

**Employee participation as a moderator on the high performance work systems
and the perception of quality of care relationship in a large regional Australian
health service.**

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ABSTRACT

This article investigates the moderation effects of participation in decision making on the relationship between HPWS and the perception of quality of care. Survey responses were collected in March 2008 of 541 hospital managers, administrators and various groups of clinicians in a large regional Australian health service. Findings demonstrated that the positive relationship between HPWS and perceptions of the quality of patient care will increase with increasing levels of staff participation in decision making within their unit. These findings illustrate that by implementing HPWS and encouraging employee participation across different hierarchical work units, there is the potential to positively impact patient outcomes.

Keyword: Human Resource Management and Development, Public Sector and Non-profit, Strategic Management, Management Education and Development

INTRODUCTION

There have been considerable worldwide concerns about hospital performance in patient safety and quality (McLean & Walsh 2003; Baker & Flintoff 2004; Duckett 2003). Given that hospitals are a highly labour intensive, in a skilled industry setting, investment in people is crucial (Bartram, Stanton, Leggat, Casmir & Fraser, 2007). Studies of high-performing organisations in a variety of industries have consistently pointed to a positive relationship between high performance work systems (HPWS) and organisational performance (Delaney & Huselid 1996 ;Guthrie 2001;Youndt, Snell, & James,1996, Barraud-Didier & Guerrero 2002). However, there is significant debate about what constitutes a HPWS (Becker & Gerhart, 1996; Godard, 2004). In this paper we use the HPWS measures as conceptualised by Zacharatos, Barling and Iverson (2005).

In this paper, we argue that employee perceptions of high performance work practices and employee perception of their participation in decision making are conceptually different constructs. According to Batt and Appelbaum (1995: 355), “Various employee participation and HRM practices may interact, so that the sum effects on organisational performance are stronger than the effects of individual practices and that productivity effects are therefore greatest when organisations adopt a coherent array of high performance management practices”. Gollan (2005) argues, research demonstrates that

comprehensive employee involvement and participation in employee relations policies and HR practices have the potential to make an important contribution to employee performance.

This paper sets out to examine the moderation effect of individual perceptions of involvement in decision making at the work unit level on the relationship between high performance work systems and perceptions of quality of patient care. Moreover, the majority of the quality of patient care literature focuses on the role and management of front line clinicians. In this paper, we put forward the notion that quality of patient care is not just a clinician issue but a system and hospital wide concern. Therefore we investigate the attitudes of all health service employees. To examine these relationships, the researchers use a sample of 451 Australian regional hospital employees throughout the organisation hierarchy.

The paper is organised in the following way. First, we explore the literature on HPWS. Second, we outline the literature on quality of patient care and employee participation in decision making. Third, we present two hypotheses. Fourth, methodology and procedure are outlined, followed by results. Finally, we present the discussion and conclusions.

High performance work systems

There is evidence that aspects of high performance work systems (HPWS) both individually and in ‘bundles’ are positively associated with individual and organisational performance (Delaney & Huselid, 1996; MacDuffie, 1995; Snell & Youndt, 1995; Youndt, et al., 1996). The components of HPWS have been described as “a group of separate, but interconnected human resource practices that together recruit, select, develop, motivate and retain employees” (Zacharatos, Barling, & Iverson, 2005: 79). High performance works systems are designed to improve employee relations and increase organisational performance through quality communication and consultation between management and employees (Gollan, 2005).

It is not entirely clear what the essential components of the HPWS bundle are comprised of, as there have been a range of variables included in the HPWS indices in different organisations (Becker &

Gerhart, 1996; Godard, 2004). In a summary of five studies Becker and Gerhart (1996) identified 27 different high performance work practice variables. For this study, we considered the practices confirmed by Zacharatos, Barling and Iverson (2005) as representative of HPWS, comprising: security, selective hiring, contingent reward, extensive training, teams and decentralised decision making, reduced status distinctions, information sharing, transformational leadership, high-quality work (defined as appropriate workload, role clarity, and employee control) and measurement of management practices.

Within the HPWS literature, there is a growing recognition that the use of HRM practices is a multi-level phenomenon (Kozlowski & Klein, 2000). The HRM system and processes can send signals to employees that allow them to understand the desired and appropriate individual and collective responses (Bowen & Ostroff, 2004). Bowen and Ostroff (2004) argue that if the HRM system is perceived as high in distinctiveness, consistency and consensus it will create a “strong situation” and consistent employee behaviour and thereby improve organisational performance.

For most employees, including clinicians, support staff, as well as managers and administrators, the actual management of their unit represents for the most part their understanding or interest in HRM or HPWS. This is compounded by the devolvement of responsibilities for decision making and development of operative action there is growing importance placed on line managers (Mayrhofer, Muller-Caman, Ledolter, Strunk, & Erten, 2004; Guest 1987). Guest (1987) argues that the attitudes of line management along with their behaviours and practices are crucial if HRM is to be integrated and effective. Moreover, Nishii, Lepak, and Schneider (2008), point out that not all employees perceive and interpret the HR system in the same way. In particular line managers exert considerable influence on employee attitudes as they are often the interpreters of HR practices (Nishii et al., 2008; Purcell & Hutchinson, 2007). Therefore, it is at the level of the unit at which this study is situated.

Further compounding the complexity of HPWS operation is the industry context. Data, Guthrie and Wright (2005) identified an industry effect on HRM systems and processes. Public health care

operates within a complex web of key stakeholders including government, health care managers, professional associations and even consumer lobby groups (Stanton, 2008). The management of employees is framed by complex and often centralised industrial relations frameworks and professional regulations which influence not only wages and conditions but also role design and even workforce configuration (Hyde, McBride, Young, & Walshe, 2005). However, despite these constraints there is evidence that hospitals have some control over their HRM systems.

Quality of patient care

Studies associated with magnet hospitals have demonstrated a positive HPWS and clinical performance link (Aiken et al., 1994; Laschinger, Shamian, & Thomson, 2001b). In particular, these studies have found nurse empowerment to be an important factor in HPWS (Laschinger & Wong, 1999; Patrick & Laschinger, 2006). For example, a study in the USA found that quality care provision was related to employee perceptions that their managers empowered them to deliver high quality customer service within a sample of 113 Veterans Health Administration ambulatory care centres (Scotti, Harmon, & Behson, 2007), confirming the importance of empowerment in health care delivery.

Hypothesis 1: HPWS will be positively associated with perceptions of high quality of patient care

Participation in decision making

Employee participation in decision making on HRM policies and practices can improve the utility (Scotti, et al., 2007), employee job satisfaction (Miller & Monge, 1986) and employee performance (Miller & Monge, 1986). A number of authors have speculated about the precise mechanism through which employee participation in decision making may affect employee attitudes and performance (Bowen & Ostroff; Snell & Youndt, 1995). For example, Miller and Monge (1986) purport that participative interventions may fulfil employees' higher order needs which may affect job satisfaction and subsequently labour productivity. Moreover, employee participation in decision making may also enhance productivity by improving the knowledge, skills and abilities and motivation of employees (Gollan, 2005). Employee participation in decision making at the team level may also improve

cooperation and better communication between employees and managers (Gollan, 2005). Parnell et al (1992: 2) adds “more relevant information was attained and utilised and one which is more likely to result in positive organisational and personal outcomes.” Employees who feel that their involvement in decision making can have some impact on the unit or immediate work environment are more likely to become actively involved (Brown & Cregan, 2008: 672).

High involvement work systems should “increase labour productivity, lower labour turnover and less absenteeism, greater output and a generally improved and flexible workplace culture” (Gollan, 2005: 19). Research demonstrates that comprehensive employee involvement and participation in employee relations policies and HR practices have the potential to make an important contribution to employee performance (Gollan, 2005).

At the unit level, Brown and Cregan (2008: 670) suggest that “a participative work climate is created by the attitudes and behaviours of managers, who can choose how to manage their employees – for example, through the way they run meetings or involve employees in decision making”. Miller and Monge (1986) argue that employee perceptions of a participation climate are effective predictors of job satisfaction and performance. Enabling greater employee involvement in decision making requires management to fundamentally change the way decisions are made within organisations, management may need to relinquish some of its control over decision making to provide employees with an opportunity to provide input and assistance in decision making (Brown & Cregan 2008). According to Wiley (1997) studies of employee involvement in decision making frequently demonstrate that employees regularly rate this aspect of work favourably. Moreover, employees are usually alarmed at the prospect of a lack of involvement in decision making (Freeman & Rogers, 1999).

Recent studies within the healthcare sector are beginning to demonstrate the importance of employee participation on the practice of HRM. For example, West (2002) argues based on his work in the NHS that “if you have HR practices that focus on effort and skill; develop people skill; encourage cooperation, collaboration, innovation and synergy in teams for most, if not all, employees, the whole

system functions and performances better”. Moreover, a recent qualitative study undertaken by Stanton, Young, Leggat and Bartram (2010) of three Australian hospitals reinforces the importance of employee involvement and valuing employee input into the development of HRM policies and practices and their successful implementation and day-to-day impact on the provision of patient care.

Hypothesis 2: The relationship between HPWS and patient care is moderated by participation in decision making at the unit level. Specifically, the positive relationship between HPWS and patient care will increase with increasing levels of participation in decision making.

METHODOLOGY

Data were collected from all of the 1700 employees within an Australian regional health service in March 2008. Employees from all levels within the hospital hierarchy and across all functional groups were included in the survey. Functional groups included: management and administration; medical services; nursing; clinical support services. We received 541 useable responses. This represented a response rate of 32 per cent. Mean tenure rates for all employee categories was 10.28 years. The mean working week was 35.89. The average age of respondents was 43.71. 78.5 per cent of the sample was female. 30.6 per cent of employees held a bachelor degree and a further 30 per cent held postgraduate qualifications (e.g., postgraduate diploma, master degree, PhD). 83.3 per cent of respondents were classified as permanent employees. While the remaining were employed on either fixed term contract or on a casual basis. For missing data we used case-wise deletion.

Measures

Unless indicated otherwise, numerical values represent the following responses: 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree.

Predictor variables. An adapted version of Zacharatos, Barling and Iverson’s (2005) measure of HPWS comprising 42 items was used. The HPWS measure consists of eight constructs. A principal components analysis was conducted for each of the eight sub-scales. Items that had a loading of less

than .50 were omitted based on Hair et al.'s (1998) recommendation. The number of items that met the loading criterion and the Cronbach's Alphas for the eight sub-scales are as follows: employment security (both 2 items included, $\alpha=.77$); selective hiring (all 8 items included, $\alpha=.89$); extensive training (all 8 items included, $\alpha=.93$); self-managed teams and decentralised decision making (all 4 items included, $\alpha=.87$); information sharing (all 7 items included, $\alpha=.87$); transformational leadership (all 6 items included, $\alpha=.95$); high-quality work (3 out of 4 items included, $\alpha=.76$); and reduced status distinctions (two of three items included, $\alpha=.39$).

Outcome variable. We modified the patient satisfaction scale used by the Victorian Patient Satisfaction Monitor that patients use to rate their hospital stay in a hospital in the state of Victoria. The measure consisted of 17-items. Example items include: "I am courteous to patients"; "I am responsive to the needs of patients"; "I treat patients with respect" ($\alpha =.95$). The 17-items loaded on a single factor. Following reliability analysis three items were removed.

Control variables. Our analysis also included three control variables: age, employment contact, gender and tenure. Following Metocchi, (2002) these measures were included to reduce the chance that unmeasured variables could explain the results and to improve generalisability. Age and tenure were continuous variables. Gender was coded as a dichotomous variable (male=1; female=0). Employment contract was coded as (permanent=1; fixed term contract and casual=0).

Results

In the factor analysis, we used principal components analysis with varimax rotation. The values of multi-item variables were constructed by taking the mean of the component item values. A principal components analysis was then conducted on all 42 of the items of the HPWS construct and loaded satisfactorily. Based on the principal components analysis two items did not load on their prospective factor and were thus omitted (i.e., one item for reduced status distinction and one item for high quality work). This analysis revealed a single-component solution that explained 45.8% of the variance in the items. Cronbach's alpha for the 40-item measure was .97. Patient Care was measured using 16 items.

All of the items loaded satisfactorily and Cronbach's Alpha was .92. Participation was measured using 8 items. All of the items loaded satisfactorily and Cronbach's Alpha was .93.

Hypotheses one was tested by examining the association between HPWS and quality of patient care variable in the correlation matrix. No statistically significant relationship was found between HPWs and quality of patient care ($r=-.004$; $P=ns$) and subsequently hypothesis 1 is rejected. Table 1 provides the means, standard deviation between the variables that were measured. As shown in Table 1, HWPS and participation in decision making have a significant positive correlation while patient care has non-significant correlations with HPWS and participation in decision making.

Insert Table 1 about here

Hypothesis 2 which proposes that participation in decision making moderates the relationship between HPWS and patient care was tested using the product-term procedure that is based on hierarchical regression analyses. This procedure involves standardizing both the independent variable and the moderator variable. A product-term is then created by multiplying the scores from the independent variable and the moderator variable (Jaccard, Turrisi, & Wan, 1990) to represent the interaction effect.

The hierarchical regression analysis revealed that participation in decision making moderates the relationship between HPWS and patient care: For the product-term, $b = .06$, $p < .05$, $\Delta R^2 = .01$. The moderation effect was examined more closely by splitting participation in decision making into three groups (i.e., low, $n = 147$; medium, $n = 148$; and high, $n = 114$), using the 33rd and 67th percentiles as cut-off points. The correlation between HPWS and patient care was then calculated for each of the three groups. These correlation analyses revealed that the correlation between HPWS and patient care

is significant for the high participation in decision making group (i.e., $r = .25$, $p < .01$) but not for the low or medium groups ($r = -.05$, $p > .05$ and $r = .02$, $p > .05$, respectively). These findings support the Hypothesis.

The hypothesis was then tested for each of the eight components of HPWS: That is, employment security, selective hiring, extensive training, self-managed teams and decentralised decision making, information sharing, transformational leadership, high-quality work, and reduced status distinctions. The findings from these analyses revealed that the following components of HPWS had significant interaction effects with participation with regards to quality of patient care: extensive training (product-term, $b = .07$, $p < .05$, $\Delta R^2 = .01$); self-managed teams and decentralised decision making (product-term, $b = .07$, $p < .01$, $\Delta R^2 = .02$); high-quality work (product-term, $b = .06$, $p < .05$, $\Delta R^2 = .01$); and reduced status distinctions (product-term, $b = .08$, $p < .05$, $\Delta R^2 = .02$). The hypothesis is thus supported for all four of these components of HPWS.

Discussion and conclusions

This paper set out to investigate the interactive effects of employee participation in decision making on the relationship between HPWS and perceptions of the quality of patient care. The results demonstrated that there was no significant direct association between HPWS and the quality of patient care. The results more importantly illustrated that employee participation in decision making moderated the relationship between HPWS and quality of patient care. More specifically further exploratory analysis showed that employee participation in decision making moderated the relationship between four key dimensions of HPWS, including: extensive training; self-managed teams; high-quality work and reduced status distinctions and quality of patient care. These results have important implications for HPWS research and managerial practice within the healthcare setting.

First, the development of HPWS policy by senior management is purely a starting point. Our results illustrate that it is important for managers to translate these policies into practice at the unit level.

More importantly, it is critical for first-line managers to involve employees in the development and implementation of HR policy and practice to enable employees to internalise the values and appropriate behaviours (Bowen & Ostroff, 2004). Our results support previous research that shows that when management involve employees in decision making about HR practices they are more likely to be committed to these policies display appropriate behaviours which may bring about improved performance (Brown & Cregan, 2008; Stanton et al., 2010). Our results lend some support that in this particular health setting employee participation in decision making may be a critical factor in establishing a relationship between HPWS and in the least perceptions of quality of patient care. This makes a good sense as managers and health care practitioners are highly skilled knowledge workers that are extremely passionate and dedicated to the welfare of their patients (Scotti, et al. 2007). Managers involving employees in decision making in day-to-day HR matters has been shown to improve the utility of HR practice, enhance employee job satisfaction and organisational commitment and reduce patient mortality rates (Brown & Cregan, 2008; Bowen & Ostroff, 2004; Stanton et al., 2010). Furthermore, recent research has shown that employees and first-line managers who are not involved in decision making about HR policy may not understand its relevance or value and can become cynical about HR (Bowen & Ostroff, 2004; Stanton et al., 2010).

Second, senior managers especially in large and complex organisation such as hospitals need to fully acknowledge the valuable role first-line managers play in communicating, translating and operationalising HR policy (Bartram et al., 2007). To be effective, managers need workable HR policies and, to be successfully applied in practice, HR policies need managers who will act in ways that are 'recognised and reciprocated by employees' (Purcell & Hutchinson 2007:16). We argue that it is imperative to adequately train first-line managers and equip them with not only HR knowledge but also an understanding of the importance of "soft" management skills such as leadership, communication and teamwork skills. Therefore, HR practice at the unit level becomes critical to the successfully shaping employee attitudes and behaviours such as the quality of patient care.

Third, our study unlike many others in a healthcare setting was not solely focussed on patient care as provided by clinicians but contained the perspectives of all hospital employees. Our results show that within this health setting a cross section of employees internalised the importance of their role and its impact on the quality of patient care. These results highlight that hospitals need to consider the quality of patient care not only from a technical point (this is of critical importance) but also as a cultural value internalised by all staff across the entire organisation. We argue that every functional area and employee within a hospital has an important role to play in the provision of care.

Limitations

Despite the value of our results, they are not without limitations. First, the quality of patient care data is based on the self report of hospital workers. Having said this, we found no evidence of common method bias within the sample. In future studies we aim to extend this work by assessing the association between clinician perceptions of quality of patient care and their patient's assessment of their care. Second, our results are based on a single organisation. We keen to replicate this work in other hospital settings within the Australian public hospital system. Notwithstanding these limitations the findings of this paper provide some valuable insights for HPWS research and managerial practice.

Conclusion

Overall, the implementation of HPWS and employee involvement in the decision making process contributes significantly to the quality of patient care in a large regional Australian health service. Health care organizations should therefore take into consideration the potential of employee participation across different hierarchical work units as a way to further enhance the quality of patient care that they provide.

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TABLE 1

Means, standard deviations and correlations for the measured variables

Mean	S.D.	1	2	3	4	5	6	
1. Age	42.6	10.4						
2. Gender	---	---	.17					
3. Tenure	9.9	8.7	.51	.07				
4. Job Status	---	---	-.15	.00	-.24			
5. HPWS	3.3	0.7	.03	-.08	-.02	.02		
6. Participation	3.2	0.9	.07	.02	.07	-.04	.78	
7. Patient Care	4.7	0.6	-.01	-.06	-.10	-.03	.00	-.04

$r > .10, p < .05; r > .19, p < .01; r > .16, p < .001$ (two-tailed)