

## **The impact of NPM on the stress level of Australian nurses**

**Silvia Nelson** BBus, MBA, MHRM, PhD  
School of Management,  
Griffith University - Gold Coast Campus  
Southport 4215, Queensland, Australia  
Email: [silvia.nelson@griffith.edu.au](mailto:silvia.nelson@griffith.edu.au)

**Yvonne Brunetto** BA, DipED, PhD  
School of Management,  
Griffith University - Gold Coast Campus  
Southport 4215, Queensland, Australia  
Email: [y.brunetto@griffith.edu.au](mailto:y.brunetto@griffith.edu.au)

**Rod Farr-Wharton** B.Sc, M.Sc. PhD  
University of the Sunshine Coast,  
Maroochydore, Queensland. 4558, Australia  
Email: [rfarr@usc.edu.au](mailto:rfarr@usc.edu.au)

**Natasha Curren**  
School of Management,  
Griffith University - Gold Coast Campus  
Southport 4215, Queensland, Australia  
Email: [n.curren@griffith.edu.au](mailto:n.curren@griffith.edu.au)

**Track:** Improving public sector performance

**Correspondence:**  
[y.brunetto@griffith.edu.au](mailto:y.brunetto@griffith.edu.au)

## **The impact of NPM on the stress level of Australian nurses**

### **Abstract**

This paper examines the links between the antecedents of workplace stress (social climate, communication practices and relative pay) and public sector nurses' perception of workplace stress. These antecedents of stress have been specifically chosen based on previous research identifying how the implementation of New Public sector Management has affected the quality of organisational management and communication factors. The findings from the regression analysis suggest that nurses' level of satisfaction with organisational factors affected by NPM accounted collectively for 11.6% of the variance of their perception of workplace stress. The findings also demonstrated that the specific individual factors were not significantly related to perceptions of workplace stress and it seems that no one organisational factor is dominant. Management practices therefore must be aligned with strengthening these organisational factors generally if perceptions of workplace stress are to be managed and in turn, organisational effectiveness is to be optimised.

**Keywords:** New Public Management (NPM), public sector employee; retention; workplace stress, staff turnover

# **The impact of NPM on the stress level of Australian nurses**

## **INTRODUCTION**

Over the last two decades the work practices of nurses have been impacted by changes in organisational policies and practices such as those associated with the implementation of New Public Management (NPM) reforms including managerialism (Buchanan & Considine 2002; Harris 1999; Morland, Steel, Alexander, Stephen & Duffin 1997; Newman, Maylor & Chansarkar 2002). NPM refers to the adoption of private sector management tools by public sector organisations so as to make organisational processes and practices more efficient and in turn, facilitate a change from an input to an output focused system (Ferlie, Ashburner, Fitzgerald & Pettigrew 1996; Harris 1999; Morland et al. 1997). Although the implementation of NPM reforms has benefited organisations and governments (in the short term) by improving efficiency and reducing per capita expenditure, the reforms are perceived to have had some negative impacts on public sector employees (Avis 1996; Brunetto & Farr-Wharton 2005, 2006a; Ferlie, Ashburner & Fitzgerald 1996; Gleeson & Shain 1999; Kirkpatrick & Lucio 1995).

In the case of public sector nurses, such negative impacts include increased workload, poorer working conditions, increased pace/intensity of work arising from increased acuity of patients, and increased levels of accountability, particularly in relation to record keeping and data collection practices (Brunetto & Farr-Wharton 2004; Degeling, Sage, Kennedy, Perkins & Zhang 1999; Harris 1999; Hughes 2000; Newman, Maylor & Chansarkar 2002). This, in turn, has contributed to a new organisational challenge related to increased turnover, because many nurses are leaving the profession or changing their employing organisation. There is a shortage of medical professionals in general, (and nurses in particular) across a number of OECD countries and it has impacted on the effectiveness of their public hospitals (Brunetto & Farr-Wharton, 2004b, 2006a; Buchanan & Considine 2002; Neuman, Maylor & Chansarkar 2002). Recent studies conducted with public sector nurses have identified the main reasons given for leaving the profession to include 'workload', 'pay', 'poor management', 'inflexible work hours', 'poor work conditions' and 'lack of growth opportunities' (Buchanan & Considine 2002; Hegney, Plank, Buikstra, Parker & Eley 2005; Lee, Yang & Chen 2000; Newman, Mayor & Chansarkar 2002). These specific factors are strongly affected by the quality of organisational processes and practices (e.g. social climate, communication processes and relative pay) embedded within an organisation. It is these same processes that have undergone significant changes as a result of the implementation of management reforms.

Based on the NPM advocacy literature, if the implementation of NPM improves the quality of organisational management and communication processes, then employees should experience lower levels of stress and frustration. A number of significant factors contributing to workplace stress have been identified in the literature. For instance, findings from a UK study by Tyler, Carrol and Cunningham (1991) suggest that stress resulting from excessive workload was one of the primary causes of ill health and psychological disorders for both public and private sector UK nurses; the incidence of workload-related stress was higher for nurses working in the UK public sector. Employees' perception of the quality of social climate – particularly the relationship with supervisors, is significantly linked to their perception of workplace stress. If the relationship between nurses and their supervisors has

been compromised by the implementation of NPM then it is likely to have also increased their perception of workplace stress. Joiner and Bartram (2004) identified a negative statistical relationship between social support structures and work stress for Australian nurses. Moreover, if relevant information about organisational goals, instructions for undertaking workplace tasks and appraisal methods have not been adequately communicated to employees, then it is likely to negatively impact on nurses' perception of workplace stress. Other research suggests that the introduction of NPM reforms have impacted significantly on public sector employees' satisfaction with *pay*, *supervision*, *promotion* and *organisational policies* (Brunetto & Farr-Wharton 2005, 2006b; Buchanan & Considine 2002; Newman, Maylor & Chansarkar 2002). In the new nursing work environment, a renewed emphasis on optimizing workplace stress may be a key factor in improving nurses' level of satisfaction with organisational policies and processes and hence, organisational effectiveness. Therefore, strategies for improving the work environment and building and maintaining effective communications and relationships may play an important role in improving organisational effectiveness by reducing workplace stress.

However, to date, there has been minimal research examining the impact of NPM on the effectiveness of organisational policies and processes and the resultant impact on workplace stress within public sector organisations (Brunetto & Farr-Wharton 2004). One way of examining this issue is to explore further the relationship between the antecedents of workplace stress and perceptions of workplace stress to better understanding the impact of NPM reforms and the experiences of workplace stress. The antecedents of stress examined in this paper include social climate, communication factors and relative pay. These antecedents of stress have been specifically chosen based on previous research identifying how the implementation of NPM has affected employees' level of satisfaction with the quality of organisational management and communication factors (Brunetto & Farr-Wharton, 2004a,b, 2005a,b, 2006a,b, 2007; Buchanan & Considine 2002; Kirkpatrick & Ackroyd 2003) and in turn employees' perception (experience) of workplace stress. The aim of this paper is to examine whether the implementation of NPM on nurses' level of satisfaction with organisational policies and processes (social climate, communication and relative pay) has negatively affected their perception of workplace stress. The research question is:

**RQ:** What is the impact of NPM on nurses' level of satisfaction with organisational policies and processes (social climate, communication and relative pay) and in turn, their perception of workplace stress?

This paper has three parts. The first part details an extensive review of the literature from which the hypothesis emerges. The second part describes the sample and methods to test the hypothesis. The third part reports the results from a linear regression analysis of relevant data followed by the discussion involving pattern-matching with relevant past research.

## **BACKGROUND**

### **Organisational social climate**

The organisational social climate is a reflection of the norms, values and beliefs held by employees about how employees and managers should interact whilst working (Smith, Collins & Clark 2005). The quality of the social environment affects organisational outcomes by affecting the motivation of employees (Wright & McMahan 1992; Evans & Davis 2005). Theories such as social exchange theory (SET) (Cole, Schaninger & Harris 2002; Wayne,

Shore & Linden 1997) and social capital theory argue that when there are good working relationships embedded within organisations, then employees and supervisors help one another by sharing information, resources and emotional support because they trust and respect one another, and this makes them feel empowered to solve organisational problems efficiently and effectively (Haskin 1996; Kessels & Poell 2004).

Employees' perception of the quality of social climate – particularly the relationship with supervisors is significantly linked to their perception of workplace stress. For example, Blanchard (1993) suggests that an effective relationship between employees and supervisors is one of the major contributors to an individual's perception of well-being and ultimately physical health. Similarly, Joiner and Bartram (2004) identified a negative statistical relationship between social support structures and work stress for Australian nurses. This suggests that a poor employee-supervisor relationship may be a significant antecedent for workplace stress. If the relationship between nurses and their supervisors has been compromised by the implementation of NPM, then it is likely to have also increased their perception and experience of workplace stress.

In addition, numerous researchers argue that one of the aims of the implementation of NPM was to curb the power of public sector professionals using increased accountability mechanisms so as to mediate between organisational goals and professional/culturally-embedded goals, and this has negatively impacted on their supervisory relationships (Ferlie et al. 1996; Kirkpatrick & Ackroyd 2003; Whittington, McNulty & Whipp 1994). As a result, supervisors have often had to focus on their auditing role rather than their supporting role (Power 1997). For example, nurse managers in the UK have been expected to “create empowering social environments” within the context of “tight budgetary controls and performance measures and targets” that overrides all other goals (Bolton 2003, p.126). Hence, despite the claims that one of the official aims of NPM was to empower public sector employees (particularly professionals) by using a custodial mentoring management approach to foster effective relationships, the reality for most public sector nurses has been far from this ideal (Brunetto & Farr-Wharton 2006a, 2007; Harris 1999; Kirkpatrick & Ackroyd 2003; Taylor & Barling 2004). Previous research has already identified that nurses' level of job satisfaction and commitment is affected by the quality of communication and organisational management processes – however, there has been minimal research examining the link between these organisational processes and nurses' level of perceived workplace stress. If the relationship between nurses and their supervisors has been compromised by the implementation of NPM then it is likely to have also increased their perception of workplace stress.

### **The Quality of Information-Sharing**

The quality of communication processes embedded within an organisation is a major factor affecting the quality of information-sharing. Communication processes are those processes used by individuals and/or groups to interact in a variety of ways and within different situations with the aim of carrying out organisational goals (Smidts, Pruyn & van Riel 2001). In particular, within organisations there are a number of communication constructs that work in unison to determine organisational communication effectiveness. For example, *communication climate* refers to employee's satisfaction with communication processes in general within the organisation and *personal feedback* measures employees' level of satisfaction with appraisal methods and employees' performance from supervisors. The implementation of NPM reforms led to public organisations developing mission statements and related policies identifying the organisation's goals and organisational processes aimed at

achieving those goals. Hence, if the implementation of NPM has been fully implemented, then nurses' should be satisfied with the quality of the organisational climate. Moreover, when employees know what and how they should undertake tasks, then it is not only easier for them to be productive, it is also easier for them to solve work-based problems more competently (Gray & Laidlaw 2002; Wood 1999). The factors that enhance personal feedback include the extent to which management is open to ideas and prepared to listen to employees' concerns. Moreover, when they know how they will be assessed, then it is easier for them to perform in a way desirable to the organisation.

Ideally, the implementation of NPM reforms should have improved public sector employees' level of satisfaction with organisational communication processes, although Kikoski (1999) argues that this premise has not been tested adequately in the public sector. Moreover, if relevant information about organisational goals, instructions for undertaking workplace tasks and appraisal methods have not been adequately communicated to employees, then it is likely to negatively impact on nurses' perception of workplace stress.

**Relative Pay** Previous research suggests that the introduction of NPM reforms have impacted significantly on public sector employees' satisfaction with *pay, supervision, promotion* and *organisational policies* (Brunetto & Farr-Wharton 2005, 2006b; Buchanan & Considine 2002; Newman et al. 2002). There is a traditional perception that administrative and work factors such as 'pay' determined employees' level of commitment to the organisation, irrespective of the effectiveness of organisational practices and policies (Brunetto & Farr-Wharton 2005; Buchanan & Considine 2002; Ferlie et al. 1996; Morland et al. 1997; Newman et al. 2002). For instance, research conducted with Australian nurses suggests that nurses were dissatisfied with 'pay' (Barrett & Yates 2002). On the other hand, past research indicates that positive experiences in the work environment with effective interpersonal relationships is more relevant in influencing nurses' decision to remain in the organisation than other factors such as 'pay' (Brunetto & Farr-Wharton 2006). Another relevant study (Flanagan 2006) also reported that 'pay' was the lowest actual source of job satisfaction for nurses. Buchanan and Considine (2004) also reported that few Australian nurses mentioned 'pay' as the sole or even the dominant factor influencing their decisions to leave. In summary, it is likely that public sector nurses' perceptions of poor levels of pay, in addition to their beliefs about poorly implemented policies, are likely to negatively affect their perception of workplace stress.

### **Employees' perception of Stress**

Previous research suggests that nursing generally is a stressful occupation with nurses having to deal with death and dying on a regular basis. In addition, there is growing evidence that stress is also caused by a lack of support, job demands, poor relationships with supervisors, poor communication, excessive workloads, and uncertainty over treatment (Fillion et al. 2007; Lambert & Lambert 2001; Lee & Akhtar 2007; Loo & Thorpe 2004; Taylor, White & Muncer 1999).

However, for public sector nurses, the inherent stress factors associated with the nature of the profession have been exacerbated by recent organisational restructuring such as those associated with NPM reforms (e.g. contract employment, casualisation, focus on cost management) (Bolton 2003; Harris 1999;). Examples of such negative impacts include increased workload, poorer working conditions, increased pace/intensity of work arising from increased acuity of patients, and increased levels of accountability, particularly in relation to record keeping and data collection practices (Brunetto & Farr-Wharton 2004a, 2006a, 2007; Degeling et al. 1999; Harris 1999; Hughes 2000; Newman, Maylor & Chansarkar 2002).

These factors not only negatively impact on public sector nurses' stress levels but are also likely to have a deleterious effect on their health and well-being.

Because previous research has identified that the implementation of NPM has negatively affected the working conditions of public sector professionals, it is expected that organisational factors (measured by a composite of three variables: Nurses' level of satisfaction with (1) the organisational social climate, (2) communication practices, (3) Relative pay) will affect employees' perception of stress. The hypothesis that emerges from the literature is:

*RQ<sub>1</sub> There is a significant inverse relationship between nurses' level of satisfaction with organisational factors (social climate, communication and relative pay) and their perception of workplace stress.*

## METHODS

A cross-sectional, survey-based, self-report strategy (Ghauri & Gronhaug 2002) was used to obtain data to test the model depicted in Figure One examining the impact of organisational processes and practices (affected by the implementation of NPM) on nurses' perception of stress.

### Measures

The measures included in the questionnaire are outlined as follows:

To measure '*nurses' level of satisfaction with the quality of social climate*', one variable was used from Downs and Hazen (1977) 'Communication Satisfaction Questionnaire': (a) 'Satisfaction with communication with the Superiors' (which measures satisfaction with communication to and from superiors) This measure was specifically chosen because of previous research arguing that the implementation of NPM has changed the quality of the supervisor-subordinate relationship, especially for public sector professionals such as nurses (Bolton 2003, Brunetto & Farr-Wharton 2006a, 2007).

To measure '*nurses' level of satisfaction with the quality of communication processes*', two variables from Downs and Hazen (1977) 'Communication Satisfaction Questionnaire' were used. They were: nurses' level of satisfaction with 1) Communication Climate (measures satisfaction with both personal and organisational communication processes) and Personal Feedback (measures satisfaction with communication about appraisal methods and their performance). These measures were specifically chosen because the implementation of NPM should have led to more effective organisational communication processes, however, Kikoski (1999) argues that this premise has not been tested adequately.

To measure '*nurses' level of satisfaction with pay*', the variable 'Employees' satisfaction with Pay' from The INDSALES instrument (Childers et al. 1980) was used because previous research has identified that this factor was strongly affected by the implementation of NPM and, in turn, affected nurse's level of satisfaction and commitment to nursing (Buchanan & Considine 2002), however, it is unclear whether it was an antecedent of workplace stress and well-being for public sector nurses.

1. The construct used to measure '*public sector nurses' perception of workplace stress*' was devised after reviewing the literature about how the implementation of NPM had affected

nurses' work context – hence the questions related to their perceptions about workloads such as “I feel overwhelmed by the work I’m expected to do in my shifts” (See Buchanan & Considine 2002) and how previous researchers had identified the impact of stress on other employees such as “I am always thinking about work even when I go to bed” (See Loo & Thorpe 2004).

### Sample

The implementation of NPM has affected the practices of public sector nurses in a number of countries such as Australia, New Zealand, Canada and the UK. For convenience, the study was focused in a city of one Australian state (Yin 2003). The management of public sector hospitals is similar especially since the implementation of NPM has standardized management processes particularly in relation to monitoring, measuring and appraising the performance of human resources – including nurses (Adcroft & Willis 2005; Wanless 2000). As such, any one public sector hospital should be representative of what happens in most public hospitals – hence, one hospital was approached and agreed to be involved in the study. Questionnaires were handed out to every second full-time nurse on day shift in general wards during a weekday. Because most nurses in Australian public sector hospitals engage in shift work, the nurses on day shift on any one day should experience a similar work context compared with any other nurses. Hence, the sample of nurses in this study should be representative of most nurses working in public sector hospitals. In total, one hundred and sixty surveys were distributed and one hundred and thirty-three completed surveys were collected. The response rate was approximately eighty percent.

## RESULTS

The demographics of the population are that it included forty-nine males and eight-four females. The sample comprised nine assistant nurses, thirty-seven enrolled nurses, and the remainder - eighty-seven nurses were registered nurses at different levels of the hierarchy. See Table 1 for details of age cross-tabulated against level of tenure in the organisation.

Insert Table 1 here.

### Results from quantitative analysis

The means, standard deviations, correlation coefficients and alpha scores for each variable are reported in Table 2. Coefficient alphas were all acceptable, ranging from .73 to .89. The findings indicate that nurses' *perception of stress* is significantly correlated to all variables (personal feedback, communication relationship with the supervisor, communication climate and relative pay) except the control variable – background.

Insert Table 2 here

**Hypothesis 1.** In order to address the first hypothesis (*Hypothesis 1: There is a significant inverse relationship between nurses' level of satisfaction with organisational factors and their perception of workplace stress*) a linear regression analysis was undertaken. The hypothesis is accepted in part because the findings suggest that 11.6% of the variance of nurses' *perception of workplace stress* can be explained by the organisational factors identified as being affected by the implementation of NPM ( $F=2.83$   $p<.05$ ,  $R^2 = 11.6\%$ ) (See Table 3 that indicates the negative beta scores for all organisational factors). However, none of the organisational factors were individually significant.



Insert Table 3 here

## DISCUSSION

This paper examined whether there is a significant inverse relationship between nurses' levels of satisfaction with organisational factors (social climate, communication and relative pay) and their perception of workplace stress. The analysis of the means (Table 2) indicate that nurses appear dissatisfied with their pay (Mean = 5.03) and slightly dissatisfied with communication (Mean = 4.11) and social climate (Mean = 3.98) and these changes appear to have negatively influenced nurses' perception of stress. Previous research had already provided numerous examples of how workplace stress affected individual and organisational outcomes generally (Cooper & Cartwright, 1994) and nurses in particular (Armstrong-Strassen, Cameron, Mantler & Horsburgh 2001; Loo & Thorpe 2004; Rees & Cooper 1992; Taylor, White & Muncer 1999). The findings from the regression analysis suggest that nurses' level of satisfaction with organisational factors affected by NPM accounted collectively for 11.6% of the variance of their perception of workplace stress. This result demonstrates the significance of this cluster of organisational factors on perception of stress by nurses. However, results from the regression analysis demonstrated that the specific individual factors were not significantly related to perceptions of workplace stress and it seems that no one organisational factor is dominant. That is, no one particular workplace factor causes stress for nurses in this study.

However, because of the significance of the collective result, it appears that all three organisational factors need to be perceived as satisfactory if these contextual factors are to be effective in reducing the stress of the job. Dissatisfaction with any one factor may tip the balance towards a perception of increased stress. Past research indicates that positive experiences with the work environment in terms of effective interpersonal relationships (social climate and communication) is more relevant in influencing nurses' decision to remain in the organisation than other factors such as 'pay' (Brunetto & Farr-Wharton 2006a; Buchanan & Considine 2004). Another relevant study (Flanagan 2006) also reported that 'pay' was the lowest actual source of job satisfaction for nurses. Yet another study conducted with nurses in an Australian context (Queensland) indicates that nurses were dissatisfied with 'pay' (Barrett & Yates 2002). So, although pay alone is not a significant factor in the present research, the results indicate that pay operates in an additive fashion with the other factors to influence perceived stress level for nurses.

Although pay equity issues may not be easily addressed, improving communication and social climate (the quality of relationships) may ameliorate the collective affect of these organisational factors on nurses' perceived levels of stress. Past research suggests that nurses' level of job satisfaction is a function of the interplay between the intrinsic factors (such as their desire to help people and also their desire to have good relationships) and extrinsic factors (such as those associated with organisational policies and processes such as pay (Newman et al. 2002). This suggests that both intrinsic and extrinsic factors need to be positively effective in order to reduce nurses' perception of workplace stress, and in turn improve organisational effectiveness. Nurse perceptions of stress levels are likely, therefore, to be improved by more attention to pay issues, communication and social climate (i.e. both extrinsic and intrinsic factors).

The implementation of NPM was supposed to make public sector organisations operate more efficiently. However, the inherent stress factors associated with the nature of the profession

for public sector nurses have been exacerbated by recent organisational restructuring such as those associated with NPM reforms (e.g. contract employment, casualisation, focus on cost management) (Bolton 2003; Harris 1999). Poor working conditions have been one feature of such negative impacts (Brunetto & Farr-Wharton 2004a, 2006a, 2007; Degeling et al. 1999; Harris 1999; Hughes 2000; Newman, Maylor & Chansarkar 2002). The findings from the present study suggest that these same reforms may have compromised public sector nurses' ability to be effective in the workplace, because the NPM implementation process has negatively affected nurses' perception of workplace stress.

The major contribution of this paper is that it has provided a theoretical lens for explaining in part, why the implementation of NPM has negatively influenced public sector nurses' level of stress. Previous research on private sector employees had identified the relationship between organisational outcomes and employees' level of satisfaction with HR and management practices (Gollan 2005; Ostroff & Bowen 2000; Ostroff, Kinicki & Clark 2002; Simons & Roberson 2003). The findings from this study add new information to the public sector organisational behaviour literature about why nurses' levels of satisfaction with organisational management and communication processes affects their level of stress. Hence, unless public sector hospitals change present management practices to improve employees' level of satisfaction with the quality of social capital, communication and rewards, they are likely to face a continued shortage of nurses as well as the increased cost of having to replace them.

This study has a number of limitations. Firstly, the study is limited to public sector nurses from one state of Australia and therefore further studies in other Australian health care organisations are required to confirm these initial findings. Another limitation is the use of nurses from only one public sector hospital, which could provide an aberrant finding. However, as NPM was implemented within all Australian hospitals, this is unlikely. A third limitation is the use of self-report surveys which may cause common methods bias. However, Spector (1994) argues that the self reporting method is a useful tool for gathering data about employees' perceptions, as long as the instrument reflects an extensive literature review and pattern-matching is used to support interpretation of the data.

## CONCLUSION

The findings of this research study suggest that management and organisational factors affected by the implementation of NPM (social climate, communication and relative pay) appear to be difficult to differentiate, but nevertheless, taken together, have a inverse relationship with increasing levels of stress for Australian nurses. Based on the research findings, all three organisational factors (social climate, communication and relative pay) need to be addressed in order to optimise nurses' perception of workplace stress and in turn, enhance organisational effectiveness. This is particularly important because the effectiveness of the hospital depends in part, at least, on its ability to retain nursing staff, given the context of a growing shortage of nurses within public hospitals (Brunetto & Farr-Wharton 2004; Buchanan & Consideine 2002; Newman et al. 2002). Management practices therefore must be aligned with strengthening these organisational factors if perceptions of workplace stress are to be managed and in turn, organisational effectiveness optimised. The findings from this study provide further evidence that the implementation of NPM has negatively affected nurses' perception of '*workplace stress*'. This finding makes a contribution to the public sector organisational behaviour literature, particularly in explaining the link between changes to organisational factors and perception of workplace stress for one group of public sector

professionals - nurses. More research is required to test the generalisability of these findings for other professionals – particularly for other medical professionals.

The implication for management in their attempt to deal with the consequences of NPM is that a strong focus must be placed on organisational factors that impact on job satisfaction and well-being for nurses. More research is required to further understanding employees' level of stress so as to provide government and public sector managers with more information about the link between government policy, implementation strategies, employees' level of satisfaction with the resultant management practices and longer-term organisational efficiency and effectiveness.

## REFERENCES

- Adcroft, A & Willis, R 2005, 'The (un)intended outcome of public sector performance management', *International Journal of Public Sector Management*, vol. 18, no. 5, pp. 386-400.
- Armstrong-Stassen, M, Mantler, J & Horsburgh, MC 2001, 'The impact of hospital amalgamation on the job attitudes of nurses', *Canadian Journal of Administrative Sciences*, vol. 18, no. 3, pp. 149-162.
- Avis, J 1996, 'The Enemy Within: Quality and Managerialism in Education', in J Avis, M Bloomer, G Esland, D Gleeson & P Hodgkinson (eds) *Knowledge and Nationhood*, Cassell, London, pp.105-120
- Barrett, L & Yates, P 2002, 'Oncology/haematology nurses: a study of job satisfaction, burnout, and intention to leave the specialty', *Australian Health Reviews*, vol. 25, no. 31, pp. 109-121.
- Blanchard, M 1993, 'Managing for wellness', *Executive Excellence*, vol. 10, no. 12, pp. 8-9.
- Bolton, S 2003, 'Multiple roles? Nurses as managers in the NHS', *International Journal of Public Sector Management*, vol. 16, no. 2, pp. 122-130.
- Brunetto, Y & Farr-Wharton, R 2004a, 'A case study examining the impact of public-sector nurses' perception of workplace autonomy on their job satisfaction: lessons for management', *International Journal of Organisational Behaviour*, vol. 8, no. 5, pp. 521-539.
- Brunetto, Y & Farr-Wharton, R 2004b, 'Does the talk affect your decision to walk: A comparative pilot study examining the effect of communication practices on employee commitment post managerialism', *Management Decisions*, vol. 15, no. 7, pp 579-600.
- Brunetto, Y & Farr-Wharton R 2005, 'The impact of NPM on the job satisfaction of Australian public sector employees', *Asian Pacific Journal of Human Resources*, vol. 41, pp. 289-104.
- Brunetto, Y. & Farr-Wharton, R 2006a, 'The importance of effective organisational relationships for nurses: a social capital perspective', *International Journal of Human Resource Development and Management*, vol. 6, no. 2, pp. 232-247.
- Brunetto, Y & Farr-Wharton, R 2006b, 'A comparison of the administrative subculture of Australian public and private sector employees', *International Journal of Public Administration*, vol. 29, no. 8, pp. 619-638.
- Brunetto, Y & Farr-Wharton, R 2007, 'Comparing the impact of management practices on public sector nurses' and administrative employees' commitment to the organisation', *Asia Pacific Journal of Health Management*, vol. 2, no. 1.
- Buchanan, J & Considine, G 2002, 'Stop telling us to cope: NSW nurses explain why they are leaving the profession' A report for the NSW Nurses Association. U. O. S. Press. Sydney, Australian Centre for Industrial relations Research and Training.
- Childers, T, Churchill, G, Ford, N & Walker, O 1980, 'Towards a more parsimonious measurement of job satisfaction for the industrial salesforce', *Proceedings American marketing Research*, vol. 3, November, pp.232-322..
- Cole, M, Schaninger, W Jr & Harris, S 2002, 'The workplace social exchange network: A multilevel, conceptual examination', *Group & Organization Management*, vol. 27, no.1, pp. 142-168.
- Cooper, CL & Cartwright, S 1994, 'Healthy mind; healthy organisation - a proactive approach to occupational stress', *Human Relations*, vol. 47, no. 4, pp. 455-472.
- Degeling, P, Sage, D, Kennedy, J, Perkins, R & Zhang, K 1999, 'A comparison of the impact of hospital reform on medical subcultures in some Australian and New Zealand Hospitals', *Australian Health Reviews*, vol. 22, no. 4, pp.172-184.

- Downs, C & Hazen, MA 1977, 'A factor analytic study of communication satisfaction', *The Journal of Business Communication*, vol. 14, no. 3, pp. 63-74.
- Evans, R. & Davis, W 2005, 'High Performance Work Systems and organizational Performance: The Mediating Role of Internal Social Structure', *Journal of Management*, vol. 31, no. 5, pp. 758-775.
- Ferlie, E, Pettigrew, A, Ashburner, L & Fitzgerald, L 1996, *The New Public Management in Action*, Oxford University Press, Oxford.
- Fillion, L, Tremblay, I, Truchon, M & Cote, D 2007, 'Job satisfaction and emotional distress among nurses providing palliative care: empirical evidence for an integrative occupational stress-model', *International Journal of Stress Management*, vol. 14, no. 1, pp. 1-25.
- Flanagan, NA 2006, 'Testing the relationship between job stress and satisfaction in correctional nurses', *Nursing Research*, vol. 55, no. 5, pp. 316-327.
- Ghauri, P & Gronhaug, K 2002, *Research Methods in Business Studies*, Prentice Hall Harlow.
- Gleeson, D & Shain, F (1999), 'Managing ambiguity between markets and managerialism - case study of 'middle' managers in further education', *Sociological Review*, vol. 47, no. 3, pp. 461-490.
- Gollan, P 2005, 'High Involvement management and Human resource Sustainability: The challenges and opportunities', *Asia Pacific Journal of Human Resources*, vol. 43, no. 1, pp. 18-33.
- Gray, J & Laidlaw, H 2002, 'Part-time employment and communication satisfaction in an Australian retail organization', *Employee Relation*, vol. 24, no. ½, pp. 211-218.
- Harris, P 1999, 'Changing Patterns of Governance', *Developments in Australian public hospitals and Universities Policy Studies*, vol. 20, no.4, pp. 255-272.
- Haskins, WA1996, Freedom of speech: Construct for creating a culture which empowers organizational members', *Journal of Business Communication*, vol. 33, no. 1, pp. 85-98.
- Hughes, O 2000, 'New public management: parliamentary perspective', *Monash University, Faculty of Business and Economics, Working paper Series 27, April*.
- Joiner, TA & Bartram, T 2004, 'How empowerment and social support affect Australian nurses' work stressors', *Australian Health Review*, vol. 28, no.1, pp. 56-64.
- Kessels, J & Poell, R 2004, 'Andragogy and Social Capital Theory: The Implications for Human Resource Management', *Advances in Developing Human Resources*, vol. 6, no. 2 pp.146-158.
- Kirkpatrick, I & Lucio, M 1995, *The Politics of Quality in the Public Sector*, Routledge, London.
- Kikoski, J 1999, 'Effective communication in the performance appraisal interview: face-to face communication for public managers in the culturally diverse workplace', *Public Personnel Management*, vol. 28, no. 2, pp. 120-135.
- Kirkpatrick, I & Ackroyd, S 2003, 'Transforming the Professional Archetype? The new managerialism in UK social services', *Public Management Review*, vol. 5, no. 4, pp. 511-531.
- Lambert, V & Lambert, C 2001, 'Literature review of role stress/strain on nurses: an international perspective', *Nursing and Health Science*, vol. 3, pp. 161-172.
- Lee, LC, Yang, KP & Chen, TY 2000, 'A quasi-experimental study on a quality circle program in a Taiwanese hospital', *International Journal for Quality in Health Care*, vol. 12, no. 5, pp. 413-418.
- Lee, J SY & Akhtar, S 2007, 'Job burnout among nurses in Hong Kong: Implications for human resource practices and interventions', *Asia Pacific Journal of Human Resources*, vol. 45, no. 1, pp. 63-84.

- Loo, R & Thorpe, K 2004, 'Making female first-line nurse managers more effective: a Delphi study of occupational stress', *Women in Management Review*, vol. 19, no. 1/2, pp. 88-97.
- Morland, A, Steel, M, Alexander, M, Stephen, K & Duffin, L 1997, *Changes at Work: The Australian Workplace Industrial Relations Survey*. Addison Wesley Longman, Melbourne.
- Newman, K, Maylor, U & Chansarkar, B 2002, 'The nurse satisfaction. Service quality and nurse retention chain: Implications for management of recruitment and retention', *Journal of Management in Medicine*, vol. 16, no. 4/5, pp. 271-292.
- Ostroff, C & Bowen, D 2000, 'Moving HR to a higher level. HR practices and organizational effectiveness', in K Klein & S Kozlowski (eds), *Multilevel theory, research, and methods in organizational Psychology*, Jossey-Bass, San Francisco, CA, pp.211-266.
- Ostroff, C, Kinicki, A & Clark, M 2002, 'Substantive and operational issues of response bias across levels of analysis: An example of climate-satisfaction relationships', *Journal of Applied Psychology*, vol. 87, pp. 355-368
- Power, M 1997, *The Audit Society: rituals of Verification*. Oxford University Press, Oxford.
- Rees, D & Cooper, C 1992, 'The workplace stress indicator locus of control scale: should this be regarded as a state rather than a trait measure?', *Work and Stress*, vol.6, pp. 45-58.
- Simons, T & Roberson, Q 2003, 'Why managers should care about fairness: The effects of aggregate justice perceptions on organizational outcomes', *Journal of Applied Psychology*, vol. 88, pp. 432-443.
- Smidts, A, Pruyn, A & van Riel, C 2001, 'The impact of employee communication and perceived external prestige on organisation identification', *Academy of Management Journal* vol. 44, no. 5, pp. 1051-1062.
- Smith, K, Collins, C & Clark, K 2005, 'Existing knowledge, knowledge creation capability, and the rate of new product introduction in high-technology firms', *Academy of Management Journal*, vol. 45, pp. 346-357.
- Spector, PE 1994, 'Using self-reported questionnaires in OB research: A comment on the use of a controversial method', *Journal of Organizational Behavior*, vol.15, no.5, pp. 385-392.
- Taylor, B & Barling, J 2004, 'Identifying sources and effects of carer fatigue and burnout for mental health nurses: a qualitative approach', *International Journal of Mental Health Nursing*, vol. 13, no. 2, pp.117-125.
- Taylor, S, White, B & Muncer, S 1999, 'Nurses' cognitive structural models of work-based stress', *Journal of Advanced Nursing*, vol. 29, no. 4, pp. 974-983.
- Tyler, P, Carroll, D & Cunningham, S 1991, 'Stress and well-being in nurses: a comparison of the public and private sectors', *International Journal of Nursing Studies*, vol. 28, no. 2, pp. 125-130.
- Wanless, D 2000, *Securing Our Future Health: Taking a Long-Term View*. HMSO, London.
- Wayne, S, Shore, L & Linden, R 1997, 'Perceived organisational support and leader exchange: A social exchange perspective', *Academy of Management Journal*, vol. 40, no. 1, pp. 82-111.
- Whittington, R, McNulty, T & Whipp, R 1994, 'Market driven change in professional services: problems and processes', *Journal of Management Studies*, vol. 31, no. 6, pp. 829-845.
- Wood, J 1999, 'Establishing internal communication channels that work', *Journal of Higher Education Policy and Management*, vol. 21, no. 2, pp.135-147.
- Wright, P & McMahan, G 1992, 'Theoretical perspectives for strategic human resource management', *Journal of Management*, vol. 18, pp. 285-320.
- Yin, RK 2003, *Case study research: Design and methods*. (3<sup>rd</sup> edn), Sage, Newbury Park, CA.

**TABLE 1****Demographics: Nurse Age \* Tenure**

Details	Under 30	31-45	45+
<Less than 12 mths	6	46	20
2>x<5 years	3	6	16
>5 years of service	4	24	12
males: females	5:8	27:45	17:31

**TABLE 2****Means, Standard Deviations, Correlations<sup>b</sup> and Reliability (Alpha) Scores**

		M <sup>a</sup> (SD)	1	2	3	4	5
1	Perception of stress	4.29 (1.3)	1	(.78)			
2	Social Climate	3.98 (1.1)	-.18*	1	(.73)		
3	Communication Climate	4.11 (1.2)	-.29**	.77**	1	(.89)	
	Personal Feedback	2.9 (.86)	-.23*	.183*	1	(.67)	
4	Relative Pay	5.03 (.93)	-.23*	.22*	.3**	1	(.8)
5	Background (control variable)	1.53 (.8)	.15	-.12	-.13	-.13	1

<sup>a</sup> Scale of 1=Strongly Agree and 6=Strongly Disagree

<sup>b</sup> Statistically significant beta scores - \*\* $p < .01$ , \*  $p < .05$ , Two-tailed tests. Alpha scores are in brackets

**TABLE 3:**  
**Results from Main Effects Regression Analysis on public Sector Nurses'**  
**Perception of Workplace Stress**

Variable <sup>a</sup>	Public sector nurses' perceptions of workplace stress F = 2.83 p < .05
<b>Social Capital</b>	
Satisfaction with Supervisor	$\beta = -.18$
<b>Communication Factors</b>	
Personal Feedback	$\beta = .23$
Organisational Climate	$\beta = -.29$
<b>Relative Pay</b>	$\beta = -.23$
<b>R<sup>2</sup></b>	11.6%

<sup>a</sup> Scale of 1=Strongly Agree and 6=Strongly Disagree

<sup>b</sup> Statistically significant beta scores,  $**p < .01$ ,  $*p < .05$ , Two-tailed tests.