP.

7.4.3.3 Testing for measurement invariance

To ensure consistency of measurement parameters across members of the three NHS clusters, measurement invariance testing was performed on the employee attitudes and well-being measures, as well as the HRM practices measures. Unlike Study 1, measurement invariance testing for the HRM practices measures could not be achieved in their organizational-level (or aggregate-level) form due to small sample size of only 386 NHS Trusts. The requirement for most SEM software programs such as Mplus is that clusters or study groups must contain no less than 200 cases to avoid 'non-convergence' problems during measurement invariance testing (Muthén and Muthén, 1998-2010; Byrne, 2012). In

the present study, Clusters 2 and 3 contain 142 and 11 cases, respectively, and therefore fall short of this requirement. To avoid non-convergence of the model therefore, measurement invariance was performed using the HRM practices measures in their original employee-level form, rather than their organizational-level (or aggregate-level) form.

As explained in Chapters 4 of this thesis, measurement invariance involves a series of progressively restrictive statistical tests to ensure unambiguous inferences in multiple group analysis (Koh and Zumbo, 2008; Wei et al., 2003; Whiteside-Mansell and Corwyn, 2003). Progression from one model to the next, more restrictive model is determined by examining the overall adequacy of the model using several fit indices (Vandenberg and Lance, 2000). As suggested by Cheung and Rensvold (2002), progression between two competing models is also ascertained when the difference in CFI value is less than 0.01.

Four analytical steps were undertaken to establish the invariance of the HRM practices and employee attitudes and well-being parameters across the three NHS clusters (Vandenberg and Lance, 2000; Milfont and Fischer, 2010; Van de Schoot et al., 2012). The first step involved group specific tests to ensure validity of measurement parameters. These group specific tests were performed separately for employee attitudes and well-being measures, and then for the HRM practices measures. The test for HRM practices measures however yielded poor model fit for Cluster 2 and non-convergence for Cluster 3. A review of the model's modification indices revealed that the model could be respecified by adding residual covariances for some observed items. Following recommendations in the literature (Hox and Bechger, 1998; Hooper et al., 2008; Byrne, 2012), residual covariances were added for within-factor residuals only, with emphasis on residual covariances with modification indices of more than 100. Ultimately, residual covariances were added for two items on staff training, two items on participative decision-making and two items on career-enhancement

opportunities. The respecified model was then applied across all three NHS clusters, and used in subsequent invariance testing for the HRM practices measures.

The group specific test was followed by the test for configural invariance. Configural invariance involves a single model in which all the measurement parameters (including factor loadings, observed item intercepts and variances) are estimated freely across groups. The next model was the test for metric invariance, in which factor loadings were constrained to equality across groups, while other parameters remained freely estimated. Following the metric invariance model was the scalar invariance test which involved additional constraints on the observed item intercepts. This step is necessary to ensure that cases with the same observed item intercept scores have similar latent factor mean values irrespective of their group membership. The results of these four steps of invariance testing provide evidence that the measurement parameters of the HRM practices, employee attitudes and well-being variables are strongly invariant across the three NHS clusters (see Table 11).

7.5 RESULTS

Using data from the 2010 NHS Staff Survey, this study examined key tenets of two central HPWP: ‘the integrationist and isolationist perspectives of HPWP’ and ‘the mutual gains versus the critical perspectives of HPWP’. The theoretical arguments underlying these debates were investigated in three analytical phases. The first phase involved a single MSEM procedure to test the independent effects of HPWP on employee attitudes and well-being in the NHS, and simultaneously examine the role of work intensification as a mediator in these relationships. This test returned an overall well-fitting model (RMSEA = 0.006; CFI = 0.953; TFI = 0.933; SRMR = 0.028). The second phase involved multiple group analysis to test the integrated effects of HPWP on employee attitudes and well-being in the NHS, and simultaneously examine the mediating role of work intensification in these relationships. This test also yielded acceptable model fit (RMSEA = 0.041; CFI = 0.966; TFI = 0.949; SRMR =

Table 11 - Measurement invariance testing for 2010 NHS Staff data

Employee-level parameters						
MODELS	X² (df) p < .000	RMSEA	CFI	ΔCFI	TLI	SRMR
Group 1 only	10985.781 (38)	0.054	0.973	-	0.960	0.031
Group 2 only	6416.778 (38)	0.055	0.971	-	0.959	0.032
Group 3 only	441.643 (38)	0.057	0.976	-	0.965	0.030
Configural invariance	17893.830 (114)	0.054	0.972	-	0.960	0.032
Metric invariance	17844.103 (128)	0.051	0.972	0.000	0.964	0.032
Scalar invariance	19139.072 (142)	0.050	0.970	0.002	0.965	0.032
Management-level parameters						
MODELS	X² (df) p < .000	RMSEA	CFI	ΔCFI	TLI	SRMR
Group 1 only	9460.540 (79)	0.035	0.985	-	0.974	0.037
Group 2 only	5160.009 (79)	0.034	0.986	-	0.976	0.036
Group 3 only	498.478 (79)	0.040	0.984	-	0.973	0.042
Configural invariance	15549.434 (237)	0.035	0.985	-	0.975	0.037
Metric invariance	15782.123 (251)	0.034	0.985	0.000	0.976	0.037
Scalar invariance	16490.335 (265)	0.034	0.984	0.001	0.976	0.038

0.028). The third phase involved three analytical tests to simultaneously compare the explanatory power of the integrated and independent effects of HPWP on employee attitudes and well-being.

7.5.1 Phase I results (hypotheses 1a and 3a)

Table 12 shows results of the independent effects of HPWP on employee attitudes and well-being in the NHS. The upper portion of the table contains standardized regression coefficients, their corresponding residuals and the statistical significance for the independent effects of each HRM practice on job satisfaction, organizational commitment, employees' well-being and work intensification, respectively (hypothesis 1a). As can be deduced from the table, all HRM practices excluding staff training are significantly related to at least one employee-level outcome. Five out of ten HRM practices: job autonomy, career-enhancement opportunities, supportive management, information sharing and participative decision-making, have positive independent effects on job satisfaction, whereas three HRM practices including job autonomy, flexible working and information sharing produced positive independent effects on organizational commitment. This implies that more than half of the ten HRM practices are positively related to at least one measure of employee attitudes in the NHS. Of the ten HRM practices, job autonomy produced the strongest positive effects on job satisfaction ($\beta = 0.065$, $p < 0.001$) and organizational commitment ($\beta = 0.176$, $p < 0.001$).

Flexible working and supportive management are the only two HRM practices with positive independent effects on employee well-being in the NHS. Unlike Study 1, where employee well-being was measured in terms of three negative emotional states (i.e., feelings of tenseness, worry and unease at work), the well-being variable in the present study depicts a more positive representation of employees' emotional health at work. As such, HRM variables with positive independent effects on this well-being measure are considered to have desirable employee-level effects within the NHS. In terms of work intensification, supportive management and information sharing produced reducing independent effects (see Table 12).

Four HRM practices including team working, career-enhancement opportunities, grievance systems and participative decision-making have negative independent effects on

Table 12 – Phase I Results

HRM practices → employee-level outcomes				
Variables	Job Satisfaction (residuals)	Organizational Commitment (residuals)	Employee Well-being (residuals)	Work Intensity (residuals)
Work Intensity	-0.338*** (0.004)	0.284*** (0.003)	0.260*** (0.003)	-
Job autonomy	0.065*** (0.012)	0.176*** (0.024)	0.000 (0.013)	0.046* (0.020)
Team working	0.003 (0.005)	-0.056*** (0.010)	-0.018* (0.007)	0.040*** (0.008)
Training	-0.002 (0.004)	0.005 (0.009)	0.000 (0.007)	0.003 (0.009)
Career-enhancement	0.027*** (0.008)	-0.139*** (0.017)	-0.006 (0.010)	-0.014 (0.014)
Flexible working	0.006 (0.006)	0.069*** (0.011)	0.018* (0.007)	0.013 (0.010)
Appraisal	0.003 (0.005)	0.018 (0.009)	-0.015* (0.007)	0.024* (0.010)
Grievance systems	0.008 (0.006)	-0.046*** (0.011)	-0.020** (0.008)	-0.004 (0.009)
Supportive management	0.020** (0.007)	0.001 (0.014)	0.046*** (0.010)	-0.057*** (0.013)
Information sharing	0.041*** (0.011)	0.041* (0.019)	-0.044** (0.015)	-0.117*** (0.019)
PDM	0.024* (0.011)	-0.060** (0.020)	0.028 (0.014)	0.071*** (0.020)

HRM practices → work intensity → employee-level outcomes

HRM Practices	Job Satisfaction CI = 95%		Organizational Commitment CI = 95%		Employee Well-being CI = 95%	
	<i>DOPM</i>	<i>MCM</i>	<i>DOPM</i>	<i>MCM</i>	<i>DOPM</i>	<i>MCM</i>
Job autonomy	-0.029	-0.029	0.002	0.002	0.002	0.002
	-0.002	-0.002	0.024	0.024	0.022	0.022
Team working	-0.019	-0.019	0.007	0.007	0.006	0.006
	-0.008	-0.008	0.016	0.016	0.014	0.015
Training	-0.007	-0.007	-0.004	-0.004	-0.004	-0.004
	0.005	0.005	0.006	0.006	0.005	0.005

Career-enhancement	-0.005 0.014	-0.004 0.014	-0.012 0.004	-0.012 0.004	-0.011 0.003	-0.011 0.004
Flexible working	-0.011 0.002	-0.011 0.002	-0.002 0.009	-0.002 0.009	-0.002 0.008	-0.002 0.008
Appraisal	-0.015 -0.001	-0.015 -0.001	0.001 0.012	0.001 0.012	0.001 0.011	0.001 0.011
Grievance systems	-0.005 0.007	-0.005 0.007	-0.006 0.004	-0.006 0.004	-0.006 0.004	-0.006 0.004
Supportive management	0.011 0.028	0.011 0.028	-0.023 -0.009	-0.023 -0.009	-0.021 -0.008	-0.021 -0.008
Information sharing	0.027 0.052	0.027 0.052	-0.044 -0.023	-0.044 -0.023	-0.040 -0.021	-0.040 -0.021
PDM	-0.037 -0.011	-0.037 -0.011	0.009 0.031	0.009 0.031	0.008 0.029	0.008 0.029

Sample size (N) = 386 Trusts, 164916 employees

Note: all regression coefficients and residuals are standardized scores

Chi-square (X^2) = 1696.367; degrees of freedom (df) = 264; p-value < 0.00

RMSEA = 0.006; CFI = 0.954; TFI = 0.935; SRMR = 0.028

*Confidence Interval (CI) = 95%; Significance: *** = $p < .001$, ** = $p < .01$, * = $p < .05$*

DOPM = Distribution of product method; MCM = Monte Carlo Method

organizational commitment, whereas team working, performance appraisal, grievance systems and information sharing are negatively associated with employee well-being. None of the HRM practices produced a negative independent effect on job satisfaction. Of the ten HRM practices, career-enhancement opportunities produced the strongest negative independent effect on organizational commitment ($\beta = -0.139$, $p < 0.001$), whereas information sharing produced the strongest negative effect on employee well-being ($\beta = -0.044$, $p < 0.001$). In terms of work intensification, job autonomy, team working, performance appraisal and participative decision-making have positive independent effects. Participative decision-making has the strongest negative effect on work intensification ($\beta = 0.071$, $p < 0.001$).

The lower portion of Table 12 shows results of the mediating role of work intensification in terms of the independent effects of HPWP on employee attitudes and well-being in the NHS (hypothesis 3a). This portion of the table provides confidence intervals derived from the distribution of the product method and the Monte Carlo method for assessing mediation. Both methods were used to validate mediated effects derived from the multivariate delta method. Work intensification is negatively related to job satisfaction but positively related to organizational commitment and employee well-being. Through work intensification, six out of ten HRM practices produced significant indirect effects on employee attitudes and well-being in the NHS. Specifically, supportive management and information sharing produced significant indirect effects on job satisfaction, organizational commitment and employee well-being through work intensification. Whereas the indirect effect on job satisfaction is positive, the indirect effects on organizational commitment and employee well-being are in the opposite (or negative) direction. That means these practices may improve job satisfaction and reduce employees' level of commitment and well-being through corresponding decreases in work intensification.

Job autonomy also produced significant indirect effects on job satisfaction, organizational commitment and employee well-being in the NHS through work intensification. The indirect effects of job autonomy on organizational commitment and employee well-being are in the positive direction, whereas job autonomy produced a negative indirect effect on job satisfaction. Similarly, the mediated effect of performance appraisal on job satisfaction is significant and in the negative or reducing direction, whereas the mediated effects of performance appraisal on organizational commitment and employee well-being are both significant and positive. Furthermore, team working and participative decision-making produced negative indirect effects on job satisfaction, and increasing indirect effects on

organizational commitment and employee well-being through corresponding increases in work intensification.

7.5.2 Phase II results (hypotheses 2a and 4a)

The results of the multiple group analysis for the integrated effects of HPWP on employee attitudes and well-being are presented in Table 13. The upper portion of the table shows the effects of Clusters 2 and 3 (Cluster 1 is the HPWP cluster and modelled as the reference group) on job satisfaction, organizational commitment and employee well-being, respectively. This portion of the table shows that the latent factor mean of job satisfaction is significantly lower in Clusters 2 and 3 relative to Cluster 1, the reference group for which the latent factor means were constrained at zero. This result implies that employees in NHS Trusts with high scores in their use of HPWP are more likely to experience greater levels of job satisfaction compared to their counterparts in NHS Trusts with low scores in their use of HPWP. Table 13 also shows that the latent factor means of organizational commitment and employee well-being are not significantly different across the three NHS clusters. This implies that employees within the three NHS clusters do not perceive their experiences of organizational commitment and well-being any differently from each other. Furthermore, the latent factor mean of work intensification is significantly higher in Cluster 2 and significantly lower in Cluster 3, relative to the reference group, Cluster 1. This result is not surprising as NHS Trusts in cluster 3 are those with low scores in their adoption of the ten HRM practices. Therefore, it is expected that employees in Cluster 3 should experience lower levels of work intensification compared to employees in Clusters 1 and 2. Employees in Cluster 2, however, have higher levels of work intensification presumably because HPWP implementation in this cluster is not extensive; NHS Trusts in Cluster 2 have average scores in their adoption of innovative HRM practices.

Table 13 – Phase II Results

HPWP index → employee-level outcomes

Variables	Job Satisfaction (residuals)	Organizational Commitment (residuals)	Employee Well-being (residuals)	Work Intensification (residuals)
Work Intensity	-0.341*** (0.004)	0.285*** (0.004)	0.260*** (0.003)	-
Cluster 1	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Cluster 2	-0.101*** (0.005)	0.007 (0.009)	-0.006 (0.005)	0.019** (0.006)
Cluster 3	-0.117*** (0.020)	-0.001 (0.008)	0.006 (0.007)	-0.019** (0.007)

HPWP index → work intensity → employee-level outcomes

HRM Groups	Job Satisfaction CI = 95%		Organizational Commitment CI = 95%		Employee Well-being CI = 95%	
	<i>DOPM</i>	<i>MCM</i>	<i>DOPM</i>	<i>MCM</i>	<i>DOPM</i>	<i>MCM</i>
Cluster 1	-	-	-	-	-	-
Cluster 2	-0.010 -0.002	-0.010 -0.003	0.002 0.009	0.002 0.009	0.002 0.008	0.002 0.008
Cluster 3	0.002 0.011	0.002 0.011	-0.009 -0.002	-0.009 -0.001	-0.009 -0.001	-0.009 -0.001

Sample size (N) = 386 Trusts, 164916 employees

Cluster 1 (N = 233 Trusts, 103075 employees) – Innovative’ HRM group or HPWP cluster

Cluster 2 (N = 142 Trusts, 58017 employees) – ‘Moderately ‘innovative’ group

Cluster 3 (N = 11 Trusts, 3824 employees) – ‘Non-innovative’ HRM group

Note: all regression coefficients and residuals are standardized scores

Chi-square (X^2) = 13761.063; degrees of freedom (df) = 52; p-value < 0.00

RMSEA = 0.041; CFI = 0.966; TFI = 0.949; SRMR = 0.028

Confidence Interval (CI) = 95%; Significance: *** = p < .001, ** = p < .01, * = p < .05

DOPM = Distribution of product method; MCM = Monte Carlo Method

The lower portion of Table 13 shows results of the mediating role of work intensification in terms of the integrated effects of HPWP on employee attitudes and well-

being in the NHS (hypothesis 4a). The table provides confidence intervals derived from the distribution of the product method and the Monte Carlo method, both of which were used to validate mediated effects derived from the multivariate delta method.

Work intensification is negatively related to job satisfaction but positively related to organizational commitment and employee well-being. Through work intensification, Clusters 2 and 3 (Cluster 1 is modelled as the reference group) produced significant indirect effects on job satisfaction, organizational commitment and employee well-being, respectively. Relative to the Cluster 1, the respective indirect effects of Clusters 2 and 3 on job satisfaction are approximately 6% of the direct effect in each case. Whereas the indirect effect of Cluster 2 on job satisfaction is in the positive direction, Cluster 3 produced a reducing indirect effect on job satisfaction. Relative to Cluster 1, Clusters 2 and 3 produced significant indirect effects on organizational commitment and employee well-being through work intensification. Whereas the indirect effects of Cluster 2 on organizational commitment and employee well-being were positive, the indirect effects of Cluster 3 on organizational commitment and employee well-being were in the reducing direction. Therefore, across the broad spectrum of approaches to HRM within the NHS, work intensification may explain some of the intermediary processes underlying the effects of HPWP on employee attitudes and well-being.

7.5.3 Phase III results (comparing the integrated and independent effects of HPWP)

Three analytical models were examined in this phase to ascertain whether the individual HRM practices have synergistic (or statistical interaction) effects on employee attitudes and well-being. Model fit information for these three tests are provided in Table 14. The first model for which the regression slopes and intercepts of HRM practices and employee-level variables were estimated freely across the three NHS clusters returned acceptable model fit (RMSEA = 0.035, CFI = 0.971, TLI = 0.961, and SRMR = 0.036). The

Table 14 – Model fit information for Phase III

MODELS	X ² (df) p < .000	RMSEA	CFI	ΔCFI	TLI	SRMR
Test 1	57630.461 (848)	0.035	0.971	-	0.961	0.036
Test 2	58054.303 (928)	0.034	0.970	0.001	0.964	0.036
Test 3	64193.523 (876)	0.036	0.967	0.003	0.957	0.041

second test for which the regression slopes were constrained to equality across the three clusters but cluster intercepts estimated freely also yielded acceptable fit (RMSEA = 0.034, CFI = 0.970, TLI = 0.964, and SRMR = 0.036). The change in overall model fit between the first and second tests is negligible (only a slight difference of 0.001 in CFI values and a difference of 0.003 in TLI values), and the patterns of means for the outcomes are relatively the same for both models. This indicates that the independent effects of HPWP are not conditional on the broad approaches to HRM across the three NHS clusters. Unlike Study 1, however, the third test for which the three NHS clusters were constrained to equality yielded acceptable model fit (RMSEA = 0.036, CFI = 0.967, TLI = 0.957, and SRMR = 0.041). There was no significant drop in model fit between this model and the first and second tests. Therefore, the three NHS clusters are not distinct with respect to variance accounted for by the independent effects of HPWP.

A comparison between the results of this phase and the results of Phase II revealed significant variations in latent factor means of employee-level outcomes across the three NHS clusters (see Table 15). The three NHS clusters showed no significant differences in terms of job satisfaction; however, Cluster 1 (i.e., the cluster representing NHS Trusts with high adoption of innovative HRM practices) was found to have higher organizational commitment, employee well-being and work intensification compared to the other two clusters. That means the unique independent effects of HPWP overturned the integrated effects of HPWP on

Table 15 – Comparing results of Phase II and Phase III

Clusters	Job Satisfaction (residuals)		Organizational Commitment (residuals)		Employee Well-being (residuals)		Work Intensification (residuals)	
	Phase II	Phase III	Phase II	Phase III	Phase II	Phase III	Phase II	Phase III
Cluster 1	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Cluster 2	-0.101*** (0.005)	0.000 (0.004)	0.007 (0.009)	-0.105*** (0.005)	-0.006 (0.005)	-0.082*** (0.006)	0.019** (0.006)	-0.029*** (0.006)
Cluster 3	-0.117*** (0.020)	0.014 (0.011)	-0.001 (0.008)	-0.476*** (0.016)	0.006 (0.007)	-0.274*** 0.020	-0.019** (0.007)	-0.336*** 0.020

Sample size (N) = 386 NHS Trusts, 164916 employees

Cluster 1 (N = 233 Trusts, 103075 employees) – Innovative’ HRM group or HPWP cluster

Cluster 2 (N = 142 Trusts, 58017 employees) – ‘Moderately ‘innovative’ group

Cluster 3 (N = 11 Trusts, 3824 employees) – ‘Non-innovative’ HRM group

Note: all regression coefficients and residuals are standardized scores

Significance: *** = $p < .001$, ** = $p < .01$, * = $p < .05$

employee attitudes and well-being in the NHS. Unlike Study 1, these changes were in favour of the HPWP cluster. Caution is applied however in drawing similar conclusions as in Study 1 because the three NHS clusters were not found to be distinct with respect to variance accounted for by the independent effects of HPWP. Accordingly, it is inferred that the additional explanatory power of the integrationist perspective of HPWP is adequate only for some employee-level outcomes but not for others.

7.6 DISCUSSION

The present study has investigated the independent and integrated effects of HPWP on employee attitudes and well-being in the NHS, and simultaneously examined the role of work intensification as a mediator in these relationships. The results provide evidence that individual HRM practices have both beneficial and detrimental independent effects on employee attitudes and well-being in the NHS. The results also show that employees in NHS Trusts adopting a full range of innovative HRM practices are more likely to experience better job satisfaction compared to employees in NHS Trusts with low scores in their adoption of innovative HRM practices. However, there are no significant differences in terms of organizational commitment and employee well-being across the three NHS clusters.

Work intensification was found to mediate the independent effects of six out of ten HRM practices on job satisfaction, organizational commitment and employee well-being in the NHS; thus, lending support to the critical perspective of HPWP. The mediating role of work intensification in terms of the integrated effects of HPWP was also found to be significant for job satisfaction, organizational commitment and employee well-being in the NHS. The main difference between research findings in the present study and results of Study 1 lies around the explanatory power of the integrationist and isolationist perspectives of HPWP. Unlike Study 1 where the independent effects (or isolationist perspective) of HPWP accounted for variance in employee attitudes and well-being over and above the integrated

effects (or integrationist perspective) of HPWP, the present study revealed that the explanatory power of the integrationist perspective of HPWP is adequate only for some employee-level outcomes but not for others.

7.6.1 The mutual gains perspective of HPWP (hypotheses 1a and 2a)

The present study found support for the mutual gains perspective of HPWP. Specifically, HRM practices such as career-enhancement opportunities, supportive management and information sharing were found to have beneficial independent effects on job satisfaction. This outcome mirrors some of the results obtained in Study 1, particularly the beneficial effects of performance-related pay, staff training and supportive management on job satisfaction. Employees tend to interpret the treatment of care and support received from their employer as a sign that their work effort and contributions are valued by the organization. Therefore, based on the norm of reciprocity, employees may feel obligated to respond through work-related attitudes that are beneficial to the organization (Eisenberger et al., 1990; Wayne et al., 1997; Whitener, 2001; Gould-Williams and Davies, 2005). In their study of a cohort of employees drawn from six different occupational groups, Eisenberger et al. (1990) drew attention to the concept of ‘perceived organizational support’, a reflection of employees’ beliefs regarding the level of support and care received from the organization. Accordingly, perceived organizational support enables employees to form positive opinions about the organization, and therefore serves as a mechanism for promoting better work-related attitudes and behaviours among employees.

Supportive management was also found to have a beneficial independent effect on employee well-being in the NHS. This sheds further light on the beneficial impacts of perceived organizational support on employees. Laschinger et al. (2001) argued that nurses feel a sense of empowerment at work when offered adequate support from management, and this in turn empowers nurses to take the initiative in problem solving and in handling the

more strenuous aspects of their jobs efficiently. Moreover, a supportive work environment not only encourage healthcare employees to demonstrate desirable work-related abilities, but also enhances employees' confidence that the organization would notice and reward efforts made on its behalf (Laschinger et al., 2001; Bonias et al., 2010). When employees perceive that the organization has a supportive disposition towards them, employees feel encouraged to work harder for the organization, not in the manner that leads to work-related stress, but in ways that deter employees from engaging in withdrawal behaviours and poor workplace attitudes (Wayne et al., 1997).

Unlike Study 1, where job autonomy was found to have mostly undesirable independent effects on employee outcomes, the results of the present study show that job autonomy is positively related to job satisfaction and organizational commitment, respectively. This finding is consistent with reports that employees who have greater operational control over their job tasks are more likely to demonstrate better work-related attitudes compared to employees who do not have such operational control (Boisard et al., 2003; De Jonge and Schaufeli, 1998; Bainbridge, 1998; Wood and De Menezes, 2011). The rationale for this argument hinges on the assumption that discretionary work allows employees to utilize their work-related knowledge, skills and abilities in conducting their jobs such that they derive a sense of meaningfulness from the outcomes of their contributions at work (De Jonge and Schaufeli, 1998; Wood and De Menezes, 2011). The story is similar in the healthcare sector where empirical evidence points to positive links between discretionary work and improved workplace attitudes among healthcare professionals (Laschinger et al., 2001; Campbell et al., 2004; Bonias et al., 2010; Boselie, 2010). For example, in a study of Dutch health care organisations, Boselie (2010) showed how innovative HRM practices, particularly those that allow employees to make substantial inputs in terms of what happens within their jobs, may improve the work efficiency of employees in healthcare organisations.

Flexible working was also found to have beneficial independent effects on organizational commitment and employee well-being; thus, throwing further light on the beneficial impacts of discretionary work arrangements on NHS employees. According to Kelliher and Anderson (2010), employees who are allowed to work flexibly tend to have higher levels of job satisfaction and organizational commitment compared to employees who do not work flexibly. There is also evidence for lower levels of work-related strain among employees who adopt flexible work patterns compared to those whose work schedules are fixed (Bauer, 2004; Haile, 2007; Kelliher and Anderson, 2010; Atkinson and Hall, 2011). This is because flexible work arrangements enable employees to create a balance between their work and personal lives and allow employees to maintain a positive mind frame when faced with high work demands and pressure (Atkinson and Hall, 2011). This argument is particularly relevant for healthcare professionals; not least because they need to maintain a positive mind frame at work in order to provide adequate care for their ‘mostly’ vulnerable patients. The slightest occurrence of occupational error due to emotional instability among healthcare professionals could have detrimental consequences on the well-being of patients.

The present study shows mixed results in terms of the independent effects of employee involvement practices on employee attitudes and well-being in the NHS. On the one hand, participative decision-making was found to have positive effects on job satisfaction, whereas team working produced no significant relationship with job satisfaction. This implies that NHS employees derive a sense of contentment from their level of participation in decision-making activities at work. Active participation in workplace decision-making activities allows employees to contribute meaningfully to vital decisions regarding the nature of their jobs, and this may therefore promote a sense of acceptance of the job among employees (Wilkinson, 1998; De Jonge and Schaufeli, 1998; Appelbaum et al., 2000; Kalmi and Kauhanen, 2008; Kuye and Sulaimon, 2011). This sense of acceptance of the job then

creates feelings of self-fulfilment among employees and increases their level of job satisfaction (Wilkinson, 1998; Kuye and Sulaimon, 2011). On the other hand, the present study found participative decision-making to have a negative association with organizational commitment, whereas team working has negative effects on organizational commitment and employee well-being. This second finding is consistent with evidence from Study 1, and illustrates a rather unfavourable implication for active employee involvement practices on NHS employees. Some employees, presumably those who lack relevant work-related skills such as interpersonal, conflict management and problem solving skills, are thought to be rather unreceptive towards high levels of involvement in workplace activities (Bainbridge, 1998; Boselie et al., 2003; Scott-Ladd et al., 2006). These sets of employees are more likely to feel frustrated if they are required to participate actively in workplace decision-making or in group-based activities at work. Therefore, employee involvement in team-based working and decision-making activities may lead to emotional distress and withdrawal behaviours if employers do not ensure that their employees have requisite expertise to cope with the responsibilities associated with high levels of employee involvement at work.

The present study found career-enhancement opportunities to be negatively related to organizational commitment among NHS employees. Insofar as this result seems contradictory to evidence in healthcare studies (Laschinger et al., 2001; Boselie et al., 2003; Boselie, 2010), it raises the possibility that NHS employees perceive a degree of unfairness over the availability of career-enhancement opportunities within the NHS. Research in organizational justice suggests that perceptions of inequality and unfairness at work may adversely affect the work-related attitudes of employees, irrespective of genuine efforts by management to create a supportive climate at work (Cohen-Charash and Spector, 2001; Judge and Colquitt, 2004; Inoue et al., 2010; Walker and Hamilton, 2011). These studies draw on the links between perceptions of distributive injustice (i.e., the perceived degree of unfairness

in the outcomes of workplace decisions and in the distribution of organizational resources) and its adverse consequences on employee attitudes towards the organization. Accordingly, employees are less likely to be emotionally attached to the organization, or cede their personal interests in favour of organizational objectives, if they perceive that work resources and incentives are not evenly distributed across all employees. This illustration may also explain why staff training produced no significant independent effects on employee outcomes within the NHS. The staff training variable in the present study captures, specifically, employees' perception of the value of training provided by employers. It is possible that NHS employees perceive a degree of unfairness in the manner in which training opportunities are distributed across all employee levels, and therefore consider the training provided as having no significant value on their work-related attitudes and well-being. It may also be that the training offered is non-clinical, and therefore NHS employees do not perceive such training as being relevant to their jobs.

Drawing further on the possible adverse influences of distributive injustice on employee attitudes and well-being, an explanation is made for the outcome that grievance systems produced negative independent effects on organizational commitment and employee well-being. Employers who fail to undertake elaborate and impartial measures in resolving employee grievances (and/or issues relating to employee chastisement) stand the risk of experiencing counterproductive behaviours from their employees (Cohen-Charash and Spector, 2001; Walker and Hamilton, 2011). According to Walker and Hamilton (2011), the potential for an effective grievance resolution system lies around employers' resolve to adopt procedures which employees consider to be 'safe', 'credible' and 'accessible'. Safety in this context refers to employees' confidence that they will not suffer retribution from management as a result of their complaints. Credibility implies that the grievance resolution procedures are administered impartially without biased outcomes, whereas accessibility

implies that the procedures are available to all members of staff. Grievance resolution systems that fall short of these standards are more likely to result in poor levels of employee commitment and loyalty towards the organization.

With regard to the integrated effects of HPWP, the present study showed evidence that the use of an extensive range of HRM practices has beneficial effects on job satisfaction. Employees in NHS Trusts with high scores on all the HRM practices reported higher levels of job satisfaction compared to employees in Trusts with lower scores in their adoption of innovative HRM practices. This result serves to complement findings in Study 1, where employees in workplaces with high scores in their adoption of innovative HRM practices were found to have higher levels of job satisfaction. When an extensive range of innovative HRM practices are used together in a coherent manner, such practices produce complementary effects that override the unfavourable independent impacts of some practices in the system. This view is consistent with reports that clusters of firms adopting an innovative approach to HRM are more likely to achieve greater organizational-level benefits compared to firms adopting a less innovative approach to HRM (Arthur, 1992; Arthur, 1994; Huselid and Becker; 1997; Ichniowski et al., 1997). The commonality among these studies lies in the assumption that HPWP represent a system of mutually supportive HRM practices aimed at eliciting desirable work-related attitudes from employees, and producing additional value for the organization through sustained competitive advantage.

Contrary to results of Study 1, however, the present study found no significant differences in terms of organizational commitment and employee well-being across the three NHS clusters. In other words, employees in NHS Trusts adopting an extensive range of innovative HRM practices do not perceive their experiences of organizational commitment and well-being any differently from employees in Trusts with lower scores in their adoption of innovative HRM practices. This outcome was unexpected given that the three NHS

clusters are markedly distinct in terms of their respective scores on the ten HRM practices (see Table 10). However, there are two plausible reasons why employees' perception of organizational commitment and well-being may not be significantly different across the three NHS clusters. Firstly, healthcare professions like medicine and nursing are often based upon an intrinsic commitment towards providing care and support to patients. Consequently, a doctor's or nurse's level of organizational commitment and psychological well-being at work might not necessarily relate to the nature of work itself, but may depend on their inherent desire to serve and help vulnerable members of the society (Truss, 2003). Secondly, the centralized nature of work within the British NHS means that NHS Trusts across the UK would normally have similar policies in terms of wages, job design and allowances. Healthcare professionals who wish to transfer their service from one NHS Trust to another are more likely retain the same salaries and inherit similar job roles and allowances. These factors, coupled with the emotional cost of adapting to a new working environment, may therefore increase the healthcare professional's intention to remain with his/her NHS Trust.

7.6.2 The critical perspective of HPWP (hypotheses 3a and 4a)

The present study has shown support for assumptions that HPWP may impact on employee attitudes and well-being through an intermediary relationship with work intensification. Work intensification was found to mediate the independent effects of six HRM practices on employee attitudes and well-being in the NHS. Through corresponding increases in work intensification, job autonomy was found to reduce job satisfaction and improve organizational commitment and employee well-being in the NHS. This finding is consistent with the results of Study 1, where job autonomy was also found to reduce job satisfaction and employees' trust in management through corresponding increases in work intensification. Although job autonomy allows employees to exert some influence over how to carry out their duties at work, it does not necessarily reduce the actual workload of

employees. As a result, employees remain susceptible to tight deadlines and high work pace, despite having the freedom to show initiative on the job (Appelbaum et al., 2000; Burchielli et al., 2005; Kalmi and Kauhanen, 2008). Similarly, healthcare professionals such as doctors, nurses and physiotherapists are usually faced with increased work overloads and pressure despite having to work independently most of the time. Indeed, healthcare professionals typically have the discretion to spend one-to-one time with their patients owing to the nature of their jobs. However, they do not have full control over the number of patients assigned to them in a particular working day and are therefore exposed to work pressure due to the amount of time required to keep paperwork for each patient, and perform administrative tasks such as planning patients' discharges from hospital.

Performance appraisal was also found to reduce job satisfaction and enhance organizational commitment and employee well-being through corresponding increases in work intensification. This strengthens the argument that though performance appraisals may increase employees' perception of work intensification (Gallie et al., 1998; Green, 2001; Brown and Benson, 2005), such practices also serve to improve employees' work efficiency and employees' level of commitment to their jobs (Preuss, 2003; West et al., 2006; Jiang et al., 2012). According to Brown and Benson (2005), the relationship between performance appraisals and work intensification lies around the tendency for line managers and supervisors to impose too many performance measurement objectives on employees without making reasonable adjustments for employee skills and other routine responsibilities. This causes employees to feel overwhelmed with work as they try to satisfy these performance objectives alongside accomplishing their routine job tasks. Within the healthcare sector, performance appraisal may also result in increased levels of work intensification due to intricacies in establishing appropriate performance measurement standards for healthcare professionals (Soh, 1998). For example, a comprehensive performance appraisal system

might prove unrealistic for healthcare professionals such as surgeons given the specialist nature of their work duties. Soh (1998) noted that a surgeon's job spans an extensive range of both clinical and administrative tasks that require a diverse set of skills and abilities. Therefore, appraising the work performance of surgeons may result in imposition of several conflicting performance objectives on surgeons, and this in turn may lead to increased feelings of work-related pressure (Soh, 1998).

The present study provides evidence that team working may reduce job satisfaction and enhance organizational commitment and employee well-being in the NHS through corresponding increases in work intensification. On the one hand, this result evinces claims that group-based forms of work may promote role ambiguity and work-related pressure among employees through significant reductions in workplace hierarchical structures (Barker, 1993; Bauer, 2004; Batt et al., 2010). Given that team working activities allow input of ideas from different people with different temperaments and behaviours, participants in such activities are quite susceptible to various degrees of interpersonal conflict, role ambiguity and work overload, all of which may adversely affect employees' level of job satisfaction (Barker 1993; Godard, 2001; Bauer, 2004). On the other hand, the present study shows that though active employee involvement in team-based work activities may increase perceptions of work intensification among NHS employees, such practices may also improve their level of commitment and well-being at work. This alternative perspective supports claims that such activities may also serve as a source of positive employee-level outcomes (Greenberg et al., 2005; Mohr and Zoghi, 2008; Gould-Williams and Davies, 2005; Wood and De Menezes, 2011) despite eliciting greater work effort from employees. In other words, group-based forms of work may also produce beneficial employee-level elements that offset the detrimental consequences of work intensification and promote organizational commitment and employee well-being.

Participative decision-making was found to reduce NHS employees' level of job satisfaction through corresponding increases in work intensification. It is argued that active employee involvement in decision-making activities may degrade hierarchical structures at work and create discrepancies in the delegation of authority among employees (Adler and Borys, 1996; Bainbridge, 1998; Tubre and Collins, 2000; Nygaard and Dahlstrom, 2002). These discrepancies may promote role ambiguity, which in turn could increase feelings of work-related strain and pressure among employees. This assumption is however contradictory to research evidence within healthcare organizations (see Laschinger et al., 2001; Campbell et al., 2004; Bonias et al., 2010). Healthcare studies have shown instead that perceptions of work-related strain and pressure among healthcare professionals may result from insufficient opportunities for employees to participate in workplace decision-making activities. For instance, Laschinger et al. (2001) reported lower levels of job burnout and higher levels of job satisfaction among nurses who were allowed to exercise control over decisions pertaining to their job. According to these authors, the nurses felt a sense of empowerment due to opportunities for active participation in decision-making activities. The sense of empowerment further enabled the nurses to perform their jobs more effectively and to provide better care for their patients. Perhaps, this alternative illustration may explain the beneficial indirect effects of participative decision-making on organizational commitment and employee well-being. Through corresponding increases in work intensification, participative decision-making was found to have positive indirect effects on organizational commitment and employee well-being. Just like the nurses in Laschinger et al.'s (2001) study, participative decision-making improves NHS employees' well-being and devotion towards their jobs; albeit, in a manner that causes them to expend more effort at work.

Another important finding of the present study is the significant indirect effect of supportive management and information sharing on employee attitudes and well-being

through work intensification. Unlike the other HRM practices discussed so far, supportive management and information sharing produced reducing effects on work intensification. That means supportive management and information sharing promote better work-related attitudes through improvements in employees' ability to handle high work demands. In support of this, Boisard et al. (2003) noted that adequate levels of managerial support serve in reducing the likelihood for employees to perceive their work pace as being continuously high, and their work deadlines as being continuously tight. Whereas the workplace is inherently composed of potential stress factors (e.g., time pressures, work overloads and high work demands) that expose employees to various degrees of work-related distress, the provision of job resources (such as supervisory feedback and access to valuable information) might serve to offset the debilitating effects of these stress factors on employee well-being (De Jonge et al., 2000; Balducci et al., 2011; Demerouti and Bakker, 2011). In other words, adequate levels of managerial support enable employees to deal with high work demands, and promote improved employee attitudes and well-being (Balducci et al., 2011; Demerouti and Bakker, 2011; Laschinger et al., 2001; Bonias et al., 2010).

The present study has shown evidence that work intensification may mediate the integrated effects of HPWP on employee attitudes and well-being in the NHS. Specifically, work intensification may explain the indirect effects of Clusters 2 and 3 (with Cluster 1 or the HPWP cluster modelled as the reference group) on job satisfaction, organizational commitment and employee well-being among NHS employees. This result raises the argument that HPWP, regardless of the specific nature and context of their implementation across the different NHS clusters, cause employees to expend more effort at work. There is evidence in the literature suggesting that HPWP may increase work intensification through shifting of workplace responsibilities from management to employees (White et al., 2003; Sparham and Sung, 2007; Kalmi and Kauhanen, 2008). Considering that the HPWP paradigm

is premised on the idea of managements' ceding of operational control to employees as a way to achieve organizational performance, there is therefore justification for claims that such systems may lead to a degree of employee exploitation (Legge, 1995; Ramsay et al., 2000; Godard, 2001; Sparham and Sung, 2007; Kroon et al., 2009). If HPWP are implemented without due consideration for employee well-being, then workers might be subjected to high work demands, long working hours and ultimately poor work-related attitudes and well-being (Ramsay et al., 2000; Sparham and Sung, 2007).

In terms of the specific differences between the three NHS clusters, employees' perception of work intensification was found to be lower among employees in Cluster 3 compared to Clusters 1 and 2. This is not surprising as NHS Trusts within Cluster 3 are those that have low scores in their adoption of the ten HRM practices (see Table 10). Therefore, employees' experience of HPWP within Cluster 3 is not expected to be as demanding compared to employees' experience of HPWP in Clusters 1 and 2. Nevertheless, employees in Cluster 2, the cluster with average scores on the ten HRM practices, seem to have higher levels of work intensification compared to employees in Clusters 1 and 3. This outcome is similar to evidence from Study 1 where employees in the cluster representing workplaces with marginal orientation towards innovative HRM reported higher levels of work intensification. Indeed, when HPWP are not implemented extensively, organizations are unable to maximize the full complementary properties of such practices, and their employees may therefore remain quite susceptible to higher levels of work intensification. It follows therefore that the best approach to innovative HRM is to adopt a full range of HPWP, as this would ensure that the complementary properties of such practices are fully maximized, leading to only marginal levels of work intensification among employees.

7.6.3 Comparing the integrated and independent effects of HPWP

Three analytical models were examined to establish the explanatory power of the integrationist and isolationist perspectives of HPWP on employee attitudes and well-being in the NHS. These models showed evidence that the independent effects of HPWP on employee attitudes and well-being are not conditional on the different approaches to HRM adopted by the three NHS clusters. Unlike Study 1, however, the models also showed evidence that the three NHS clusters are not distinct in terms of variance accounted for by the independent effects of HPWP.

Further evaluation of these models revealed that the independent effects (or isolationist perspective) of HPWP account for variance in employee attitudes and well-being over and above the integrated effects of HPWP. When the integrationist and isolationist perspectives of HPWP were examined simultaneously in Phase III of data analysis, individual HRM practices produced unique independent effects that overturned the integrated effects of HPWP as reported in Phase II of data analysis. However, unlike Study 1, the variance accounted for by the independent properties of HPWP yielded favourable outcomes for employees in the cluster representing NHS Trusts with more innovative orientation towards HRM (or the HPWP cluster).

The implication of this finding is that the explanatory power of the isolationist perspective of HPWP is adequate for some employee-level outcomes within the NHS. The finding does not eschew claims that adopting an extensive range of HRM practices may accrue far-reaching gains for an organization (Huselid, 1995; MacDuffie, 1995; Ichniowski, et al., 1997). However, it raises the possibility that the very context of work, as well as the respective independent properties of individual HRM practices should be taken into account when evaluating integrated systems of HPWP.

7.7 CONCLUSION AND CHAPTER SUMMARY

In this chapter, two prominent debates of the HPWP literature, ‘the integrationist and isolationist perspectives of HPWP’ and ‘the mutual gains versus the critical perspectives of HPWP’, have been explored within the context of the British NHS. Using data from the 2010 NHS staff survey, these two debates were investigated in three data analytical phases. The first phase involved a single MSEM procedure to evaluate the independent effects of HRM practices on employee attitudes and well-being in the NHS, and simultaneously examine the mediating role of work intensification in these relationships. The second phase involved the use of multiple group analysis to evaluate the integrated effects of HPWP on employee attitudes and well-being, and simultaneously examine the mediating role of work intensification in these relationships. The third phase involved three analytical models to simultaneously examine whether the integrationist perspective of HPWP has greater explanatory power on employee attitudes and well-being in the NHS over the isolationist perspective of HPWP.

This study has shown evidence for the mutual gains perspective of HPWP. Six out of ten HRM practices were found to have beneficial independent effects on at least one employee attitude variable or the well-being variable. Whereas job autonomy and information sharing were found to have beneficial independent effects on job satisfaction and organizational commitment, respectively, HRM practices such as flexible working and supportive management were positively related to employee well-being. By contrast, team working, career-enhancement opportunities, grievance systems and participative decision-making were found to have reducing independent effects on organizational commitment. No HRM practice produced a reducing independent effect on job satisfaction. Uniquely, the study found evidence that employees in NHS Trusts adopting a full range of innovative HRM practices were more likely to experience better job satisfaction compared to employees in

NHS Trusts with a narrower adoption of innovative HRM practices. Unlike Study 1, however, there were no significant differences in terms of organizational commitment and employee well-being across the three NHS clusters.

The present study also showed support for the critical perspective of HPWP. In this regard, six out of ten HRM practices were found to have significant indirect effects on employee attitudes and well-being among NHS employees. Job autonomy, team working, performance appraisal and participative decision-making were found to have reducing indirect effects on job satisfaction and enhancing indirect effects on organizational commitment and employee well-being through corresponding increases in work intensification. On the other hand, supportive management and information sharing were found to enhance job satisfaction and reduce organizational commitment and employee well-being through corresponding decreases in work intensification. Work intensification was also found to mediate the integrated indirect effects of HPWP on employee attitudes and well-being among in the NHS. Whereas the indirect effects were found to be less favourable for employees in Cluster 2 (i.e., the cluster with moderate adoption of innovative HRM practices), the effects were more favourable for employees in Cluster 3 (i.e., the cluster with the less innovative approach to HRM). That means the mediating role of work intensification in the integrated effects of HPWP on employee attitudes and well-being in the NHS was marginal for employees in Cluster 1, the HPWP cluster.

Finally, the present study has shown that the independent effects of HPWP account for variance in employee attitudes and well-being across the three NHS clusters. Unlike Study 1, however, the independent effects of HPWP did not account for variance beyond those accounted for by the integrated effects of HPWP. When the integrated effects of HPWP were examined separately in Phase II without accounting for the independent effects of HPWP, employees in NHS Trusts adopting an extensive range of HPWP achieved higher job

satisfaction; however, the three NHS clusters showed no significant differences in terms of organizational commitment and employee well-being. On examining the independent and integrated effects of HPWP simultaneously in Phase III, employees in the HPWP cluster achieved higher levels of organizational commitment and employee well-being compared to employees in the other two clusters; although the three NHS clusters showed no significant differences in job satisfaction. These results led to the conclusion that the explanatory power of the integrationist perspective of HPWP in the NHS is only adequate for some employee-level outcomes but not for others.

The next chapter (and final chapter of this thesis) begins with a review of the theoretical rationale for this thesis and highlights the specific research aims of the thesis. The chapter presents an overview of research findings obtained in Study 1 and Study 2 and compares these findings to elicit relevant implications for theory and for practice. Thereafter, the main limitations of this thesis are outlined, followed by some recommendations for future research.

CHAPTER 8 – IMPLICATIONS AND CONTRIBUTIONS

8.1 INTRODUCTION

Having investigated four perspectives on employee-level implications of High Performance Work Practices (HPWP) in this thesis: the integrationist, isolationist, mutual gains and critical perspectives of HPWP; this chapter provides a summary of the main research findings, their theoretical and practical implications, as well as some recommendations for further research. The chapter begins by reviewing the theoretical rationale and research aims of the thesis, and highlights the methodology adopted. Subsequently, the results of Study 1 (the WERS 2004 study described in Chapter 5) and Study 2 (the NHS study described in Chapter 7) are summarized in terms of the mutual gains and the critical perspectives of HPWP. In each case, emphasis is placed on the isolationist and integrationist perspectives of HPWP.

A full, comparative discussion of results obtained in Study 1 and Study 2 is also provided in this chapter. This discussion is presented with respect to the mutual gains and critical perspectives of HPWP, and highlighting the isolationist and integrationist perspectives of HPWP in each case. Thereafter, the specific contributions of this thesis are presented in terms of ‘implications for research’ and ‘implications for practice’, followed by a consideration of the strengths and limitations of this thesis. Finally, useful recommendations for future research are provided.

8.2 REVIEW OF RATIONALE FOR THESIS

This thesis contributes to the literature by investigating the concept of HPWP, a key management strategy for achieving organizational effectiveness. HPWP are a set of innovative Human Resource Management (HRM) practices that allow employers to develop a committed workforce who can be trusted to use their discretion in conducting their job roles

in ways that promote organizational effectiveness (Ichniowski, et al., 1997; White et al., 2003; Wright et al., 2005; Beltrán-Martín et al., 2008). These practices create opportunities for employees to participate actively in workplace activities and allow employees to exercise greater operational control over their work responsibilities. As a result, employees acquire valuable work-related skills, develop a sense of belonging towards the organization, and serve as a source of sustainable competitive advantage for the organization (Delery, 1998; Dunford et al., 2001).

The theoretical rationale for this thesis centres on two prominent debates of the HPWP literature. The first debate, referred to as ‘the integrationist and isolationist perspectives of HPWP’, is concerned with two approaches to operationalizing HPWP (see Chapter 2 for extensive discussion of this debate). The second debate, ‘the mutual gains versus the critical perspectives of HPWP’, is concerned with the plausible impacts of adopting HPWP (see Chapter 3 for full details of this debate). Whereas these debates of the HPWP literature have respectively received considerable attention in the extant HPWP literature, this thesis is possibly the first to examine these perspectives simultaneously in a single research project. This approach to the study of HPWP is unique in that it offers a complete representation of the overall HPWP framework. Moreover, by focusing on employee-level outcomes rather than organizational-level benefits, this thesis not only augments existing research but also contributes to understanding of the ‘black box’ phenomenon of how HRM affects organizational performance.

In response to recent calls for research as to the sector-specific implications of HPWP, this thesis has also investigated the aforementioned HPWP debates using data from the British National Health Service (NHS). Several studies have raised the possibility that the impacts of HPWP as described in the context of a particular economic sector may not apply uniformly across other organizational settings owing to differences in the implementation of

strategic HRM systems (Appelbaum et al., 2000; Ordiz and Fernández, 2005; Combs et al., 2006; Baarspul and Wilderom, 2011). Specifically, the HRM models adopted in private sector organizations are thought to be different from those adopted in public sector organizations due to the corporate diversity of organizations within both sectors. On the other hand, some authors have argued that the HPWP framework represents the ‘one best approach’ to achieving organizational performance (Pfeffer, 1994; Delery and Doty, 1996). According to the ‘universalist’ principle of HRM, HPWP and other innovative forms of high-quality management may produce beneficial effects that are replicable across all organizations, regardless of organizational culture, size and corporate strategies. With a view to resolving these contrasting views, this thesis has investigated the employee-level implications of HPWP using data from a large nationally representative sample of British establishments (i.e., Study 1) and the British NHS (i.e., Study 2) to determine the extent to which HPWP outcomes are generalizable across organizational settings.

8.3 SUMMARY OF RESEARCH AIMS AND METHODOLOGY

Drawing on the foregoing theoretical background, two research aims were formulated for this thesis. The primary, more general aim of this thesis was to investigate the independent and integrated effects of HPWP on employee attitudes and well-being, and simultaneously examine the mediating role of work intensification in these relationships. This was intended to shed light on two HPWP debates: the ‘integrationist and isolationist perspectives of HPWP’ and ‘the mutual gains versus the critical perspectives of HPWP’, without paying much attention to sector-specific characteristics. The secondary, more specific aim of this thesis was to examine the independent and integrated effects of HPWP on employee attitudes and well-being in the NHS, and simultaneously examine the mediating role of work intensification in these relationships. This secondary research aim was meant to ascertain whether there are sector-specific differences in terms of the two HPWP debates.

The primary and secondary research aims of this thesis were accomplished via two empirical studies in Chapters 5 and 7, respectively. The first study (or Study 1) was undertaken using data from the 2004 Workplace Employment Relations Survey (WERS 2004), the fifth in a series of surveys first conducted in 1980. The WERS 2004 data consists of the management survey component, comprising a broad range of information about managerial strategies to work organization, as well as the employee survey component, containing information on corresponding employee experiences of these managerial strategies. The second study (or Study 2) was undertaken using data from the 2010 NHS Staff Survey, the eighth in a series of annual surveys first conducted in 2003 by an Advice Centre in Aston University, on behalf of the Care Quality Commission. This survey provides useful information regarding NHS staff perspectives on various employment relations matters and issues relating to employee attitudes and well-being within the NHS.

Data were analysed in three phases in Study 1 and Study 2 respectively, using the Mplus software program. A Multilevel Structural Equation Modelling (MSEM) framework was adopted in all three phases of each study, and the robust maximum likelihood estimator was used in each phase. Phase I, of both Study 1 and Study 2, involved a single MSEM procedure to test the independent effects of individual HRM practices on employee attitudes and well-being, and simultaneously examine the mediating role of work intensification in these relationships. Phase II entailed the use of multiple group analysis to test the integrated effects of HPWP on employee attitudes and well-being, and simultaneously examine the role of work intensification as a mediator in these relationships. This procedure involved fixing the latent factor means of the employee-level measures at zero in the reference group (i.e., the cluster representing workplaces or NHS Trusts with the more innovative orientation towards HRM), but freely estimating the means in the other clusters. Phase III involved a series of models to simultaneously examine whether the integrationist perspective has greater

explanatory power on employee outcomes over the isolationist perspective of HPWP. This phase was used to examine the synergistic (or statistical interaction) effects of individual HRM practices on employee attitudes and well-being.

8.4 SUMMARY OF STUDY 1 AND STUDY 2 RESULTS

8.4.1 The mutual gains perspective (independent effects)

Both studies showed mixed support (i.e., both positive and negative evidence) for the independent effects of individual HRM practices on employee attitudes and well-being. In Study 1, five out of eleven HRM practices: staff training, performance-related pay, flexible working, supportive management and selective hiring; produced positive independent effects on at least one employee attitudes measure (job satisfaction, organizational commitment and employees' trust in management). Staff training, performance-related pay, flexible working and supportive management produced reducing independent effects on employees' perception of job strain, whereas staff training, selective hiring and information sharing were negatively related to work intensification. By contrast, three out of eleven HRM practices: team-working, participative decision-making and job autonomy; produced reducing independent effects on at least one employee attitudes measure. Employee representation and selective hiring produced positive independent effects on employees' perception of job strain, whereas job autonomy and supportive management were positively related to work intensification.

In Study 2, five out of ten HRM practices: job autonomy, career-enhancement opportunities, supportive management, information sharing and participative decision-making; have beneficial independent effects on at least one employee attitude measure. Flexible working and supportive management are positively related to employee well-being, whereas supportive management and information sharing are negatively related to work intensification. No HRM practice produced reducing independent effects on job satisfaction.

Four HRM practices: team working, career-enhancement opportunities, grievance systems and participative decision-making; produced reducing independent effects on organizational commitment, whereas team working, performance appraisal, grievance systems and information sharing were negatively related to employee well-being. Moreover, job autonomy, team working, performance appraisal and participative decision-making were positively related to work intensification.

8.4.2 The mutual gains perspective (integrated effects)

Both Study 1 and Study 2 showed evidence for the positive integrated effects of HPWP on employee attitudes and well-being; however, the evidence was less favourable in Study 2 compared to Study 1. In Study 1, the latent factor means of job satisfaction, organizational commitment and employees' trust in management were significantly lower in Clusters 1 and 3, relative to Cluster 2 (the HPWP cluster and reference group for which the latent factor means were constrained at zero). This result implies that employees in workplaces with high scores in their adoption of innovative HRM practices are more likely to experience better job satisfaction, organizational commitment and employees' trust in management compared to their counterparts in workplaces with lower scores in their adoption of innovative HRM practices. In Study 2, the latent factor mean of job satisfaction was significantly lower in Clusters 2 and 3, relative to Cluster 1 (the HPWP cluster and reference group for which the latent factor means were constrained at zero). This implies that employees in NHS Trusts adopting a full range of innovative HRM practices are more likely to experience greater levels of job satisfaction compared to their counterparts in NHS Trusts with lower scores in their adoption of innovative HRM practices. Furthermore, the latent factor means of organizational commitment and employee well-being were not significantly different across the three NHS clusters. That means employees in the three NHS clusters do

not perceive their experience of organizational commitment and well-being any differently from each other.

8.4.3 The critical perspective (independent effects)

In terms of the critical perspective, both studies showed evidence for the mediating role of work intensification in terms of the independent effects of HPWP on employee attitudes and well-being. In Study 1, five out of eleven HRM practices: job autonomy, staff training, selective hiring, supportive management and information sharing; were found to have significant indirect effects on job satisfaction and employees' trust in management through work intensification. Staff training, selective hiring and information sharing produced positive indirect effects on job satisfaction and employees' trust in management through corresponding reductions in work intensification, whereas job autonomy and supportive management produced reducing indirect effects on job satisfaction and employees' trust in management through corresponding increases in work intensification. Moreover, staff training, selective hiring and information sharing were found to have reducing indirect effects on job strain through corresponding reductions in work intensification, whereas job autonomy and supportive management produced positive indirect effects on job strain through corresponding increases in work intensification.

In Study 2, work intensification was found to mediate the independent effects of six out of ten HRM practices: job autonomy, team working, performance appraisal, supportive management, information sharing and participative decision-making; on job satisfaction, organizational commitment and employee well-being in the NHS. Supportive management and information sharing produced positive indirect effects on job satisfaction through corresponding decreases in work intensification, whereas job autonomy, team working, performance appraisal and participative decision-making produced reducing indirect effects on job satisfaction through corresponding increases in work intensification. More so,

supportive management and information sharing produced reducing indirect effects on organizational commitment and employee well-being through corresponding reductions in work intensification. However, the respective indirect effects of job autonomy, team working, performance appraisal and participative decision-making on organizational commitment and employee well-being were positive and facilitated through corresponding increases in work intensification.

8.4.4 The critical perspective (integrated effects)

With regard to the integrated effects of HPWP, work intensification was found in Study 1 to mediate the indirect effects of Cluster 1 (with Cluster 2, the HPWP cluster, modelled as the reference group) on job satisfaction and employees' trust in management. Both effects were found to be significant and in the positive direction. Work intensification was also found to mediate the indirect effects of Cluster 3 (with Cluster 2 modelled as the reference group) on job satisfaction, employees' trust in management and job strain. Whereas the indirect effects in this case were shown to be in the reducing direction for job satisfaction and employees' trust in management, the indirect effect for job strain was in the positive direction. In Study 2, work intensification was found to mediate the integrated effects of Clusters 2 and 3 (Cluster 1, the HPWP cluster, was modelled as the reference group) on job satisfaction, organizational commitment and employee well-being, respectively. Cluster 2 produced a negative indirect effect on job satisfaction and positive indirect effects on organizational commitment and employee well-being. By contrast, Cluster 3 produced a positive indirect effect on job satisfaction and negative indirect effects on organizational commitment and employee well-being.

8.4.5 Comparing the integrated and independent effects of HPWP

In data analysis Phase III of Study 1 and Study 2, three models were used to simultaneously examine whether the integrationist perspective of HPWP has additional

explanatory power on employee attitudes and well-being compared to the isolationist perspective of HPWP. In the first model, the cluster intercepts in the respective studies were estimated to be different and the regression slopes (i.e., the independent effects of each HRM practice on employee-level outcomes) were estimated freely across the three clusters. In the second model, the regression slopes were then constrained to equality across the three clusters to ascertain whether the independent effects of HRM practices are conditional on the three clusters. A significant drop in model fit from the first to the second model would provide evidence for conditional effects. In the third model, the cluster intercepts were constrained to equality across the three clusters, whereas the regression slopes were freely estimated across clusters. Poor model fit for this third model would indicate that the clusters are distinct in terms of variance accounted for by the independent effects of HPWP.

In Study 1, there was no significant difference in model fit between the first and second models. This result established that the independent effects of HPWP were not conditional on the different approaches to HRM across the three HRM clusters. The third model for which the intercepts were constrained to equality across the three clusters returned poor model fit; thus, indicating that the three HRM clusters are distinct with respect to variance accounted for by the independent effects of HPWP.

Further evaluation of Study 1 revealed that the independent effects of HPWP accounted for variance in employee attitudes and well-being across the three HRM clusters. Specifically, the integrated effects of HPWP were now overturned contrary to the beneficial integrated effects reported in Phase II (i.e., where the integrated effects were examined without accounting for independent effects). Cluster 1 (or the cluster representing workplaces with low adoption of innovative HRM practices) was now found to have higher job satisfaction compared to Cluster 2 (the HPWP cluster), whereas Cluster 3 (or the cluster representing workplaces with moderate adoption of innovative HRM practices) was found to

have higher levels of organizational commitment compared to Cluster 2. Cluster 3 was also found to have lower levels of job strain and work intensification compared to Cluster 2. These findings imply that the unique independent properties of HPWP account for variance that may reverse the favourable integrated effects of HPWP on employee attitudes and well-being. This lends to the conclusion that the integrationist perspective of HPWP has additional explanatory power on employee attitudes and well-being compared to the isolationist perspective of HPWP. When the independent effects of HPWP are taken into account, workplaces adopting an extensive range of innovative HRM practices tend to have less favourable employee outcomes compared to workplaces with limited adoption of innovative HRM practices.

In Study 2, there was no significant difference in model fit between the first and second models. This means the independent effects of HPWP are not conditional on the broad approaches to HRM across the three NHS clusters. Unlike Study 1, however, the third model for which the three clusters were constrained to equality returned adequate model fit. That means the three NHS clusters are not distinct with respect to variance accounted for by the independent effects of HPWP.

Further evaluation of Study 2 revealed that the independent effects of HPWP accounted for variance in employee attitudes and well-being across the three NHS clusters. Although the integrated effects of HPWP as reported in Phase II were also overturned due to variance accounted for by the independent properties of HPWP, this reversal was mostly in favour of the cluster with more innovative orientation towards HRM (i.e., Cluster 1). Specifically, the three NHS clusters showed no significant differences in terms of job satisfaction; however, Cluster 1 was now found to have higher organizational commitment, employee well-being and work intensification compared to the other two clusters. Caution should be applied in relating these results to conclusions drawn in Study 1 as the three NHS

clusters were not found to be distinct in terms of variance accounted for by the independent effects of HPWP. In other words, one cannot assume that the integrationist perspective of HPWP has greater explanatory power on employee attitudes and well-being in the NHS over the isolationist perspective of HPWP. A more appropriate interpretation of this result is that the additional explanatory power of the integrationist perspective of HPWP in the NHS is adequate only for some employee-level outcomes but not for others.

8.5 DISCUSSING STUDY 1 AND STUDY 2 RESULTS

In this section, the results of Study 1 and Study 2 are discussed comparatively in three parts: 1) the mutual gains perspective, with reference to the independent and integrated effects of HPWP, 2) the critical perspective, with reference to the independent and integrated effects of HPWP and 3) a comparison of the explanatory power of the integrated and independent effects of HPWP.

8.5.1 The mutual gains perspective (independent effects)

The two ability-oriented HRM practices in Study 1 (i.e., selective hiring and staff training) were found to have mixed independent effects on employee attitudes and well-being. Selective hiring produced no significant impacts on job satisfaction and organizational commitment, and positive relationships with employees' trust in management and job strain. That means although comprehensive staff recruitment procedures may serve in maintaining better levels of employer-employee relationships, such practices may also increase employees' experience of work-related strain. In this respect, feelings of job strain may ensue from employers' high expectation of employees to deliver high-quality services at work, and correspondingly, the burden of such high expectations on employees' psychological well-being. By contrast, staff training, another ability-oriented HRM practice, was found to have positive independent effects on job satisfaction, organizational commitment and employees' trust in management, and a reducing effect on employees' perception of job strain. This result

is consistent with previous studies where employee skills development initiatives have been associated with improved employee-level outcomes (Bartlett, 2001; Barling et al., 2003; Macky and Boxall, 2008; Newman et al., 2011). By improving employees' work-related skills and abilities, staff training initiatives may extrinsically motivate employees to perform better at work, and consequently increase their level of contentment at work (Wood and De Menezes, 2011; Newman et al., 2011).

Unlike Study 1, ability-oriented HRM practices (i.e., performance appraisal and staff training) were found to have less favourable effects on employee attitudes and well-being in Study 2. In particular, performance appraisal produced no significant independent effects on job satisfaction and organizational commitment, and a negative effect on employee well-being. Surprisingly, staff training produced no significant independent effects on any employee-level outcome. Two inferences might explain this unexpected result. Firstly, it is possible that the independent effects of staff training may have been substituted by the presence of another closely related variable (e.g., career-enhancement opportunities) in the model. This assumption draws on the concept of 'substitution effects' described by Delery (1998). Where two substitutable HRM practices are used together in a model, the unique effect of the weaker HRM practice may be substituted by the effects of the stronger HRM practice. In such circumstances, the weaker HRM practice adds nothing to the model except the expense associated with its implementation. The second reason is, perhaps, the somewhat specific nature of the staff training variable in Study 2, particularly as it emphasizes the perceived benefits of training offered rather than the extent of training undertaken by employees. Where employees have reasons to believe that the training offered to them does not address their specific work-related needs, then they are more likely to report negative outcomes in terms of the perceived value of such training (Gould-Williams and Davies, 2005).

Support-oriented HRM practices like information sharing and supportive management produced mixed effects on employee attitudes and well-being in Study 1, and mostly beneficial impacts in Study 2. In Study 1, information sharing produced no significant independent effects on any employee attitudes measure, whereas supportive management produced beneficial independent effects on job satisfaction, organizational commitment and employees' trust in management. Supportive management also produced a reducing independent effect on job strain. The widespread beneficial effect derived for supportive management is consistent with evidence from prior studies (Eisenberger et al., 1990; Wayne et al., 1997; Whitener, 2001; Gould-Williams and Davies, 2005). According to these studies, employees develop positive opinions about the workplace based on the favourable treatment received from employers; consequently, employees feel obligated to reciprocate through work-related attitudes that are beneficial to the organization.

Unlike Study 1, however, Study 2 revealed greater support for the beneficial effects of support-oriented HRM practices on employee outcomes. Supportive management was found to have beneficial independent effects of job satisfaction and employee well-being among NHS employees. This outcome aligns consistently with reports from previous healthcare sector studies (Laschinger et al., 2001; Bonias et al., 2010; Sang et al., 2012). Hospitals with a strong supportive climate are thought to have lower incidence of patient mortality as employees in such hospitals generally tend to be more committed towards delivering high-quality healthcare services (Laschinger et al., 2001). Similarly, information sharing was found to have positive independent effects on job satisfaction and organizational commitment; throwing further light on the perceived benefits of perceived organizational support in the NHS context.

Social exchange theories offer explanation for the mechanisms via which perceived organizational support may translate into beneficial outcomes for an organization

(Eisenberger et al., 1990; Wayne et al., 1997). According to these theories, employees' interpretation of the positive treatment received from their employers may signal to them that their contributions to the organization are well valued and appreciated. This in turn may trigger an obligation, on the part of employees, to respond through workplace attitudes and behaviours that are beneficial to the organization (Eisenberger et al., 1990; Wayne et al., 1997; Gould-Williams and Davies, 2005; Beltrán-Martín et al., 2008). These theories may also explain the beneficial effects derived for motivation-enhancing HRM practices such as performance-related pay in Study 1. In Study 1, performance-related pay was found to have a positive independent effect on job satisfaction, and a reducing effect on employees' perception of job strain. This outcome evinces claims that the provision of compensatory payments allows employees to align their work interests more closely with organizational objectives (Bauer, 2004; Heywood and Wei, 2006). This in turn may enhance staff morale, motivate employees to perform better at work, and improve employees' level of job satisfaction and commitment to the organization (Whitener, 2001; Heywood and Wei, 2006; Macky and Boxall, 2008).

Due to unavailability of relevant items on compensatory payment systems in the NHS survey, extrinsic motivation was measured based on career-enhancement opportunities in Study 2. Opportunity for career-enhancement within the NHS was found to have a positive independent effect on job satisfaction and a reducing effect on organizational commitment among employees. Unlike Study 1, where motivation-enhancing HRM (e.g., performance-related pay) produced mostly beneficial independent effects on employee outcomes, the outcomes of Study 2 suggest mixed effects for motivation-enhancing HRM. The beneficial effect of career-enhancement opportunities on job satisfaction is consistent with prior healthcare studies (Laschinger et al., 2001; Campbell et al., 2004; Bonias et al., 2010). These studies have shown that healthcare workers derive a sense of contentment when offered

greater opportunities to develop specialized healthcare skills and advance on the job. By contrast, the reducing independent effect of career-enhancement opportunities on organizational commitment may question the extent to which such opportunities are made available across employees within respective NHS Trusts. It may well be that NHS employees perceive a degree of inequity in terms of availability of career-enhancement opportunities within their Trusts, and this in turn mitigates NHS employees' level of commitment to their Trusts.

Research in organizational justice may explain the adverse independent effects of grievance systems on organizational commitment and employee well-being as reported in Study 2. Employees tend to develop unfavourable reactions towards the organization when justice and equality are not effectively incorporated into organizational processes (Cohen-Charash and Spector, 2001; Judge and Colquitt, 2004; Inoue et al., 2010; Walker and Hamilton, 2011). Where employees have reasons to believe that workplace organizational justice systems are inaccessible by all employees, or administered unfairly with increased likelihood for retribution from management, employees might develop feelings of job insecurity and respond through poor levels of commitment towards the organization. In Study 1, however, grievance systems produced no significant independent effect on any employee-level outcome. This result was anticipated because previous studies have often excluded grievance systems when theorizing on HPWP. Some authors argue that grievance resolution systems represent elements of the more traditional, bureaucratic forms of management and may not propagate beneficial outcomes in high performance work situations (Arthur, 1994; Becker and Gerhart, 1996). To a large extent therefore, these claims are well supported in this thesis as grievance systems have been shown to have little or no significant independent effects on employee attitudes and well-being.

Discretionary HRM practices such as job autonomy and flexible working were found to have mixed effects on employee attitudes and well-being in Study 1, and mostly beneficial influences in Study 2. In Study 1, job autonomy produced no significant relationships with job satisfaction and organizational commitment, and a reducing effect on employees' trust in management. These findings suggest a somewhat negative nuance in terms of employee-level implications of job autonomy in Study 1. By contrast, job autonomy was found in Study 2 to have beneficial independent effects on job satisfaction and organizational commitment among NHS employees. Indeed, several authors have identified positive links between job discretion and improved employee attitudes in the healthcare sector (Laschinger et al., 2001; Campbell et al., 2004; Bonias et al., 2010; Boselie, 2010). It is believed that employees who are given greater opportunities to influence the nature and outcomes of their jobs are able to utilize their work-related knowledge, skills and abilities in ways that enhance their experience of meaningfulness at work (De Jonge and Schaufeli, 1998; Wood and De Menezes, 2011).

In both Study 1 and Study 2, flexible working was found to have beneficial independent effects on employee outcomes. In Study 1, flexible working produced positive independent effects on job satisfaction and organizational commitment, and a reducing independent effect on employees' perception of job strain. In a similar vein, flexible working was found to have enhancing effects on organizational commitment and employee well-being among NHS employees in Study 2. Thus, the current thesis shows flexible work arrangements to have favourable implications on employees irrespective of organizational settings. These results are consistent with other studies (Bauer, 2004; Haile, 2007; Kelliher and Anderson, 2010; Atkinson and Hall, 2011) and suggest that flexible work arrangements promote the work-life quality of employees. Such practices allow employees to achieve adequate balance between their work and personal lives and enable employees to maintain a positive frame of mind when carrying out their work duties (Atkinson and Hall, 2011).

Contrary to mainstream reports in HPWP studies, high involvement work practices were found to have mostly detrimental implications in both Study 1 and Study 2. In Study 1, opportunities for active employee involvement through team working and participative decision-making produced no significant independent effects on organizational commitment and employees' trust in management, and reducing effects on job satisfaction. These outcomes are quite contradictory to reports in previous HRM studies (see Hunter and Hitt, 2001; Barling et al., 2003; Greenberg et al., 2005; Mohr and Zoghi, 2008; Wood and De Menezes, 2011). In Study 2 also, participative decision-making was found to have a negative effect on organizational commitment among NHS employees, whereas team working was also negatively associated with organizational commitment and employee well-being. Yet again, evidence on high involvement HRM is shown to contradict reports in prior healthcare studies (see Laschinger et al., 2001; Campbell et al., 2004; Bonias et al., 2010). These unexpected outcomes may be explained following the links between decreases in the level of formalization of workplace activities and the concept of role stress (Adler and Borys, 1996; Bainbridge, 1998). According to Tubre and Collins (2000), active employee involvement, whether in terms of team-based forms of work or participative decision-making activities may degrade hierarchical structures at work and cause discrepancies in the delegation of authority among employees. This in turn may lead to interpersonal conflict among employees and contribute to poor employee attitudes.

Further evidence for the adverse influence of high involvement work practices on employees was demonstrated in Study 1, where employee representation was found to be associated with higher levels of job strain. This finding throws light on claims that high levels of employee involvement in workplace activities may reduce the power distance between management and employees, promote role stress and produce adverse effects on employee well-being (Bainbridge, 1998; Hyman and Mason, 1995; Walsworth, 2010).

8.5.2 The mutual gains perspective (integrated effects)

Both Study 1 and Study 2 showed evidence for the integrated effects of HPWP on employee attitudes and well-being. In Study 1, employees in workplaces adopting an extensive range of HRM practices (i.e., Cluster 2 or the HPWP cluster) were shown to have higher levels of job satisfaction, organizational commitment and trust in management compared to employees in workplaces adopting a narrower range of HRM practices. Study 1 also found evidence that employees in the cluster representing the less innovative workplaces (i.e., Cluster 1) reported lower levels of work intensification compared to employees in the other two clusters, whereas employees in the cluster representing the moderately innovative workplaces (i.e., Cluster 3) reported higher levels of job strain compared to employees in the other two clusters. These findings imply that employees in the HPWP cluster lie somewhat in the middle in terms of their experiences of job strain. In other words, when employers have high scores in their adoption of an extensive range of innovative HRM practices, their employees tend to have lower levels of job strain compared to employees in workplaces with moderate adoption of innovative HRM practices. Nevertheless, across a broad spectrum of approaches to innovative HRM, employees in workplaces with low scores in their adoption of innovative HRM practices are the least likely to report increases in job strain.

The results of Study 1 were replicated in Study 2, particularly in terms of employees' level of job satisfaction. Employees in NHS Trusts adopting an extensive range of HRM practices (i.e., Cluster 1) were found to have higher levels of job satisfaction compared to employees in NHS Trusts adopting a narrower range of innovative HRM practices. However, with respect to organizational commitment and employee well-being, no significant differences were derived across the three NHS clusters. This implies that employees' experience of organizational commitment and well-being within the NHS is not necessarily dependent on the manner in which innovative HRM practices are implemented across the

three NHS clusters. Higher levels of organizational commitment and well-being for many healthcare professionals such as doctors and nurses may ensue from their inherent desire to support and care for their patients, rather than organizational processes within the workplace (Truss, 2003).

In all, the results of both studies provide evidence that individual HRM practices have mutually reinforcing characteristics (Ichniowski et al., 1997; Macky and Boxall, 2007; Beltrán-Martín et al., 2008), and these characteristics are activated when an extensive range of innovative HRM practices are used together in a coherent manner. By exploiting the mutually supportive properties of individual HRM practices, organizations are able to maximize the beneficial independent impacts of individual HRM practices and offset the detrimental independent effects of other practices. These assumptions are consistent with previous studies (Arthur, 1994; Huselid and Becker, 1997; Ichniowski et al., 1997), where firms adopting an extensive range of innovative HRM practices were found to accrue better organizational-level benefits compared to firms with weaker adoption of innovative HRM practices. Therefore, drawing on results of Study 1 and Study 2, it is inferred that the beneficial integrated effect of HPWP on employee outcomes may transcend different organizational settings; however, this effect seems greater in terms of employees' level of job satisfaction.

8.5.3 The critical perspective (independent effects)

Through work intensification, the two ability-oriented HRM practices (i.e., selective hiring and staff training) in Study 1 were found to have beneficial indirect effects on employee outcomes. Selective hiring produced positive indirect effects on job satisfaction and employees' trust in management, and a reducing indirect effect on job strain through corresponding reductions in work intensification. These findings reinforce the assumption that employees who are hired in such a way that there is congruence between their work-

related abilities and the requirements of the job are more likely to demonstrate greater proficiency in handling high work demands (Ahmad and Schroeder, 2002; Sekiguchi, 2004; Carless, 2005). Staff training was also shown in Study 1 to improve employees' level of job satisfaction and trust in management, and reduce employees' perception of job strain through corresponding decreases in work intensification. Indeed, employees acquire better work-related expertise through employee skills development initiatives, and this enables employees to exert greater operational control over their work responsibilities (Bartlett, 2001; Barling et al., 2003; Combs et al., 2006; Newman et al., 2011). Moreover, through adequate staff training, employees become a lot more confident and motivated to conduct their jobs more effectively and derive higher levels of job satisfaction as a result (Bartlett, 2001).

The beneficial effects of ability-oriented HRM practices as reported in Study 1 were not quite replicated in Study 2. Staff training produced no significant indirect effects on employee attitudes and well-being in the NHS, whereas performance appraisal was found to reduce job satisfaction and enhance organizational commitment and employee well-being through corresponding increases in work intensification. This result indicates mixed effects for ability-oriented HRM on employee outcomes in the NHS. On the one hand, the reducing indirect effect of performance appraisal on job satisfaction suggests that NHS employees seem quite displeased with having to expend more work effort due to existing performance appraisal systems. On the other hand, the positive indirect effects of performance appraisal on organizational commitment and employee well-being indicate that performance appraisal systems do not entirely generate poor employee outcomes in high performance work situations. Because performance appraisal systems are often tied to a range of HRM outcomes such as pay raises, promotions, and dismissals, employees may consequently develop a strong desire to achieve higher performance appraisal ratings (Brown and Benson,

2005). This in turn might trigger a sense of obligation on employees to work harder, causing them to demonstrate greater levels of commitment and efficiency at work.

Study 1 showed mixed effects in terms of the mediating role of work intensification in the relationship between support-oriented HRM practices and employee attitudes and well-being. Through significant reductions in work intensification, information sharing produced a reducing indirect effect on job strain and enhancing indirect effects on job satisfaction and employees' trust in management. These findings are consistent with claims that information sharing improves employees' work-related attitudes by empowering employees to make relevant workplace decisions that help in defusing feelings of distress at work (Wilkinson, 1998; Bakker and Demerouti, 2007). Where information regarding the nature of work and organizational performance are shared between management and the workforce, employees are able to align their work roles with managerial objectives and therefore exert greater operational control over high work demands and pressure (Fox, 1998; Macky and Boxall, 2008; Kuye and Sulaimon, 2011). This argument aligns with the Job Demands–Resources (JD-R) model of stress in which information sharing is considered as a valuable incentive for defusing employees' experience of work-related distress (De Jonge et al., 2000; Balducci et al., 2011; Demerouti and Bakker, 2011).

Surprisingly, the mediated effects of supportive management on employee attitudes and well-being as reported in Study 1 do not align with the JD-R model of stress. Supportive management was found to increase employees' perception of job strain and reduce employees' level of job satisfaction and trust in management through corresponding increases in work intensification. This result depicts supportive management in an unfavourable light and casts doubts on the true level of employers' supportiveness towards employees. One could infer that, perhaps, employers may indeed offer a degree of managerial support to employees.

However, in return, employees are expected to work harder towards achieving organizational goals, which then leads to higher levels of job strain and poor employee attitudes.

Just like Study 1, the mediated effects of support-oriented HRM practices on employee attitudes and well-being returned mixed indirect effects in Study 2. Through corresponding decreases in work intensification, information sharing and supportive management were found to have respective positive indirect effects on job satisfaction, and negative indirect effects on organizational commitment and employee well-being. The positive indirect effects of information sharing and supportive management on job satisfaction are clearly in line with the JD-R model of stress. For example, effective communication between management and employees may serve as a source of psychological empowerment that allows employees to perform their job tasks in ways that engender greater levels of job satisfaction (Fox, 1998; Kuye and Sulaimon, 2011). Nevertheless, the negative indirect effects of information sharing and supportive management on organizational commitment and employee well-being seem contradictory to the JD-R model. Support-oriented HRM practices were found to reduce employees' tendency to expend more effort at work, and surprisingly decrease their feelings of commitment and psychological well-being as a result. This suggests that the NHS employees are probably a set of highly motivated workers who would rather have more opportunities to demonstrate their work-related expertise without much support from management.

In Study 1, job autonomy was found to have diminishing indirect effects on job satisfaction and employees' trust in management, and a positive indirect effect on job strain through corresponding increases in work intensification. In Study 2 also, job autonomy was found to have a negative indirect effect on job satisfaction through increases in work intensification. It is evident from these findings that the mediating role of work intensification in terms of the relationship between job autonomy and employees' job satisfaction may

transcend different organizational settings; in this case a representative sample of all British establishments and the British NHS. The findings also shed light on claims that job autonomy does not necessarily illustrate employees' full control over the nature of their jobs (Kalmi and Kauhanen, 2008; Kelliher and Anderson, 2010). Whereas discretionary work may allow employees to exercise independent judgment over their work responsibilities, such practices do not automatically eliminate the potential for work overloads or tight deadlines, especially in high pressure work situations where these conditions are inevitable.

On the favourable side, however, job autonomy was found to enhance organizational commitment and employee well-being in the NHS through corresponding increases in work intensification. This suggests an alternative perspective on employee-level impacts of job autonomy within the NHS. Job autonomy may increase NHS employees' susceptibility to higher levels of work intensification. However, rather than developing feelings of discouragement from having to expend greater work effort, NHS employees derive improvements in their psychological well-being and demonstrate higher levels of commitment towards their Trusts. That means NHS employees tend to maximize their levels of job autonomy to achieve higher work standards over and above feelings of work intensification. This makes sense as NHS employees were described earlier to have reduced levels of organizational commitment and employee well-being due to the negative effects of information sharing and supportive management on work intensification. Indeed, the cohorts of NHS employees in the present study seem more inclined towards demonstrating their work-related abilities independently without requiring much support from management.

In Study 1, high involvement HRM practices, such as team working, participative decision-making and employee representation, produced no significant indirect effects on employee attitudes and well-being. However, in Study 2, team working and participative decision-making were found to reduce job satisfaction and enhance organizational

commitment and employee well-being through corresponding increases in work intensification. These findings indicate mixed results for the mediated effects of high involvement HRM practices on employee attitudes and well-being in the NHS. On the one hand, because employee involvement through group-based activities entails input of ideas from multiple employees who may possess varying temperaments and behaviours, such activities (if not managed properly) may increase employees' susceptibility to interpersonal conflict and peer pressure, and give rise to poor employee attitudes (Barker, 1993; Bauer, 2004). Moreover, active employee involvement through group-based decision-making activities may weaken the line of distinction between management and employees, and reduce the level of formalization of workplace activities (Adler and Borys, 1996; Bainbridge, 1998; Tubre and Collins, 2000). This in turn could create discrepancies in the delegation of authority among employees, increase the likelihood for role conflict and ambiguity, and deplete employees' level of job satisfaction. On the flipside, Study 2 showed evidence that high involvement practices may promote higher levels of organizational commitment and employee well-being through an increasing effect of work intensification. This alternative outcome indicates that NHS employees are compelled to expend more work effort due to active involvement in workplace activities; however, NHS employees do not develop feelings psychological distress as a result. More so, the outcome supports claims that active employee participation in workplace decision-making activities enable employees to become more aware of their 'voice' in the organization, leading to an increased sense of attachment and identification with the organization (Fox, 1998; Edwards and Wright, 2001).

8.5.4 The critical perspective (integrated effects)

This thesis has shown evidence that the integrated effects of HPWP on employee attitudes and well-being may be mediated through work intensification. In Study 1, work intensification was found to mediate the indirect effects of Cluster 1 (with Cluster 2 modelled

as the reference group) on job satisfaction and employees' trust in management. Cluster 1 produced positive indirect effects on job satisfaction and employees' trust in management through corresponding decreases in work intensification. This outcome is reasonable considering workplaces in Cluster 1 are those with low scores in their adoption of innovative HRM practices. It is unlikely that employees in these workplaces would experience higher levels of work intensification compared to employees in the other two clusters because they generally have less innovative HRM functions to keep them actively engaged with work. Through corresponding increases in work intensification, employees in Cluster 3 (i.e., the cluster representing workplaces with moderate innovative approach to HRM) reported lower levels of job satisfaction and trust in management, and higher levels of job strain compared to employees in the other two clusters. These unfavourable outcomes may be traced to the 'limited' extent to which innovative HRM practices are adopted in this cluster. With low-average scores in their adoption of innovative HRM practices, employers in Cluster 3 are unable to maximize the mutually supportive properties of HPWP to achieve far-reaching employee outcomes.

In Study 2, work intensification was found to mediate the indirect effects of Clusters 2 and 3 (with Cluster 1, the HPWP cluster, modelled as the reference group) on job satisfaction, organizational commitment and employee well-being in the NHS. With regard to job satisfaction, Study 2 showed consistency with outcomes of Study 1. Employees in Cluster 2 (i.e., the cluster representing NHS Trusts with moderate orientation towards innovative HRM) were found to have lower levels of job satisfaction compared to employees in the other two clusters, and this effect was transmitted by increases in work intensification. It is presumed that the limited extent to which innovative HRM practices are adopted in this cluster may have resulted in higher levels of work intensification and corresponding reductions in job satisfaction among employees in this cluster. On the other hand, employees in Cluster 3 (i.e.,

the cluster representing NHS Trusts with less innovative approach to HRM) were found to have higher levels of job satisfaction compared to employees in the other two clusters, and this was transmitted by reductions in work intensification. Because NHS Trusts in Cluster 3 are those with low scores in their adoption of innovative HRM practices, it is not unusual for employees in this cluster to experience lower levels of work intensification and corresponding increases in job satisfaction.

Through corresponding decreases in work intensification, employees in Cluster 3, the less innovative NHS cluster, reported lower levels of organizational commitment and well-being compared to employees in the other two clusters. Employees in this cluster may generally have less innovative HRM functions to keep them actively engaged with work due to low adoption of innovative HRM practices by their employers. These employees may consider their jobs as being boring and consequently demonstrate lower levels of organizational commitment and well-being. By contrast, employees in Cluster 2, the moderately innovative NHS cluster, reported higher levels of organizational commitment and employee well-being due to corresponding increases in work intensification. Unlike employees in the less innovative NHS cluster, employees in this cluster have a considerable amount of work responsibilities, and may therefore tend to demonstrate higher levels of organizational commitment and improved well-being.

Overall, Study 1 and Study 2 have shown similar patterns of outcomes. Across different approaches to HRM, work intensification seems to mediate the integrated effects of HPWP on employee attitudes and well-being. Employees in workplaces with low scores in their adoption of innovative HRM practices seem to have lower levels of work intensification, whereas employees in workplaces with moderate adoption of innovative HRM practices seem to have higher levels of work intensification. That means employees in workplaces with high scores in their adoption of innovative HRM practices (the HPWP clusters) tend to lie

somewhere around the middle in terms of the ‘HPWP-intensification’ continuum. It is safe to say that employees’ experience of work intensification in the HPWP clusters in both Study 1 and Study 2 may be offset by higher levels of job satisfaction, and perhaps, lower levels of job strain in the specific case of Study 1. By adopting an extensive range of innovative HRM practices, organizations are able to maximize the integrated properties of such practices to create beneficial employee-level outcomes that may compensate for feelings of job strain and work intensification.

The foregoing indicates that the mediating role of work intensification in terms of the integrated effects of HPWP may transcend organizational settings. HPWP may cause employees to expend more effort at work regardless of the specific nature and context in which such practices are being implemented. There is evidence that HPWP increase work intensification through the shifting of greater workplace responsibilities to employees (White et al., 2003; Sparham and Sung, 2007; Kalmi and Kauhanen, 2008). Systems of HPWP might become exploitative if such practices are adopted primarily to maximize labour input and achieve organizational performance without due consideration for employee well-being. In such circumstances, workers are subjected to high work demands, long working hours and ultimately poor work-related attitudes and well-being (Ramsay et al., 2000; Godard, 2001; Sparham and Sung, 2007; Kroon et al., 2009).

8.5.5 Comparing the integrated and independent effects of HPWP

In Study 1 and Study 2, three models were used to examine simultaneously whether the integrationist perspective of HPWP has additional explanatory power on employee attitudes and well-being compared to the isolationist perspective of HPWP. In both studies, the independent effects of HPWP on employee attitudes and well-being were not found to be conditional on the broad approaches to HRM across the three clusters in each study. Study 1 found evidence that the three HRM clusters were distinct with respect to variance accounted

for by the independent effects of HPWP, whereas Study 2 showed that the three NHS clusters were not distinct in this regard.

Further evaluation of Study 1 revealed that the independent effects of HPWP accounted for variance in employee attitudes and well-being across the three HRM clusters. The independent effects of HPWP overturned the beneficial integrated effects of HPWP. Specifically, when the integrated effects of HPWP were examined separately without accounting for independent effects (i.e., the multiple group analysis in Phase II), employees in the HPWP cluster were found to have higher levels of job satisfaction, organizational commitment and trust in management compared to employees in the other two clusters. Employees in the HPWP cluster were also found in Phase II to have lower levels of job strain compared to employees in Cluster 1 (i.e., the cluster representing workplaces with low adoption of innovative HRM practices). However, in Phase III of data analysis, where the integrated and independent effects of HPWP were examined simultaneously, employees in the HPWP cluster returned lower levels of job satisfaction and organizational commitment compared to employees in Clusters 1 and 3, respectively. Employees in the HPWP cluster were also found to have higher levels of job strain and work intensification compared to employees in Cluster 3 (i.e., the cluster representing workplaces with moderate adoption of innovative HRM practices).

These results indicate that the integrationist perspective of HPWP should not be treated as a foregone conclusion in the HPWP literature, especially when considering employee-level effects of HPWP. Study 1 has shown that the isolationist perspective of HPWP has additional explanatory power on employee attitudes and well-being compared to the integrationist perspective of HPWP. The implementation of an extensive range of innovative HRM practices may create an overall positive and favourable picture for employees when the integrated effects of HPWP are examined without accounting for

independent effects. However, if a researcher goes beyond the ‘overall favourable picture’ to examine the respective contributions from each HRM practice in the system, then the outcome might become less desirable for employees.

Evaluation of Study 2 results also revealed that the independent effects of HPWP accounted for variance in employee attitudes and well-being across the three NHS clusters. Unlike Study 1, the independent effects of HPWP did not explain variance above the integrated effects of HPWP. When the integrated effects of HPWP on employee attitudes and well-being were examined separately without accounting for independent effects (i.e., data analysis Phase II of Study 2), employees in the HPWP cluster were found to have higher levels of job satisfaction compared to employees in the other two clusters. However, on examining the integrated and independent effects of HPWP simultaneously in data analysis Phase III of Study 2, employees in the HPWP cluster achieved higher levels of organizational commitment, employee well-being and work intensification compared to employees in the other two clusters.

Considering that the three NHS clusters were not found to be distinct in terms of variance accounted for by the independent effects of HPWP, caution is applied in drawing conclusions on the explanatory power of the integrationist and isolationist perspectives of HPWP. The plausible interpretation of outcomes in data analysis Phase III of Study 2 is that the explanatory power of the integrationist perspective of HPWP in the NHS is adequate only for some employee-level outcomes but not for others.

8.6 IMPLICATIONS FOR THEORY

This thesis contributes to existing knowledge on the mutual gains perspective of HPWP. It provides evidence that individual HRM practices have mutually supportive properties and produce beneficial effects on employee attitudes and well-being in addition to their organizational-level benefits. Employees in workplaces with high scores in their

adoption of an extensive range of innovative HRM practices were found to have higher levels of job satisfaction, organizational commitment and trust in management compared to employees in workplaces adopting a narrower range of HPWP. These workplaces are able to exploit the existing complementarities among innovative HRM practices to produce far-reaching employee outcomes. Moreover, employees in workplaces adopting a full range of innovative HRM practices were found to have lower levels of job strain compared to employees in workplaces with a narrower adoption of HPWP.

In previous HPWP studies (Arthur, 1994; Huselid and Becker, 1997; Ichniowski et al., 1997) workplaces adopting an extensive range of HRM practices have been shown to have higher organizational-level gains compared to workplaces with lower adoption of innovative HRM practices. Accordingly, internal coherence between an organization's HRM policies is a vital ingredient for achieving organizational effectiveness. By adopting an extensive range of innovative HRM practices in a coherent manner, organizations are able to achieve an overall innovative orientation towards HRM, and develop a competitive edge over other organizations. This thesis has underlined the assumption that coherent systems of HPWP promote desirable employee attitudes and well-being in addition to their beneficial effects on organizational-level gains such as productivity (MacDuffie, 1995; Askenazy, 2001) and profitability (Huselid, 1995; Wright et al., 2005). In effect, the thesis has demonstrated the 'win-win' potential of work innovations.

This thesis has also shown evidence that NHS employees may benefit from the mutually supportive properties of HPWP. Although NHS employees were found to have no significant differences in terms of organizational commitment and employee well-being, employees in NHS Trusts adopting an extensive range of innovative HRM practices were found to have higher levels of job satisfaction compared to employees in Trusts with lower adoption of innovative HRM practices. By adopting a full range of innovative HRM practices,

the more innovative NHS Trusts were able to maximize the mutually reinforcing characteristics of HPWP to produce desirable effects on employees' level of job satisfaction. Prior healthcare sector studies have also demonstrated the desirable integrated effects of HPWP on employee outcomes (Boselie, 2010; Boselie, 2010; Sang et al., 2012). Indeed, employees' positive reaction towards HPWP in hospital settings is thought to be associated with improved service delivery and patients' care quality (Sang et al., 2012). HPWP provide opportunities for employees to develop useful work-related skills, and create a supportive workplace environment that promotes better customer satisfaction and loyalty to the hospital.

The beneficial effects of HPWP as reported in Study 1 and Study 2 have therefore demonstrated consistency with the 'universalist' principle of HRM (Pfeffer, 1994; Delery and Doty, 1996; Vanhala and Stavrou, 2013). Systems of HPWP, comprising discretionary work activities, high involvement practices, ability-oriented HRM practices, support-oriented HRM practices and motivation-enhancing HRM practices, may produce positive employee-level effects that transcend different organizational settings. This assumption is reasonable, particularly as systems of HPWP have been associated with beneficial effects across a range of organizational settings including manufacturing sector organizations (Youndt et al., 1996; Appelbaum et al., 2000; Patterson et al., 2004), service sector organizations (Ordiz and Fernández, 2005; Harley et al., 2007), healthcare organizations (Preuss, 2003; West et al., 2006), hospitality and tourism (Hughes, 2002), as well as the local government (Gould-Williams, 2003). Across organizational settings, there seems to be a move towards the consensus that HPWP create conditions that allow employees to be treated as integral resources for driving organization performance. Where employees are given the discretion to demonstrate their creative abilities in workplace activities, they become increasingly committed and willing to conduct their jobs in ways that promote organizational effectiveness.

Despite widespread support for the integrationist perspective of HPWP, the isolationist perspective of HPWP has also emerged in this thesis as a valuable theme in HPWP research, particularly with respect to employee-level outcomes. This thesis has shown evidence that individual HRM practices possess unique independent properties and produce varying levels of associations with employee attitudes and well-being. For example, support-oriented HRM practices were found to have mostly beneficial independent effects on employee attitudes and well-being, whereas high involvement HRM practices produced mostly detrimental independent effects on employee-level outcomes. Yet, other HRM practices such as selective hiring and career-enhancement opportunities were found to have mixed independent effects on employee attitudes and well-being. On examining the integrationist and isolationist perspectives of HPWP simultaneously, the isolationist perspective emerged as having additional explanatory power on employee outcomes compared to the integrationist perspective of HPWP. The independent effects of HPWP were strong enough to overturn the ‘separate’ integrated impacts of HPWP on employee attitudes and well-being. While admitting that these results might be specific to the design of this thesis, they however offer some insight into the possibility that some elements of the HPWP framework may produce unfavourable effects on employees. As such, more research is needed to enhance our understanding of the respective relationships between individual HRM practices and employee-level outcomes. This understanding will inform researchers’ decisions on useful ways of deriving combinations of HRM practices based on sound knowledge of their unique independent effects.

Other interesting evidence to emerge from this thesis is that HPWP are associated with increases in work intensification, over and above their beneficial effects on employee attitudes and well-being. This thesis has shown support for the critical perspective of HPWP, the assumption that work intensification may explain the intermediary relationships between

HPWP and employee attitudes and well-being. Employees in workplaces and NHS Trusts with low scores in their adoption of innovative HRM practices were found to have lower levels of work intensification compared to employees in workplaces and NHS Trusts with higher scores in their adoption of such practices. That means at increasing levels of HPWP implementation, employees tend to expend greater work effort and correspondingly become more susceptible to poor workplace attitudes and behaviours (Godard, 2001; Ramsay et al., 2000, White et al., 2003). The results of this thesis therefore serve as a caution against the unwitting assumption that HPWP produce far-reaching benefits for employees. Indeed, across a broad spectrum of approaches to HRM, the beneficial and plausible detrimental impacts (through increases in work intensification) of HPWP seem to exist simultaneously but in a somewhat contrasting fashion (White et al., 2003). Employees in workplaces with low scores in their adoption of HPWP appear to have lower levels of work intensification but not necessarily the best employee attitudes and well-being. Employees in workplaces with mid-range adoption of HPWP appear to have higher levels of work intensification but poor work-related attitudes and well-being. Employees in workplaces with high adoption of HPWP appear to have better work-related attitudes and well-being, though with marginal increases in work intensification.

8.7 IMPLICATIONS FOR PRACTICE

By showing evidence that workplaces adopting a full range of innovative HRM practices achieve better employee outcomes compared to workplaces with a narrower adoption of HPWP, this thesis conveys a practical message to managers who wish to adopt the integrationist approach to HPWP. To enjoy the full benefits associated with the HPWP paradigm, managers should implement an extensive range of innovative HRM practices and establish an overall innovative orientation towards HRM. When a wide range of innovative HRM practices are used together in concert, their mutually reinforcing characteristics are

activated to produce beneficial effects on employee outcomes, thereby promoting organizational effectiveness. Although the precise mechanism via which HPWP produce mutually reinforcing effects on outcomes is still very much open to debate, systems of HPWP are thought to promote organizational performance by eliciting the positive impacts of individual HRM practices within the system, and offsetting the detrimental impacts of other practices (Huselid 1995; MacDuffie, 1995; Ichniowski et al., 1997). For example, team-based work systems may increase employees' susceptibility to poor work-related attitudes due to inherent limitations associated with such systems (e.g., the likelihood for unequal contribution by team members and the corresponding potential for interpersonal conflict among team members). However, if team-based work systems are implemented alongside other innovative HRM practices such as the provision of adequate staff training, incentive payments and higher levels of job discretion, the detrimental elements associated with team-based working may be offset by the presence of these other practices. Therefore, in combination, these practices strengthen one another and produce an overall complementary effect on employees' experience of work.

Whereas some organizations (perhaps, due to limited resources) might be unable to implement the full range of practices comprising an effective HPWP framework, this thesis has demonstrated the possibility for organizations to achieve far-reaching employee-level benefits by investing in support-oriented HRM practices. Support-oriented HRM practices such as information sharing and supportive management have emerged in this thesis with mostly beneficial independent effects on employee outcomes. Several studies have shown positive links between information sharing and desirable employee attitudes such as job satisfaction (Kalmi and Kauhanen, 2008; Macky and Boxall, 2008) and organizational commitment (Paré and Tremblay, 2007). By communicating vital information on matters concerning organizational performance and corporate strategies to employees, employers

may foster a sense of belonging that maintains employees' strong attachment towards the organization (Wood and De Menezes, 2011). In the same vein, perceived organizational support is thought to have positive links with desirable employee attitudes (Eisenberger et al., 1990; Whitener, 2001; Gould-Williams and Davies, 2005). Perceived organizational support may signal to employees that the organization values and cares about their well-being, and this might trigger a sense of obligation on employees to reciprocate through workplace attitudes that are beneficial to the organization (Edwards and Peccei, 2010).

High involvement practices have emerged in this thesis with mostly detrimental independent effects on employee attitudes and well-being. One explanation for this has been the possibility that active employee involvement in workplace activities reduces the power distance between management and employees, and leads to discrepancies in the formalization of workplace activities (Bainbridge, 1998; Walsworth, 2010). Nevertheless, several studies have reported positive links between high involvement HRM practices and employee outcomes (Greenberg et al., 2005; Mohr and Zoghi, 2008; Wood and De Menezes, 2011; Kuye and Sulaimon, 2011). These studies indicate that active employee involvement in workplace activities creates opportunities for employees to make useful contributions towards organizational effectiveness, thereby increasing employees' sense of attachment and identification with the organization. Based on these conflicting views therefore, two sets of implications are suggested for managers. For a successful implementation of high involvement practices, managers should establish clear reasons why employees must be involved in such activities. This will help in defining the precise role of each employee in such activities and reduce the likelihood for discrepancies in the delegation of authority among employees. Secondly, managers should ensure that employees possess relevant work-related skills (e.g., problem solving, communication and conflict management skills) for active participation in workplace activities (Bainbridge, 1998; Fox, 1998). Just as an

individual with elementary research capabilities may find it difficult to formulate groundbreaking research models without adequate training, so also would an untrained employee find it challenging to make valuable contributions in workplace decision-making activities (Fox, 1998).

Managers should be mindful of unwitting assumptions that HPWP are entirely favourable for employees. This caution draws on evidence that work intensification may mediate the indirect effects of HPWP on employee attitudes and well-being. Employees in workplaces and NHS Trusts with low scores in their adoption of innovative HRM practices were found to have more favourable outcomes in terms of the mediated effects of work intensification compared to employees in workplaces and NHS Trusts with higher adoption of innovative HRM practices. This suggests that increasing adoption of innovative HRM practices risks overloading employees with extra work responsibilities (Godard, 2001; White et al., 2003), which might culminate in feelings of work-related strain and pressure. Furthermore, Ramsay et al. (2000) noted that HPWP may lead to the transfer of greater work responsibilities to employees due to increased employers' propensity to maximize labour output. In such situations, work innovation may become an exploitative managerial strategy for achieving organizational effectiveness without commensurate improvements in employees' work-life quality.

Managers wishing to embrace the concept of HPWP may, however, derive solace from evidence that employees in workplaces adopting a full range of innovative HRM practices reported 'intermediate outcomes' in terms of the mediated effects of work intensification. 'Intermediate outcomes' in this respect implies that employees' experience of work intensification in high performance workplaces may be compensated for by higher levels of job satisfaction, organizational commitment and trust in management. That is to say, systems of HPWP are not necessarily exploitative when an extensive range of innovative

HRM practices are used together in a coherent manner. Though systems of HPWP may prompt employees to expend more effort at work, employees might correspondingly benefit through improvements in their work-related attitudes and well-being.

8.8 LIMITATIONS OF THESIS

A number of important limitations need to be highlighted in this section. Firstly, the cross-sectional nature of Study 1 and Study 2 presents a major limitation in that it precludes making of strong causal statements in this thesis (Laschinger et al., 2001; Carlson and Morrison, 2009; Boselie, 2010). A cross-sectional study is one in which information on ‘causes’ and ‘effects’ are gathered simultaneously during data collection. Such studies are generally descriptive in nature, and provide a ‘snap-shot’ perspective on relationships between ‘causes’ and ‘effects’ (Carlson and Morrison, 2009). As such, caution is often advised on interpreting findings from cross-sectional study designs. However, the use of cross-sectional data was the more realistic option for this doctoral project; not least because a longitudinal research design would have been more expensive and time consuming. Given that the predictions made in this thesis were generally grounded in sound theory, it is expected that the limitations of using cross-sectional data may have been offset to the extent that allows comparison with existing evidence base (Laschinger et al., 2001). Moreover, the nested nature of analysis in this thesis may have moderated the limitations of cross-sectional study design, particularly as multilevel analysis may better demonstrate some causal relationships (Holland, 1986; Yeung and Li, 2011).

Another possible limitation of this thesis is the exclusion of control variables in both Study 1 and Study 2. The absence of control variables in this thesis is considered a limitation because factors such as organizational sector, employment status and company size have often featured in prior HPWP studies as control variables. It is acknowledged that the absence of control variables may have contributed to some inconsistency between the results of this

thesis and evidence in prior HPWP studies. For example, the non-significant independent effects of team-working and participative decision-making on organizational commitment and employees trust as reported in Study 1 are quite inconsistent with reports in prior HRM studies (Gould-Williams, 2003; Gould-Williams and Davies, 2005; Harley et al., 2007).

As mentioned earlier, control variables were excluded from this thesis to avoid confounding an already complex, multilevel, latent variable analytical design, involving at least ten latent independent variables, three latent outcome variables and one latent mediator variable. Inclusion of control variables in statistical models, especially models with multiple predictors and outcome variables (Williams et al., 2009), may produce unwarranted correlations with the variables of interest, alter the meanings of such variables, and lead to contaminated research outcomes (Becker, 2005; Edwards, 2008; Williams et al., 2009; Spector and Brannick, 2011). Although there are situations where control variables may appropriately adjust relationships between substantive variables in statistical models, such variables may sometimes play a role that renders their inclusion inappropriate (Spector and Brannick, 2011). Therefore, a decision was made to exclude control variables from data analysis in this thesis.

The use of single-item variables (e.g., flexible working, performance appraisal, grievance procedures and information sharing) in Study 2 proved to be a source of weakness for this thesis. Single-item variables are generally thought to be statistically less reliable compared to multiple-item variables (Rushton et al., 1983; Little et al., 2002). This is because they may not fully represent the construct that is being measured and their use in organizational studies may risk oversimplifying a complex set of experiences. Nevertheless, to accommodate single-item variables in SEM, such variables can be specified by fixing their residual variances to zero or a non-zero estimate of unreliability (Hayduk, 1987; Muthén and Muthén, 2009). This method of specifying single-item variables has been adopted in prior

SEM studies (Little et al., 2002; Rogers and Schmitt, 2004; Williams et al., 2009) and was used to accommodate single-item variables in Study 2. Moreover, the use of aggregated data in Study 2 may have minimized the possible limitations of using single-item variables. Aggregating of responses supplied by multiple respondents into a single aggregated unit, and justifying such aggregations using relevant statistical procedures may serve to ensure overall reliability of research variables.

Study 2 was also limited by the sample size of the NHS 2010 staff data, a large number of employees (164, 916 NHS employees) nested within a relatively small number organizations (386 NHS Trusts). This limitation affected the multilevel analysis of Study 2 in two ways. Firstly, the aggregation of employee-level information into organizational-level information resulted in high inter-correlation between several items in the model. As a result, many useful items had to be eliminated from the analysis in order to achieve a well-fitting model. Secondly, due to the small sample size of only 386 NHS Trusts, measurement invariance testing for HRM practices could not be achieved using organizational-level (or aggregate-level) parameters in Study 2. Measurement invariance testing involves a series of models used to ensure that observed items for a set of latent variables were interpreted consistently by members of respective groups under study (see Chapter 4 for more details). However, for groups with less than 200 cases (e.g., Clusters 2 and 3 of Study 2), measurement invariance testing might prove difficult to achieve due to ‘non-convergence’ problem, a technical problem in SEM which occurs when the maximum number of iterations is exceeded and the SEM software package is forced to stop running (Muthén and Muthén, 1998-2010; Byrne, 2012). Therefore, to accommodate the small sample size of NHS Trusts in Study 2, measurement invariance testing was performed using HRM practices parameters in their original employee-level form rather than their organizational-level (or aggregate-level) derivatives.

8.9 RECOMMENDATIONS FOR FUTURE RESEARCH

In response to earlier calls (see Gould-Williams, 2004; Macky and Boxall, 2007; Takeuchi et al., 2009) for research into employee-level implications of HPWP, a number of authors have incorporated employee-level outcomes in their investigation of HPWP. Most of these studies have centred on desirable employee attitude outcomes such as job satisfaction, organizational commitment and organizational citizenship behaviours, as well as detrimental employee outcomes such as increased levels of work intensification, job strain and burnout. However, future research may go beyond these variables to investigate physical health problems such as back aches, headaches, irregular sleeping patterns, musculoskeletal pain and high blood pressure (Boisard et al., 2003; Bakker and Demerouti, 2007; Kroon et al., 2009), all of which may be associated with work organization in modern workplaces. An understanding of the organizational implications of these health problems might be useful in reducing medical expenses and staff compensation claims for an organization (Burchielli et al., 2005).

Researchers have been puzzled by questions of whether the use of innovative HRM systems is gradually moving towards a global standard or whether such systems remain largely dissimilar across national borders (Green and Tsitsianis, 2005; Newman et al., 2011; Lawler et al., 2011). The former question, often theorized as the concept of ‘convergence’, argues in favour of the move towards a global integration of innovative HRM practices across national borders, despite prevailing differences in national institutional environments (Guthrie, Liu, Flood and MacCurtain, 2008; Lawler et al., 2011). The latter, theorized as the concept of ‘divergence’, presumes that HRM systems in a given country are deeply rooted in their cultural and institutional milieu; therefore, such systems remain largely dissimilar across national borders due to disparities in institutional environments (Guthrie et al., 2008; Batt et al., 2010). Cursorily, at least, there seems to be a move towards convergence (Guthrie et al.,

2008; Rowley and Benson, 2000), yet multiple factors (e.g., government regulation systems, varieties of capitalism, culture and educational systems, etc.) exist to undermine the likelihood for full global integration of HRM systems (Green and Tsitsianis, 2005; Ferner, Quintanilla and Varul, 2001; Cristini and Pozzoli, 2010; Newman et al., 2011; Lawler et al., 2011). Future research may address some of these issues by investigating cross-national characteristics with respect to HPWP. Research on this will enhance understanding of whether HPWP outcomes are dependent on country/institutional factors. Such research will also illustrate the extent to which HRM functions in multinational companies (MNCs) are influenced by prevailing institutional structures within host countries.

Since the advent of HPWP and other innovative forms of work, researchers have focused on the possible outcomes of such practices for employers (e.g., competitive advantage, reduced staff turnover and profitability) and employees (e.g., job satisfaction, increased job discretion and empowerment). Drawing on these outcomes, commentators have argued for increased adoption of innovative workplace practices across a range of organizational settings. Nevertheless, HRM researchers seem to have paid less attention on the plausible organizational changes that may accompany HPWP implementation, and corresponding psychological challenges faced by employees in trying to adapt to these new forms of work. Future research may draw on the 'readiness for change' literature (see Eby, Adams, Russell and Gaby, 2000; Rafferty, Jimmieson and Armenakis, 2013; Stevens, 2013) to investigate factors that could affect employees' level of acceptance or rejection of HPWP initiatives across organizational settings. Research of this kind will help in explaining why HPWP implementation in one organization, Company 'A', may result in favourable outcomes for employees, but produce detrimental effects on employees in another organization, Company 'B'. It may well be that employees in Company 'A' have higher levels of HPWP 'readiness' and 'acceptance' compared to employees in Company 'B'.

Building further on the changing role of the HRM function and corresponding employees' reactions to these changes, researchers are beginning to explore various ways in which employees assume more proactive roles in influencing the nature and outcomes of their jobs. Pertinent here is the concept of 'job crafting', which centres on the various activities performed by employees in redesigning their jobs in ways that foster job satisfaction and increased sense of meaningfulness at work (Wrzesniewski and Dutton, 2001; Berg, Dutton and Wrzesniewski, 2008). At the heart of this concept is the idea that employees are often motivated to utilize workplace opportunities and to customize their jobs in a manner that promotes their level of influence and control over workplace activities. In other words, employees assume a more proactive role in shaping activities within their jobs, and in building more positive interpersonal relationships at work (Wrzesniewski and Dutton, 2001). So far, HPWP studies have emphasized the role of management in implementing innovative workplace practices, while employees are merely portrayed as recipients of such initiatives. Future HPWP research may therefore apply the concept of 'job crafting' to investigate the extent to which employees assume more proactive roles in customizing their job tasks in ways that promote organizational effectiveness.

With recent advancements in improved statistical techniques and availability of proficient statistical software packages for SEM, future studies may examine the use of Latent Class Analysis (LCA) and Latent Profile Analysis (LPA) in estimating the integrationist perspective of HPWP. LCA and LPA fall under the category of latent structure analysis known as Mixture modelling (Jensen and Vinding, 2003; Asparouhov and Muthen, 2008). These techniques are used in deriving clusters of entities within a given population based on patterns of conditional probabilities (see details in Chapter 4). However, for reasons stated in Chapter 4 (i.e., issues relating to model fit assessment and paucity of extensive evidence base on the use of mixture modelling in HPWP research), cluster analysis rather

than LCA or LPA was used in this thesis to examine the integrationist perspective of HPWP. It might be useful in future research to examine the integrative characteristics of HPWP using LCA or LPA as a way to make useful comparisons with results obtained in this thesis and other HPWP studies like Arthur (1994), Huselid and Becker (1997) and Ichniowski et al. (1997).

8.10 CHAPTER SUMMARY AND CONCLUSIONS

This chapter has presented a summary of the theoretical rationale for this thesis and has highlighted the specific research aims of this thesis. The chapter has reviewed two prominent HPWP debates: ‘the integrationist and isolationist perspectives of HPWP’ and ‘the mutual gains versus the critical perspectives of HPWP’. Whereas the former debate is concerned with two approaches to operationalizing HPWP, the latter emphasizes the employee-level outcomes associated with HPWP implementation. These two debates have been investigated using two empirical studies. In the first study (or Study 1), the independent and integrated effects of HPWP on employee attitudes and well-being, as well as the mediating role of work intensification in these relationships, were simultaneously examined using data from a nationally representative sample of British workplaces. The second study (or Study 2) also evaluated the independent and integrated effects of HPWP on employee outcomes and simultaneously examined the mediating role of work intensification; however, using data from the British NHS. Taken together, both studies serve as a framework for determining the extent to which HPWP outcomes are generalizable across organizational settings.

This chapter has reviewed research findings obtained in Study 1 and Study 2, and has illustrated how both studies provide evidence for the two HPWP debates. In terms of the mutual gains perspective of HPWP, innovative HRM practices were found to have unique independent effects on employee attitudes and well-being. Both studies showed support-

oriented HRM practices to have more favourable influences on employee outcomes, whereas high involvement workplace practices such as team working and group-based decision-making activities were reported as having less favourable effects on employee outcomes. Study 1 and Study 2 also showed evidence for the beneficial integrated effects of HPWP on employee attitudes and well-being. Workplaces adopting an extensive range of innovative HRM practices were found to have higher levels of job satisfaction, organizational commitment and trust compared to workplaces with a narrower adoption of innovative HRM practice. However, in Study 2 unlike Study 1, no significant differences in organizational commitment and employee well-being were derived across the broad spectrum of approaches to HRM.

This thesis has shown evidence that the impacts of HPWP on employee attitudes and well-being may be mediated through increases in work intensification; thus, evincing the main arguments derived from the critical perspective of HPWP. In both Study 1 and Study 2, work intensification was found to mediate the indirect effects of individual HRM practices on employee attitudes and well-being. Job autonomy was found in both studies to have reducing indirect effects on job satisfaction through corresponding increases in work intensification, whereas information sharing was found to have positive indirect effects on job satisfaction through corresponding decreases in work intensification. Both studies also showed evidence that work intensification may explain the mediated integrated effects of HPWP on employee attitudes and well-being. Workplaces and NHS Trusts with moderate adoption of innovative HRM practices were found to have less favourable outcomes in terms of the mediated effects of work intensification, whereas workplaces and NHS Trusts with low adoption of innovative HRM practices produced more favourable outcomes. Employees in workplaces and NHS Trusts with high adoption of innovative HRM practices were found to have ‘intermediate outcomes’ in terms of the mediated effects of work intensification.

The results of Study 1 and Study 2 were compared in this chapter to elicit relevant implications for theory and for practice. This thesis has demonstrated consistency with the assumption that innovative HRM practices have mutually supportive properties, and may produce beneficial effects on employee outcomes when used together in a coherent manner. By adopting an extensive range of innovative HRM practices, organizations are able to exploit existing complementarities among such practices to maximize their beneficial independent properties and minimize their detrimental independent effects. This outcome relays a practical message to employers who may wish to adopt high-quality management systems. It is more beneficial to adopt a full range of innovative HRM practices rather than focus on the impacts of one or two HRM practices in the framework. This does not however imply that the unique independent effects of innovative HRM are not as relevant as the integrated effects of HPWP. Indeed, this thesis has shown evidence that the isolationist perspective (or independent effects) of HPWP accounts for variance in employee attitudes and well-being over and above the integrationist perspective (or integrated effects) of HPWP. In the combined model where the isolationist and integrationist perspectives of HPWP were tested simultaneously, the isolationist perspective was found to have more explanatory power on employee outcomes compared to the integrationist perspective of HPWP.

Another important implication of this thesis is that work intensification may mediate the indirect effects of HPWP on employee attitudes and well-being. That means, to a fairly large extent, the implementation of innovative HRM practices may lead to the transfer of greater work responsibilities on employees. In fact, it was revealed in this thesis that employees in workplaces and NHS Trusts with low adoption of innovative HRM practices were more likely to expend less work effort compared to their counterparts in workplace environments with greater adoption of innovative HRM practices. As much as this thesis provides support for the mutual gains perspective of HPWP, caution should be applied in

assuming that HPWP always produce beneficial outcomes for employees. Managers should be aware of the possibility that HPWP may prompt employees to experience high levels of work demands and pressure. While implementing HPWP, managers may therefore provide palliatives (e.g., adequate managerial support mechanisms) to mitigate the likely adverse consequences (e.g., work-related strain and burnout) that may result from high levels of work intensification.

Finally, some of the main limitations of this thesis have been outlined in this chapter. The thesis was shown to be limited by the cross-sectional nature of data analysis in Study 1 and Study 2, the exclusion of control variables in both studies, as well as the use of single-item variables and the small number of NHS Trusts in Study 2. Each of these limitations was adequately accommodated in relevant sections of the thesis and therefore, they are not expected to have any adverse consequences on the outcomes of this thesis.

REFERENCES

- Adams, A. and Bond, S. (2000) Hospital nurses' job satisfaction, individual and organizational characteristics. *Journal of Advanced Nursing*, 32 (3), pp. 536-543
- Adams, A., Lugsden, E., Chase, J., Arber, S. and Bond, S. (2000) Skill-mix changes and work intensification in nursing. *Work Employment & Society*, 14 (3), pp. 541-555
- Adler, P. and Borys, B. (1996) Two types of bureaucracy: Enabling and coercive. *Administrative Science Quarterly*, 41 (1), pp. 61
- Ahmad, S. and Schroeder, R. (2002) The importance of recruitment and selection process for sustainability of total quality management. *International Journal of Quality & Reliability Management*, 19 (5), pp. 540-550
- Allen, J. and Van der Velden, R. (2001) Educational mismatches versus skill mismatches: Effects on wages, job satisfaction, and on-the-job search. *Oxford Economic Papers*, 53, pp. 434-52
- Appelbaum, E., Bailey, T., Berg, P. and Kalleberg, A. (2000) *Manufacturing advantage: Why high-performance work systems pay off*. Ithaca, NY: ILR Press.
- Arthur, J. (1992) The link between business strategy and industrial relations systems in american steel minimills. *Industrial and Labor Relations Review*, 45 (3), pp. 488-506
- Arthur, J. (1994) Effects of human resource systems on manufacturing performance and turnover. *Academy of Management Journal*, 37 (3), pp. 670-687
- Askenazy, P. (2001) Innovative workplace practices and occupational injuries and illnesses in the United States. *Economic and Industrial Democracy*, 22 (3), pp. 485-516
- Asparouhov, T. and Muthen, B. (2005) Multivariate statistical modeling with survey data. [online] Available at: <http://www.fcsm.gov/events/papers05.html> [Accessed 20 January 2013].
- Asparouhov, T. and Muthen, B. (2006) Multilevel modeling of complex survey data. Paper presented at the American Statistical Association Conference, Seattle, WA: American Statistical Association.
- Asparouhov, T. and Muthen, B. (2008) Multilevel mixture models. In: G. R., Hancock and K. M. Samuelsen (Eds.), *Advances in latent variable mixture models*. Charlotte, NC: Information Age Publishing, Inc, pp. 27-51
- Atkinson, C. and Hall, L. (2011) Flexible working and happiness in the NHS. *Employee Relations*, 33 (2), pp. 88-105
- Baarspul, H. and Wilderom, C. (2011) Do employees behave differently in public- vs private-sector organizations? *Public Management Review*, 13 (7), pp. 967-1002

- Bach, S. (1998) NHS pay determination and work re-organisation: Employment relations reform in NHS Trusts. *Employee Relations*, 20 (6), pp. 565-576
- Bainbridge, S. (1998) Privately ordered participatory management: An organizational failures analysis. *Delaware Journal of Corporate Law*, 23 (3), pp. 979-1076
- Bakker, A. and Demerouti, E. (2007) The job demands-resources model: State of the art. *Journal of Managerial Psychology*, 22 (3), pp. 309-328
- Balducci, C., Schaufeli, W. and Fraccaroli, F. (2011) The job demands-resources model and counterproductive work behaviour: The role of job-related affect. *European Journal of Work and Organizational Psychology*, 20 (4), pp. 467-496
- Barker, J. (1993) Tightening the iron cage: Concertive control in self-managing teams. *Administrative Science Quarterly*, 38, pp. 408-37
- Barling, J., Iverson, R. and Kelloway, K. (2003) High-quality work, job satisfaction, and occupational injuries. *Journal of Applied Psychology*, 88 (2), pp. 276-283
- Baron, R. and Kenny, D. (1986) The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, pp. 1173-1182
- Bartlett, K. (2001) The relationship between training and organizational commitment: A study in the health care field. *Human Resource Development Quarterly*, 12 (4), pp. 335-352
- Batt, R., Nohara, H. and Kwon, H. (2010) Employer strategies and wages in new service activities: A comparison of coordinated and liberal market economies. *British Journal of Industrial Relations*, 48 (2), pp. 400-35
- Bauer, T. (2004) High performance workplace practices and job satisfaction: Evidence from Europe. IZA Discussion Papers 1265, Institute for the Study of Labor (IZA).
- Bauer, D., Preacher, K., and Gil, M. (2006) Conceptualizing and testing random indirect effects and moderated mediation in multilevel models: New procedures and recommendations. *Psychological Methods*, 11, pp. 142-163.
- Becker, B. and Gerhart, B. (1996) The impact of human resource management on organizational performance: Progress and prospects. *Academy of Management Journal*, 39 (4), pp. 779-801
- Becker, B., Huselid, M., Pickus, P. and Spratt, M. (1997). HR as a source of shareholder value: Research and recommendations. *Human resource management*, 36 (1), pp. 39-47.
- Becker, B. and Huselid, M. (1998) High performance work systems and firm performance: A synthesis of research and managerial implications. *Research in Personnel and Human Resource Management*, 16, pp. 53-101

- Becker, T. (2005) Potential problems in the statistical control of variables in organizational research: A qualitative analysis with recommendations. *Organizational Research Methods*, 8, pp. 274-289
- Beltrán-Martín, I., Roca-Puig, V., Escrig-Tena, A. and Bou-Llusar, J. (2008) Human resource flexibility as a mediating variable between high performance work systems and performance. *Journal of Management*, 34 (5), pp. 1009-1044
- Berg, J., Dutton, J. and Wrzesniewski, A. (2008) What is job crafting and why does it matter. [online] Available at: http://www.bus.umich.edu/positive/pos-teaching-and-learning/job_crafting-theory_to_practice-aug_08.pdf [Accessed 15 July 2013].
- Bhuiyan, S., Al-Shammari, E. and Jefri, O. (1996) Organizational commitment, job satisfaction and job characteristics: An empirical study of expatriates in Saudi Arabia. *International Journal of Commerce & Management*, 6 (3), pp. 57–80
- Biemann, T., Cole, M. and Voelpel, S. (2012) Within-group agreement: On the use (and misuse) of r_{WG} and $r_{WG(j)}$ in leadership research and some best practice guidelines. *The Leadership Quarterly*, 23, pp. 66–80
- Bliese, P. (2000) Within-group agreement, non-independence, and reliability: Implications for data aggregation and analysis. In: K. J. Klein and S. W. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations*. San Francisco: Jossey-Bass, pp. 349-381.
- Boisard, P., Gollac, M., Valeyre, A. and Cartron, D. (2003) Time and work: work intensity. [online] Available at: http://damiencartron.free.fr/textes/dublinc1_Vanglais.pdf [Accessed 15 July 2013].
- Bonias, D., Bartram, T., Leggat, S. and Stanton, P. (2010) Does psychological empowerment mediate the relationship between high performance work systems and patient care quality in hospitals? *Asia Pacific Journal of Human Resources*, 48 (3), pp. 319–337
- Boselie, P., Paauwe, J. and Richardson, R. (2003) Human resource management, institutionalization and organizational performance: A comparison of hospitals, hotels and local government. *The International Journal of Human Resource Management*, 14 (8), pp. 1407-1429
- Boselie, P. (2010) High performance work practices in the health care sector: A Dutch case study. *International Journal of Manpower*, 31 (1), pp. 42-58
- Boxall, P. and Macky, K. (2009) Research and theory on high-performance work systems: Progressing the high-involvement stream. *Human Resource Management Journal*, 19 (1), pp. 3–23
- Boxall, P., Ang, S. and Bartram, T. (2011) Analysing the ‘black box’ of HRM: Uncovering HR goals, mediators, and outcomes in a standardized service environment. *Journal of Management Studies*, 48 (7), pp. 1504-1532

- Brown, R. (1997) Assessing specific mediational effects in complex theoretical models. *Structural Equation Modeling*, 4 (2), pp. 142-156
- Brown, M. and Benson, J. (2005) Managing to overload? Work overload and performance appraisal processes. *Group & Organization Management*, 30 (1), pp. 99-124
- Brown, J. (2009) Choosing the right type of rotation in PCA and EFA. *Shiken: The Japan Association for Language Teaching (JALT) Testing & Evaluation Special Interest Group Newsletter*, 13 (3), pp. 20–25
- Brown, K. (2004) Human resource management in the public sector. *Public Management Review*, 6 (3), pp. 303–309
- Bryson, A. and White, M. (2008) Organizational commitment: Do workplace practices matter? Centre for Economic Performance, Discussion Paper No. 881, the London School of Economics and Political Science
- Bryson, A. and Forth, J. (2010) *Union organisation and the quality of employment relations*. London: Trades Union Congress.
- Buchan, J. (2000) Health sector reform and human resources: Lessons from the United Kingdom. *Health Policy and Planning*, 15 (3), pp. 319-325
- Burchielli, R., Pearson, P., and Thanacoody, R. (2005) Managing the Intensity of Teaching: A Research Agenda. Paper presented at the 19th Association of Industrial Relations Academics in Australia and New Zealand (AIRAANZ) Conference, University of Sydney.
- Burns, R. and Burns, R. (2008) *Business research methods and statistics using SPSS*. Beverly, CA: SAGE Publications Ltd.
- Byrne, B. (2012) *Structural equation modelling with Mplus: Basic concepts, applications and programming*. New York: Taylor & Francis Group, LLC
- Carlson, M. and Morrison, S. (2009) Study design, precision, and validity in observational studies. *Journal of palliative medicine*, 12 (1), pp. 77-82
- Campbell, S., Fowles, E. and Weber, J. (2004) Organizational structure and job satisfaction in public health nursing. *Public Health Nursing*, 21 (6), pp. 564–571
- Cañibano, A. (2011) Exploring the negative outcomes of flexible work arrangements. The case of a consultancy firm in Spain. Paper presented at the British Academy of Management Conference, London.
- Carless, S. (2005) Person–job fit versus person–organization fit as predictors of organizational attraction and job acceptance intentions: A longitudinal study. *Journal of Occupational and Organizational Psychology*, 78, pp. 411–429

- Cheung, G. and Rensvold, R. (2002) Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal*, 9 (2), pp. 233-255
- Clatworthy, J., Buick, D., Hankins, M., Weinman, J. and Horne, R. (2005) The use and reporting of cluster analysis in health psychology: A review. *British Journal of Health Psychology*, 10, pp. 329–358
- Cohen, J., Cohen, P., West, S. and Aiken, L. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences*. New Jersey: Lawrence Erlbaum Associates, Inc.
- Cohen-Charash, Y. and Spector, P. (2001) The role of justice in organizations: A meta-analysis. *Organizational Behavior and Human Decision Processes*, 86 (2), pp. 278–321
- Colvin, A. (2006) Flexibility and fairness in liberal market economies: The comparative impact of the legal environment and high-performance work systems. *British Journal of Industrial Relations*, 44 (1), pp. 73–97
- Combs, J., Liu, Y., Hall, A. and Ketchen, D. (2006) How much do high-performance work practices matter? A meta-analysis of their effects on organizational performance. *Personnel Psychology*, 59, pp. 501–528
- Costello, A. and Osborne, J. (2005) Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment Research & Evaluation*, 10 (7), pp. 1-9
- Crawford, A., Green, S., Levy, R., Lo, W., Scott, L., Svetina, D. and Thompson, M. (2010) Evaluation of parallel analysis methods for determining the number of Factors. *Educational and Psychological Measurement*, 70 (6), pp. 885–901
- Cristini, A. and Pozzoli, D. (2010) Workplace practices and firm performance in manufacturing: A comparative study of Italy and Britain. *International Journal of Manpower*, 31 (7), pp. 818-842
- Daniels, K., Beesley, N., Cheyne, A. and Wimalasiri, V. (2008) Coping processes linking the demands-control-support model, affect and risky decisions at work. *Human Relations*, 61, pp. 845-874
- Daniel, J. (2011) *Sampling essentials: Practical guidelines for making sampling choices*. California: SAGE Publications Ltd.
- Dell'Aringa, C., Ghinetti, P. and Lucifora, C. (2003) High performance work systems, industrial relations and pay settings in Europe. Institute of the Economics of the Enterprise and of Work, Catholic Sacred Heart University: Milan.
- De Jonge, J. and Schaufeli, W. (1998) Job characteristics and employee well-being: A test of Warr's Vitamin Model in health care workers using structural equation modelling. *Journal of Organizational Behavior*, 19, pp. 387-407

- De Jonge, J., Bosma, H., Peter, R. and Siegrist, J. (2000) Job strain, effort-reward imbalance and employee well-being: A large-scale cross-sectional study. *Social Science & Medicine*, 50, pp. 1317-1327
- Delery, J. and Doty, H. (1996) Modes of theorizing in strategic human resource management: Tests of universalistic, contingency and configurational performance predictions. *Academy of Management Journal*, 39, pp. 802–835
- Delery, J. (1998) Issues of fit in strategic human resource management: Implications for research. *Human Resource Management Review*, 8, pp. 289-309
- De Menezes, L. and Wood, S. (2006) The reality of flexible work systems in Britain. *The International Journal of Human Resource Management*, 17 (1), pp. 106–138
- Demerouti, E. and Bakker, A. (2011) The job demands–resources model: Challenges for future research. *SA Journal of Industrial Psychology*, 37 (2), pp. 1-9
- De Winter, J.C.F. and Dodou, D. (2012) Factor recovery by principal axis factoring and maximum likelihood factor analysis as a function of factor pattern and sample size. *Journal of Applied Statistics*, 39 (4), pp. 695–710
- Dex, S., and Smith, C. (2002) *The nature and pattern of family-friendly employment policies in Britain*. Bristol: The Policy Press.
- Dien, J., Khoe, W. and Mangun, G (2007) Evaluation of PCA and ICA of simulated ERPs: Promax vs. Infomax rotations. *Human Brain Mapping*, 28, pp. 742–763
- Dion, P. (2008) Interpreting structural equation modelling results: A reply to Martin and Cullen. *Journal of Business Ethics*, 83, pp. 365–368
- Dunford, B., Snell, S. and Wright, P. (2001) Human resources and the resource based view of the firm. *Journal of Management*, 27 (6), pp. 701-21
- Eby, L., Adams, D., Russell, J. and Gaby, S. (2000) Perceptions of organizational readiness for change: Factors related to employees' reactions to the implementation of team-based selling. *Human Relations*, 53 (3), pp. 419-442
- Edwards, P. and Wright, M. (2001) High-involvement work systems and performance outcomes: The strength of variable, contingent and context-bound relationships. *The International Journal of Human Resource Management*, 12 (4), pp. 568–585
- Edwards, J. (2008) To prosper, organizational psychology should . . . overcome methodological barriers to progress. *Journal of Organizational Behavior*, 29, pp. 469–491
- Edwards, M. and Peccei, R. (2010) Perceived organizational support, organizational identification, and employee outcomes: Testing a simultaneous multifoci model. *Journal of Personnel Psychology*, 9 (1), pp. 17-26.

- Eisenberger, R., Fasolo, P. and Davis-LaMastro, V. (1990) Perceived organizational support and employee diligence, commitment, and innovation. *Journal of Applied Psychology*, 75 (1), pp. 51-59
- Ferner, A., Quintanilla, J. and Varul, M. (2001) Country-of-origin effects, host-country effects, and the management of HR in multinationals: German companies in Britain and Spain. *Journal of World Business*, 36 (2), pp. 107–127
- Fox, J. (1998) Employee Empowerment: An Apprenticeship Model. [online] Available at: http://members.tripod.com/j_fox/thesis.html [Accessed 15 July 2013]
- Fritz, M. and MacKinnon, D. (2007) Required sample size to detect the mediated effect. *Psychological Science*, 18, pp. 233–239
- Gallie, D., White, M., Tomlinson, M. and Cheng, Y. (1998) *Restructuring the Employment Relationship*. Oxford: Oxford University Press.
- Gallie, D. (2005) Work pressure in Europe 1996–2001: Trends and determinants. *British Journal of Industrial Relations*, 43 (3), pp. 351–375
- Gliem, J. and Gliem, R. (2003) Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales. Paper presented at the Midwest Research-to-Practice Conference in Adult, Continuing, and Community Education, The Ohio State University, Columbus, OH.
- Glisson, C. and Durick, M. (1988) Predictors of job satisfaction and organizational commitment in human service organizations. *Administrative Science Quarterly*, 33 (1), pp. 61-81
- Godard, J. (2001) High performance and the transformation of work? The implications of alternative work practices for the experience and outcomes of work. *Industrial and Labor Relations Review*, 54 (4), pp. 776-805
- Gong, X. and Richman, M. (1995) On the application of cluster analysis to growing season precipitation data in North America East of the Rockies. *Journal of Climate*, 8, pp. 897–931
- Gong, Y., Law, K., Chang, S. and Xin, K. (2009) Human resources management and firm performance: The differential role of managerial affective and continuance commitment. *Journal of Applied Psychology*, 94 (1), pp. 263–275
- Gould-Williams, J. (2003) The importance of HR practices and workplace trust in achieving superior performance: a study of public-sector organizations. *International Journal of Human Resource Management*, 14 (1), pp. 28–54
- Gould-Williams, J. (2004) The effects of 'high commitment' HRM practices on employee attitude: The views of public sector workers. *Public Administration*, 82 (1), pp. 63–81
- Gould-Williams, J. and Davies, F. (2005) Using social exchange theory to predict the effects of HRM practice on employee outcomes. *Public Management Review*, 7 (1), pp. 1 – 24

- Green, F. (2001) It's been a hard day's night: The concentration and intensification of work in late twentieth-century Britain. *British Journal of Industrial Relations*, 39 (1), pp. 53-80
- Green, C. and Heywood, J. (2008) Does performance pay increase job satisfaction? *Economica*, 75, pp. 710-728
- Green, F. and McIntosh, S. (2001) The intensification of work in Europe. *Labour Economics*, 8, pp. 291-308
- Green, F. and Tsitsianis, N. (2005) An investigation of national trends in job satisfaction in Britain and Germany. *British Journal of Industrial Relations*, 43 (3), pp. 401-429
- Greenberg, E., Sikora, P., Grunberg, L. and Moore, S. (2005) Work teams and organizational commitment: Exploring the influence of the team Experience on employee attitudes. Workplace Change Project Working Paper No.12, Institute of Behavioral Science, University of Colorado, Boulder
- Guerrero, S. and Barraud-Didier, V. (2004) High-involvement practices and performance of French firms. *The International Journal of Human Resource Management*, 15 (8), pp. 1408-1423
- Guest, D., Conway, N. and Dewe, P. (2004) Using sequential tree analysis to search for 'bundles' of HR practices. *Human Resource Management Journal*, 14 (1), pp. 79-96
- Guest, D. and Conway, N. (2007) Human resource management, employee attitudes and workplace performance: An examination of the linkages using the 2004 Workplace Employment Relations Survey. A report for the Department for Business, Enterprise & Regulatory Reform (BERR)
- Guthrie, J. (2001) High-involvement work practices, turnover, and productivity: Evidence from New Zealand. *Academy of Management Journal*, 44, pp. 180-190
- Guthrie, J., Liu, W., Flood, P. and MacCurtain, S. (2008) High performance work systems, workforce productivity, and innovation: A comparison of MNCs and indigenous firms. The Learning, Innovation and Knowledge (Link) Research Centre, Working Paper Series, DCU Business School.
- Hackman, R. and Oldham, G. (1976) Motivation through the design of Work: Test of a theory. *Organizational Behavior and Human Performance*, 16, pp. 250-279
- Haile G. (2007) A multilevel analysis of workplace job satisfaction in Britain: evidence from a linked employer-employee data. Policy Studies Institute, Working Paper, London
- Harley, B., Allen, B. and Sargent, L. (2007) High performance work systems and employee experience of work in the service sector: The case of aged care. *British Journal of Industrial Relations*, 45 (3), pp. 607-633

- Hayduk, L. A. (1987). *Structural equation modeling with LISREL: Essentials and advances*. Baltimore, MD: Johns Hopkins University Press.
- Hayes, A. (2009) Beyond Baron and Kenny: Statistical mediation analysis in the new millenium. *Communication Monographs*, 76 (4), pp. 408–420
- Heck, R. and Scott, L. (2009) *An introduction to multilevel modelling techniques*. New York: Routledge
- Heywood, J. and Wei, X. (2006) Performance pay and job satisfaction. *Journal of Industrial Relations*, 48, pp. 523–540.
- Holland, P. (1986) Statistics and causal inference. *Journal of the American Statistical Association*, 81 (396), pp. 945-960.
- Hooper, D., Coughlan, J., and Mullen, M. (2008). Structural equation modeling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods*, 6, pp. 53–60
- Hox, J. (1995) *Applied multilevel analysis*. Amsterdam: TT–Publikaties.
- Hox, J., and Bechger, T. (1998) An introduction to structural equation modeling. *Family Science Review*, 11, pp. 354–373.
- Hu, X. and Xu, L. (2004) Investigation on several model selection criteria for determining the number of cluster. *Neural Information Processing – Letters and Reviews*, 4, pp. 1–10
- Hughes, J. (2002) HRM and universalism: Is there one best way? *International Journal of Contemporary Hospitality Management*, 14 (5), pp. 221-228
- Hughes, L., Avey, J. and Norman, S. (2008) A study of supportive climate, trust, engagement and organizational commitment. *Journal of Business & Leadership; Research, Practice and Teaching*, 4 (2), pp. 51-59
- Hunter, L. and Hitt, L. (2001) What makes a high-performance workplace? Evidence from retail bank branches. Financial Institutions Working Paper Series 00-30-B, the Wharton Financial Institutions Center
- Huselid, M. (1995) The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38 (3), pp. 635-872
- Huselid, M. and Becker, G. (1997) The impact of high-performance work systems, implementation effectiveness, and alignment on shareholder wealth. Paper presented at the Academy of Management Annual Conference, Boston, Mass.
- Hyman, J. and Mason, B. (1995) *Managing employee involvement and participation*. London: SAGE Publications Ltd.

- Ichniowski, C., Shaw, K. and Prennushi, G. (1997) The effects of human resource management practices on productivity: A study of steel finishing lines. *The American Economic Review*, 87 (3), pp. 291-313
- Inoue, A., Kawakami, N., Ishizaki, M., Shimazu, A., Tsuchiya, M., Tabata, M., Akiyama, M., Kitazume, A. and Kuroda, M. (2010) Organizational justice, psychological distress, and work engagement in Japanese workers. *International Archives of Occupational and Environmental Health*, 83, pp. 29–83
- James, L., Demaree, R. and Wolf, G. (1984). Estimating within-group interrater reliability with and without response bias. *Journal of Applied Psychology*, 69, pp. 85-98.
- Jensen, M. and Vinding, A. (2003) The application of latent class analysis on the measurement of human resource management practices. Paper presented at the DRUID Summer Conference 2003, Copenhagen.
- Jiang, K., Lepak, D. and Baer, J. (2012) How does human resource management influence organizational outcomes? A meta-analytic investigation of mediating mechanisms. *Academy of Management Journal*, 55 (6), pp. 1264-1294.
- Judge, T. and Colquitt, J. (2004) Organizational justice and stress: The mediating role of work–family conflict. *Journal of Applied Psychology*, 89 (3), pp. 395–404
- Kalmi, P. and Kauhanen, A., (2008). Workplace innovations and employee outcomes: Evidence from Finland. *Industrial Relations*, 35 (3), pp. 430-459
- Kaplan, D. (2009) *Structural equation modelling: Foundations and extensions*. California: SAGE Publications Ltd.
- Kawachi, I. (2006) Injustice at work and health: Causation or correlation? *Occupational & Environmental Medicine*, 63 (9), pp. 578–579
- Kelliher, C., and Anderson, D. (2010) Doing more with less? Flexible working practices and the intensification of work. *Human Relations*, 63 (1), 83-106
- Koh, K. and Zumbo, B (2008) Multi-group confirmatory factor analysis for testing measurement invariance in mixed item format data. *Journal of Modern Applied Statistical*, 7 (2), pp. 471-477
- Kouvonen, A., Kivimäki, M., Virtanen, M., Heponiemi, T., Elovainio, M., Pentti, J., Linna, A. and Vahtera, J. (2006) Effort-reward imbalance at work and the co-occurrence of lifestyle risk factors: Cross-sectional survey in a sample of 36,127 public sector employees. *BMC Public Health*, 6 (24), pp. 1 – 11.
- Kroon, B., Van de Voorde, K. and Van Veldhoven, M. (2009) Cross-level effects of high-performance work practices on burnout: Two counteracting mediating mechanisms compared. *Personnel Review*, 38 (5), pp. 509 – 525

- Kuye, O. and Sulaimon, A. (2011) Employee involvement in decision making and firms performance in the manufacturing sector in Nigeria. *Serbian Journal of Management*, 6 (1), pp. 1 – 15
- Laschinger, HKS., Finegan, J., Shamian, J. and Wilk, P. (2001) Impact of structural and psychological empowerment on job strain in nursing work settings: Expanding Kanter's Model. *Journal of Nursing Administration*, 31 (5), pp. 260–272
- Lawler, E. (1986) *High-Involvement Management*. San Francisco, CA: Jossey-Bass.
- Lawler, J., Chen, S., Wu, P., Bae, J. and Bai, B. (2011) High-performance work systems in foreign subsidiaries of American multinationals: An institutional model. *Journal of International Business Studies*, 42, pp. 202–220
- LeBreton, J. and Senter, J. (2008) Answers to 20 questions about interrater reliability and interrater agreement. *Organizational Research Methods*, 11 (4), pp. 815-852
- Legge, K. (1995) *Human resource management: Rhetorics and Realities*. London: MacMillan Press.
- Little, T. (1997) Mean and covariance structures (MACS) analyses of cross-cultural data: Practical and theoretical issues. *Multivariate Behavioral Research*, 32 (1), pp. 53-76
- Little, T., Cunningham, W., and Shahar, G. (2002) To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling*, 9 (2), pp. 151–173
- Little, T., Card, N., Bovaird, J., Preacher, K., and Crandall, C. (2007) Structural equation modelling of mediation and moderation with contextual factors. In Little, T., Bovaird, J. and Card, N. (Eds.), *Modeling contextual effects in longitudinal studies*. New Jersey: Lawrence Erlbaum, pp. 207-230
- Locke, E. A. (1976). The nature and causes of job satisfaction. In: Dunnette, M. D. (Ed.), *Handbook of industrial and organizational psychology*. Chicago: Rand McNally, pp. 1297–1349
- Lobel, S. (1999) *Impacts of diversity and work-life initiatives in organizations*. Newbury Park, CA: SAGE Publications Ltd.
- Lorr, M. (1983) *Cluster analysis for social scientists: Techniques for analysing and simplifying complex blocks of data*. San Francisco: Jossey-Bass Inc
- MacDuffie, J. (1995) Human resource bundles and manufacturing performance: Organizational logic and flexible production systems in the world auto industry. *Industrial and Labor Relations Review*, 48 (2), pp. 197-221
- MacKinnon, D., Lockwood, C., Hoffman, J., West, S. and Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods*, 7, pp. 83–104

- MacKinnon, D., Fritz, M., Williams, J. and Lockwood, C. (2007a) Distribution of the product confidence limits for the indirect effect: Program PRODCLIN. *Behavior Research Methods*, 39, pp. 384–389.
- MacKinnon, D., Fairchild, A. and Fritz, M. (2007b) Mediation analysis. *Annual Review of Psychology*, 58, pp. 593-614
- MacKinnon, D. (2008) *Introduction to statistical mediation analysis*. New York: Lawrence Erlbaum Associates.
- Macky, K. and Boxall, P. (2007) The relationship between ‘high performance work practices’ and employee attitudes: An investigation of additive and interaction effects. *The International Journal of Human Resource Management*, 18 (4), pp. 537–567
- Macky, K. and Boxall, P. (2008) High-performance work systems and employee well-being: Does employee involvement really intensify work? *Asia Pacific Journal of Human Resources*, 46 (1), pp. 38-55
- Martin-Alcazar, F., Romero-Fernandez, P. and Sanchez-Gardey, G. (2005) Strategic human resource management: integrating the universalistic, contingent, configurational and contextual perspectives. *The International Journal of Human Resource Management*, 16 (5), pp. 633-659.
- Michie, S. and Williams, S. (2003) Reducing work related psychological ill health and sickness absence: A systematic literature review. *Occupational and Environmental Medicine*, 60, pp. 3-9
- Milfont, T. and Fischer, R (2010) Testing measurement invariance across groups: Applications in cross-cultural research. *International Journal of Psychological Research*, 3 (1), pp. 111-121
- Miller, L., Broughton, A., Tamkin, P., Reilly, P. and Regan, J. (2007) Human resources, organisational development and workforce development in the NHS: A Review of Recent Research. [pdf]
http://chain.ulcc.ac.uk/chain/documents/NHSI_HR_REPORT.pdf [Accessed 6 July 2013]
- Mohr, R. and Zoghi, C. (2008) High-involvement work design and job satisfaction. *Industrial and Labor Relations Review*, 61 (3), pp. 275-296
- Mojena, R. (1977) Hierarchical grouping methods and stopping rules: An evaluation. *The Computer Journal*, 20 (4), pp. 359–363
- Mooi, E. and Sarstedt, M. (2011) *A concise guide to market research: The process, data, and methods using IBM SPSS statistics*. New York: Springer

- Morin, A., Morizot, J., Boudrias, J. and Madore, I. (2011) A multifoci person-centered perspective on workplace affective commitment: A latent profile/factor mixture analysis. *Organizational Research Methods*, 14 (1), pp. 58-90
- Muthén, L. and Muthén, B. (1998-2010). *Mplus user's guide*. Los Angeles, CA: Muthén & Muthén.
- Muthén, L. and Muthén, B. (2009) Mplus short courses topic 1: Exploratory factor analysis, confirmatory factor analysis, and structural equation modeling for continuous outcomes. [online] <http://www.statmodel.com/download/Topic%201.pdf> [Accessed 15 July 2013]
- Newman, A., Thanacoody, R. and Hui, W. (2011) The impact of employee perceptions of training on organisational commitment and turnover intentions: A study of multinationals in the Chinese service sector. *International Journal of Human Resource Management*, 22 (8), pp. 1765-1787
- Ngo, H., Foley, S. and Loi, R. (2009) Family friendly work practices, organizational climate, and firm performance: A study of multinational corporations in Hong Kong. *Journal of Organizational Behavior*, 30, pp. 665–680
- NHS Staff Council (2009) Improving working lives in the NHS: A framework developed by the NHS Staff Council. [online] Available at: http://www.nhsemployers.org/SiteCollectionDocuments/Improving%20working%20lives_af080709.pdf [Accessed 23 August 2013]
- Nutt, P. (2005) Comparing public and private sector decision-making practices. *Journal of Public Administration Research and Theory*, 30, pp. 1–30.
- Nygaard, A. and Dahlstrom, R. (2002) Role stress and effectiveness in horizontal alliances. *The Journal of Marketing*, 66 (2), pp. 61-82
- Nylund, K., Asparouhov, T. and Muthén, B. (2007) Deciding on the number of classes in latent class analysis and growth mixture modelling: A Monte Carlo simulation study. *Structural Equation Modeling*, 14 (4), pp. 535–569
- Ordiz, M. and Fernández, E. (2005) Influence of the sector and the environment on human resource practices' effectiveness. *The International Journal of Human Resource Management*, 16 (8), pp. 1349-1373
- O'Reilly, A., Chatman, A. and Caldwell, M. (1991) People and organizational culture: A Q-sort approach to assessing person-organization fit. *Academy of Management Journal*, 34, pp. 487–516.
- Paré, G. and Tremblay, M. (2007) The influence of high-involvement human resources practices, procedural justice, organizational commitment, and citizenship behaviours on information technology professionals' turnover intentions. *Group & Organization Management*, 32 (3), pp. 326-357

- Patterson, M., Warr, P. and West, M. (2004) Organizational climate and company productivity: The role of employee affect and employee level. *Journal of Occupational and Organizational Psychology*, 77, pp. 193–216
- Pfeffer, J. (1994) *Competitive Advantage through People: Unleashing the power of the workforce*. Boston, MA: Harvard Business School Press.
- Picot, G. and Wannell, T. (1998) Linking outcomes for workers to changes in workplace practices: An experimental Canadian workplace and employee survey. Science, Innovation and Electronic Information Division, Research Paper no. 3, Statistics Canada
- Preacher, K., Zyphur, M. and Zhang, Z. (2010) A general multilevel SEM framework for assessing multilevel mediation. *Psychological Methods*, 15 (3), pp. 209–233
- Preacher, K. and Selig, J. (2012) Advantages of Monte Carlo confidence intervals for indirect effects. *Communication Methods and Measures*, 6, pp. 77–98
- Preuss, G. (2003) High performance work systems and organizational outcomes: The mediating role of information quality. *Industrial and Labor Relations Review*, 56 (4), pp. 590-605
- Rafferty, A., Jimmieson, N. and Armenakis, A. (2013) Change readiness: A multilevel review. *Journal of Management*, 39 (1), pp. 110-135
- Ramsay, H., Scholarios, D. and Harley, A. (2000) Employees and high-performance work systems: Testing inside the black box. *British Journal of Industrial Relations*, 38 (4), pp. 501-531
- Rogers, W. and Schmitt, N. (2004) Parameter recovery and model fit using multidimensional composites: A comparison of four empirical parceling algorithms. *Multivariate Behavioral Research*, 39, pp. 379–412.
- Rowley, C. and Benson, J. (2002) Convergence and divergence in Asian human resource management. *California Management Review*, 44 (2), pp. 90–109
- Rushton, J., Brainerd, C., and Pressley, M. (1983) Behavioral development and construct validity: The principle of aggregation. *Psychological Bulletin*, 94 (1), pp. 18–38.
- Sang, L., DonHee, L. and Chang-Yuil, K. (2012) The impact of high performance work systems in the health-care industry: Employee reactions, service quality, customer satisfaction, and customer loyalty. *The Service Industries Journal*, 32 (1), pp. 17-36.
- Schreiber, J., Stage, F., King, J., Nora, A. and Barlow, E. (2006) Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research*, 99 (6), pp. 323-337

- Schulte, M., Ostroff, C. and Kinicki, J. (2006) Organizational climate systems and psychological climate perceptions: A cross-level study of climate-satisfaction relationships. *Journal of Occupational and Organizational Psychology*, 79, pp. 645–671
- Scott-Ladd, B., Travaglione, A. and Marshall, V. (2006) Causal inferences between participation in decision making, task attributes, work effort, rewards, job satisfaction and commitment. *Leadership & Organization Development Journal*, 27 (5), pp. 399–414
- Sekiguchi, T. (2004) Person-organization fit and person-job fit in employee selection: A review of the literature. *Osaka Keidai Ronshu*, 54 (6), pp. 179–196
- Selig, J. and Preacher, K. (2008) Monte Carlo method for assessing mediation: An interactive tool for creating confidence intervals for indirect effects [Computer software]. Available at: <http://quantpsy.org/>
- Shore, L. and Martin, H. (1989) Job satisfaction and organizational commitment in relation to work performance and turnover intentions. *Human Relations*, 42 (7), pp. 625–638.
- Siegrist, J., Starke, D., Chandola, T., Godin, I., Marmot, M., Niedhammer, I. and Peter, R. (2004) The measurement of effort–reward imbalance at work: European comparisons. *Social Science & Medicine*, 58, pp. 1483–1499
- Schneider, B., Goldstein, W. and Smith, B. (1995) The ASA framework: An update. *Personnel Psychology*, 48, pp.747–773.
- Sobel, M. (1982) Asymptotic confidence intervals for indirect effects in structural equation models. In: Leinhardt, S. (Ed.), *Sociological Methodology*. San Francisco, Jossey-Boss, pp. 290–212
- Soh, K. (1998) Job analysis, appraisal and performance assessments of a surgeon: A multifaceted approach. *Singapore Medical Journal*, 39 (4), pp. 180–185
- Sparham, E. and Sung, J. (2007) High performance work practices - Work intensification or ‘win-win’? Centre for Labour Market Studies Working Paper No. 50, University of Leicester
- Spector, P. and Brannick, M. (2011) Methodological urban legends: The misuse of statistical control variables. *Organizational Research Methods*, 14 (2), pp. 287–305
- Stevens, G. (2013) Toward a process-based approach of conceptualizing change readiness. *The Journal of Applied Behavioral Science*, 49 (3), pp. 333–360
- Suhr, D. (2005) Principal component analysis vs. exploratory factor analysis. Paper presented at the 13th Annual SAS Users Group International (SUGI) Conference, University of Northern Colorado, SAS Institute Inc.

- Sun, L., Aryee, S. and Law, K. (2007) High-performance human resource practices, citizenship behavior, and organizational performance: A relational perspective. *Academy of Management Journal*, 50 (3), pp. 558–577
- Takeuchi, R., Chen, G. and Lepak, D. (2009) Through the looking glass of a social system: Cross-level effects of high-performance work systems on employees' attitudes. *Personnel Psychology*, 62, pp. 1–29
- Thompson, J. (1996) Employee attitudes, organizational performance, and qualitative factors underlying success. *Journal of Business and Psychology*, 11 (2), pp. 171-196
- Tomlinson, J. (2007) Employment regulation, welfare and gender regimes: A comparative analysis of women's working-time patterns and work-life balance in the UK and the US. *International Journal of Human Resource Management*, 18, pp. 401–15
- Truss, C., Gratton, L., Hope-Hailey, V., McGovern, P., and Stiles, P. (1997) Soft and hard models of human resource management: A reappraisal. *Journal of Management Studies*, 34 (1), pp. 53-73.
- Truss, C. (2003) Strategic HRM: Enablers and constraints in the NHS. *The International Journal of Public Sector Management*, 16 (1), pp. 48-60
- Tubre, T. and Collins, J. (2000) Jackson and Schuler (1985) revisited: A meta-analysis of the relationships between role ambiguity, role conflict, and job performance. *Journal of Management*, 26 (1), pp. 155–169
- Vandenberg, R. and Lance, C. (2000) A review and synthesis of the measurement invariance literature: Suggestions, practices, and recommendations for organizational research. *Organizational Research Methods*, 3 (1), pp. 4-70
- Van de Schoot, R., Lugtig, P. and Hox, J. (2012) A checklist for testing measurement invariance. *European Journal of Developmental Psychology*, 9, pp. 486-492
- Van De Voorde, K., Paauwe, J. and Van Veldhoven, M. (2012) Employee well-being and the HRM–organizational performance relationship: A review of quantitative studies. *International Journal of Management Reviews*, 14 (4), pp. 391-407.
- Vanhala, S. and Stavrou, E. (2013) Human resource management practices and the HRM-performance link in public and private sector organizations in three Western societal clusters. *Baltic Journal of Management*, 8 (4), pp. 416-437
- Vermunt, J. and Magidson, J. (2002) Latent class cluster analysis. In: Hagenars J. and A. McCutcheon. (Eds.), *Advances in latent class analysis*. Cambridge: Cambridge University Press, pp. 1-21

- Voss, C., Tsikriktsis, N., Funk, B., Yarrow, D. and Owen, J. (2005) Managerial choice and performance in service management: A comparison of private sector organizations with further education colleges. *Journal of Operations Management*, 23, p. 179–195
- Walker, B. and Hamilton, R. (2011) The effectiveness of grievance processes in New Zealand: A fair way to go? *Journal of Industrial Relations*, 53 (3), pp. 103-121
- Walsworth, S. (2010) Unions and employment growth: The Canadian experience. *Industrial Relations: A Journal of Economy and Society*, 49 (1), pp. 142-156
- Walton, R. (1985) From ‘control’ to ‘commitment’ in the workplace. *Harvard Business Review*, 63, pp. 77–84.
- Wayne, S., Shore, L. and Liden, R. (1997) Perceived organizational support and leader-member exchange: A social exchange perspective. *Academy of Management Journal*, 40 (1), pp. 82-111
- Wei, M., Heppner, P. and Mallinckrodt, B. (2003) Perceived coping as a mediator between attachment and psychological distress: A structural equation modeling approach. *Journal of Counseling Psychology*, 50 (4), pp. 438–447
- West, M., Guthrie, J., Dawson, J., Borrill, C. and Carter, M. (2006) Reducing patient mortality in hospitals: The role of human resource management. *Journal of Organizational Behaviour*, 27, pp. 983–1002.
- White, M., Hill, S., McGovern, P., Mills, C. and Smeaton, D. (2003) High-performance management practices, working hours and work–life balance. *British Journal of Industrial Relations*, 41 (2), pp. 175–195
- Whitener, E. (2001) Do “high commitment” human resource practices affect employee commitment? A cross-level analysis using hierarchical linear modelling. *Journal of Management*, 27, pp. 515–535
- Whiteside-Mansell, L. and Corwyn, R. (2003) Mean and covariance structures analyses: An examination of the Rosenberg self-esteem scale among adolescents and adults. *Educational and Psychological Measurement*, 63, pp. 163-173
- Williams, C. (2003) Sources of workplace stress. *Perspectives on Labour and Income. Statistics Canada, Catalogue*, 4 (6), 5–12
- Williams, M. (2009) *How does the workplace affect quality of the workplace. Employee Relations Occasional Paper*. London: Department for Business Innovation and Skills.
- Williams, L., Vandenberg, R. and Edwards, J. (2009) 12 Structural equation modeling in management research: A Guide for improved analysis. *The Academy of Management Annals*, 3 (1), pp. 543-604
- Wilkinson, A. (1998) Empowerment: theory and practice. *Personnel Review*, 27 (1), pp. 40-56

- Wincent, J., and Örtqvist, D. (2006) A conceptualization of entrepreneur's role stress. Paper presented at the 14th Nordic Conference on Small Business Research. Stockholm: Nordic
- Wishart, D. (1969) An algorithm for hierarchical classifications. *Biometrics*, 25 (1), pp. 165-170
- Wood, S. (1999) Human resource management and performance. *International Journal of Management Reviews*, 1 (4), pp. 367-413
- Wood, S. and De Menezes, L. (2008) Comparing perspectives on high involvement management and organizational performance across the British economy. *The International Journal of Human Resource Management*, 19 (4), pp. 639-683
- Wood, S. and de Menezes, L. (2011) High involvement management, high-performance work systems and well-being. *The International Journal of Human Resource Management*, 22 (7), pp. 1584-1608
- Wood, S., Van Veldhoven, M., Croon, M. and De Menezes, L. (2012) Enriched job design, high involvement management and organizational performance: The mediating roles of job satisfaction and well-being. *Human Relations*, 65 (4), pp. 419-445
- Wright, P., Gardner, T., Moynihan, L. and Allen, M. (2005) The relationship between HR practices and firm performance: Examining causal order. *Personnel Psychology*, 58, pp. 409-446
- Wrzesniewski, A. and Dutton, J. (2001) Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review*, 26 (2), pp. 179-201
- Wu, A., and Zumbo, B. (2008) Understanding and using mediators and moderators. *Social Indicators Research*, 87 (3), pp. 367-392.
- Yeung, J and Li, E. (2011) Application of advanced modelling in social work research: A demonstration of multilevel path modeling analysis by Mplus. *Review of research and social intervention*, 35, pp. 108-127
- Youndt, M., Snell S., Dean J. and Lepak D. (1996) Human resource management, manufacturing strategy, and firm performance. *Academy of Management Journal*, 39, pp. 836-866.
- Yu, C. (2001) An introduction to computing and interpreting Cronbach Coefficient Alpha in SAS. Paper presented at the 26th SAS User Group International Conference. Arizona State University, Tempe, Arizona, pp. 22-25.