Leadership behaviours: effects on job satisfaction, productivity and organizational commitment

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Background Research in the west has shown that job satisfaction, productivity and organizational commitment are affected by leadership behaviours. The purpose of this study is to determine the effect of leadership behaviours on employee outcomes in Singapore. Very little research related to this subject has been done in health care settings in this country. The comparison of the results of the different types of settings and samples will allow a better understanding of the relationshiop between leadership behaviours and employee outcomes and thus help to determine if leadership is worth the extra effort.
Method The study explored the relationships between five leadership behaviours identified by Kouzes and Posner and the employee outcomes of registered nurses practising in the general wards, intensive care units and the coronary care unit in an acute hospital. Survey questionnaires were used to elicit responses from 100 registered nurses and 20 managers belonging to the organization. Data collected included demographic characteristics and the degree to which the five types of leadership behaviours were used as perceived by the nurse managers and the registered nurses. In addition, the level of nurse job satisfaction, the degree of productivity and the extent of organizational commitment are described.
Findings The findings show a similar trend to the original studies in the United States of America. Use of leadership behaviours and employee outcomes were significantly correlated. The regression results indicate that 29% of job satisfaction, 22% of organizational commitment and 9% of productivity were explained by the use of leadership behaviours. Recommendations are made in the light of these findings.

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Introduction

In Singapore, the downturn of Asia's economy has resulted in pay cuts and a reduction in employers' contribution to the central provident funds, which are used for retirement. Recently, there has also been a decrease in the number of patients from nearby Asian countries. This poses a serious threat to the health care industry in Singapore. Consequently, fear and uncertainty has occurred among employees. Accompanying the downturn of the Asian economy, the continuing emphasis on innovation has led to more intense competition in the health care industry. The leadership of the nurse manager as a pivotal element in the delivery of high quality patient care (Frank *et al*. 1997) and a key interpreter of

organization initiatives is believed to be becoming more crucial. It is advocated that the human aspect of organizational success should not be taken lightly. Yet, the issue of encouraging nursing administrators to focus their vision on nursing leadership remains questionable.

This article explores the relationship between leadership styles and employee outcomes by describing the managerial leadership of a local hospital in Singapore. The purpose of the study is to determine whether the use of certain leadership behaviours in the various clinical settings makes a difference in employee outcomes, specifically job satisfaction, productivity and organizational commitment. Comparison of the findings with the original two studies in Seattle and Los Angeles, strengthens the conclusions of this study.

Background

The subject of leadership is interesting for many people. The continued search for good leaders has resulted in the development of many leadership theories. Studies have been carried out to determine how leadership behaviours can be used to influence employees for better organizational outcome. Many studies concluded that effective leadership is associated with better and more ethical performance (Kreitner 1995). Job satisfaction, which is affected by leadership behaviours, is also found to be positively related to patient satisfaction (Morana 1987). The use of leadership behaviours may be an important indirect contributor to care delivery outcomes. The effective use of leadership behaviours is becoming a commitment for nursing managers that is desired by nurse administrators and considered an important need for effective nursing.

In the local nursing profession, leadership may still be in its infancy. Consequently, the authoritarian style of leadership is most often adopted. Although departmental objectives were achieved quickly within and/or before a given time-frame, the human aspects relating to employees' levels of satisfaction and morale, which affect their productivity and organizational commitment, are inevitably neglected.

It was noted that in times of stress and chaos, leadership styles that transform, create meaning in the midst of turmoil and produce desirable employee outcomes (McNeese-Smith 1995), are more beneficial for organizations' existence and performance. Although Singapore has not reached the chaotic stage, the recent downturn of the Asian economy led to the implementation of the local government's policy in pay-cuts and reduced employers' contribution to central provident funds, and termination of employment contracts for some, has to a certain extent, created uncertainties and fear in employees.

Other studies

Studies of the effect of leadership behaviours on employee outcomes report consistent results, which demonstrate a positive association. In two studies (McNeese-Smith 1995) conducted to explore the relationship between leadership behaviours and employee outcomes, leadership behaviours are focused on the five behaviours identified by Kouzes and Posner; challenging the process, inspiring a shared vision, enabling others to act, modelling the way, and encouraging the heart. Employee outcomes are limited to job satisfaction, productivity and organizational commitment. The first study was conducted in Seattle with a sample of nursing staff and employees of clerical and support departments. The second study was conducted in Los Angeles with a sample of nursing staff alone. Both studies showed a consistent positive, statistically significant, correlation between the employees' perception of their manager's use of the five leadership behaviours and the employee outcomes. The correlations in the Seattle hospitals were low to moderate. Hence, it was concluded that there are other factors besides the use of leadership behaviours influencing employee outcomes.

The study replicated in Los Angeles shows similar but stronger, statistically significant correlations between the manager's use of the five leadership behaviours and the employee outcomes. Although there were drastic differences in the geographical area, hospital types, funding and size, samples, and political and socio-economic climate of the two communities, the second study supported the findings of the first. Nevertheless, in the two studies it was difficult to evaluate individual leadership's unique predictive contribution because there were high intercorrelations among the leadership behaviours. Instead, the predictive capability of the model when five behaviours were present is determined.

In another descriptive study (McNeese-Smith 1997), where the influence of manager behaviour on nurses' job satisfaction, productivity and commitment was explored, nurses felt that job satisfaction was most influenced by the manager. The characteristics of a manager that influence job satisfaction include provision of recognition and thanks, meeting nurses' personal needs, helping or guiding the nurse, using leadership skills to meet unit needs and supporting the team.

Job dissatisfaction was due to managers not giving due recognition and support, not being able to follow through on problems and not helping but criticizing in a crisis. In this study, it was found that besides providing recognition

and support, managers who create a positive climate in the work environment helped nurses to be more productive. Conversely, criticizing staff, especially when they were under stress, caused nurses to be less productive. In a study by McNeese-Smith (1997), the use of leadership behaviours was emphasized when discussing the topic of organizational commitment. Nurses' organizational commitment is influenced by the managers' use of their leadership behaviours, such as being appreciative, supportive and visionary, having the ability to trust others, role modelling and creating open communication.

In a study (Frank *et al*. 1997) done to investigate the factors that facilitate quality nursing care-giving, the most critical theme to emerge from the interviews of seven nurses was 'leadership'. Good leadership was found to make a difference in the effectiveness of the care delivery system (Frank *et al*. 1997). It is believed that nurse managers are the organizers who facilitate outstanding performances in the delivery of nursing care. In so doing, nurse mangers must be supportive and at the same time, have 'faith in their people'. Supporting the findings is the study done by Morrison *et al*. (1997) The authors found that both transformational and transactional leadership was positively related to job satisfaction, as was empowerment.

Conceptual framework

Model of leadership

The conceptual framework for this study derives from Kouzes and Posner's model of leadership behaviours. It is generated from in-depth interviews and research on written case studies of people's personal-best leadership experiences. The five distinct practices, which outstanding leaders use to affect employees' and organizational performance, extrapolated from their research (Kouzes & Posner 1988), include:

- Challenging the process: being committed to search out challenging opportunities to change, grow, innovate and improve. Leaders are willing to take risks, experiment and learn from mistakes.
- Inspiring a shared vision: enlisting followers in a shared vision for an uplifting and ennobling future by appealing to their values, interests, hopes and dreams.
- Enabling others to act: fostering collaboration by promoting cooperative goals and building mutual trust through empowering followers by providing choice, developing competence, assigning critical tasks and giving visible support.
- Modelling the way: role modelling, which is consistent with shared values and achieves small wins for promoting progress and commitment.
- Encouraging the heart: providing individual recognition for success of projects and regularly celebrating accomplishment.

The desirable organizational outcomes identified from research and literature are job satisfaction, productivity and organizational commitment (McNeese-Smith 1995).

Job satisfaction

This is the feeling employees have about their job in general (Smith *et al*. 1975). It is a multifaceted construct encompassing specific facets of satisfaction related to pay, work, supervision, professional opportunities, benefits, organizational practices and relationships with coworkers (Misener *et al*. 1996). Organizational research shows that employees who experience job satisfaction are more likely to be productive and stay on the job (McNeese-Smith 1997). The meta-analytical study by Irvine & Evans (1995) supports this. The result of the analysis demonstrated a strong negative relationship between job satisfaction and behavioural intentions and a small negative relationship between job satisfaction and turnover. In the study (Irvine & Evans 1995) it was found that the variables related to nurse job satisfaction, the work content and work environment variables which the administrators and nurse managers have more control over, have a stronger relationship with satisfaction than the economic or individual difference variables. A relationship has also been demonstrated between patient satisfaction and job satisfaction of caregivers (Morana 1987). Job dissatisfaction leads to absenteeism, problems of grievances, low morale and high turnover (Gangadhraiah *et al*. 1990, Martin 1990). Altered performance, affecting patient outcome, which in turn results in higher employment costs (Misener *et al*. 1996) is also found to be associated with decreased job satisfaction (Snarr & Krochalk 1996).

Productivity

Productivity is defined as the contribution made towards an organizational end result in relation to the amount of resources consumed (McNeese-Smith 1997). It measures both quantitative and qualitative factors such as goal attainment and work accomplished (Bain 1982). Productivity of individual nurses has rarely been studied, more attention has been given to the relationship between organizational performances or work unit effectiveness

and patient outcomes (Helmer & Suver 1988, Sorrentino 1992, Kennerly 1996,).

Nurses' work effectiveness is most commonly studied in relation to other factors, particularly empowerment and it is usually measured through the employee's degree of organizational commitment (Beaulieu *et al*. 1997). The correlational study by Laschinger & Havens (1997) revealed that access to empowerment structures and occupational mental health were strongly related to perceptions of work effectiveness. Other studies have shown staff nurses' perceptions of work empowerment to be significantly related to burnout, job autonomy, and the extent of participation in organizational decision making (Sabiston & Laschinger 1995, Hatcher & Laschinger 1996). Laschinger & Havens (1996) found that staff nurses' perceptions of work empowerment were significantly related to perceived control over nursing practice, work satisfaction and perceived work effectiveness.

Organizational commitment

Mowday *et al*. (1982) defined the concept as the strength of an individual's identification with the goals of an organization's multiple constituencies. It is about positive involvement, which is integral to developing shared goals and objectives in a particular organization. Steers (1977) viewed organizational commitment as an employee attitude and as a set of behavioural intentions; the willingness to exert considerable effort on behalf of the organization and a strong desire to maintain membership of the organization. Organizational commitment has also been viewed as a dimension of organization effectiveness which contributes to increased effectiveness through work performance and reducing turnover (Scholl 1981, McDermott *et al*. 1996).

Besides being variably defined, organizational commitment has been extensively studied and was found to lead to beneficial organizational outcomes and considered desirable (Reiches 1985). Research has shown that increased commitment improves work performance and reduces absenteeism and turnover (Steers 1977), which are costly to organizations. In Dutcher & Adams' (1994) study of staff perceptions of the work environment, management support was given as a reason for staying at their agencies. Porter *et al*. (1974) have identified organizational commitment as a better measure of staying intention than job satisfaction. Tett & Meyer (1993), in a meta-analysis of 155 studies, discovered that organizational commitment and job satisfaction are different, and each contributed uniquely to turnover intentions. Job satisfaction correlated more strongly with intention, whereas organizational commitment had the strongest correlation with actual turnover. Ellis & Miller (1994) identified a positive relationship between supportive communication from coworkers and organizational commitment. Brewer & Lok (1995) identified that trust and identification with middle managers correlated positively with organizational commitment. Wilson & Laschinger (1994) tested Kanter's theory of job empowerment and found a strong, positive relationship between nurses' perceptions of empowerment, opportunity and organizational commitment.

Methodology

Setting

One of Singapore's largest, acute-care tertiary hospitals was selected because of the administration's expressed commitment to quality improvement. The hospital is a national referral centre and has a range of comprehensive health care services. The hospital has 1600 beds including five intensive care units and one coronary care unit. Registered nurses are generally from the middle class Malaysian-Chinese community and the three main multiethnic populations of the country: Chinese, Malays and Indians. Health care reform, with the emphasis of effective health care cost, is the major issue impacting on the hospital.

Sample

The study explored the relationship between the five leadership behaviours and the outcomes of full-time registered nurses. A convenience sample of 20 managers, one from each of the 15 wards, four intensive care units (ICUs) and one coronary care unit (CCU), was drawn. Managers included in the study met the following criteria: (1) they had managed the department $\geqslant$ six months; and (2) they had been responsible for $\geqslant$10 employees for a minimum period of 3 months. Five registered nurses working under the supervision of the selected managers for 3 or more months were included in the study.

Instruments

Five questionnaires were used for data collection. The questionnaire packages containing a cover letter and a return envelope were distributed to potential participants. The cover letter briefly explained the purpose of the study and the mechanisms to maintain confidentiality and anonymity. The nature of the study does not require recording of the respondents' identities and their department. Further explanations of the variables were given

when requested. The respondents received and answered the questionnaires at their work place. Some completed questionnaires were received through internal-mail in the hospital. Data were collected for approximately 1 month. Participation is absolutely voluntary; there was no written informed consent required.

Demographic questionnaire

The demographic questionnaires furnishes the researcher with the respondents' biographical, educational information and their working experience in the hospital.

LPI (self/observer)

These two instruments measure the use of the five leadership practices (Kouzes & Posner 1995) and are identical except for the reference to 'self' and 'observer'. Each scale has 30 statements, six to measure each of the five key leadership practices, and each statement is cast on a five-point Likert scale (1 = seldom or rarely; 5 = very often). The LPI has been used to measure leadership behaviours across a variety of organizations, disciplines and demographic backgrounds. Validation studies conducted consistently over a 10-year period have confirmed its reliability and validity (Kouzes & Posner 1995).

Scores on the LPI have been relatively stable over time. Furthermore, they have been found to be unrelated to various demographic factors such as age, marital status, years of experience and educational level. LPI scores are also found not to be related to organizational characteristics such as size, functional area, line vs. staff position. Internal reliabilities using the Cronbach's alpha range between 0.81 and 0.91 (Kouzes & Posner 1995). Reliabilities for LPI-self, range between 0.71 and 0.85 and for LPI-observer range between 0.82 and 0.92 (Kouzes & Posner 1995). Test–retest reliabilities (r) are reported to be at 0.93 and above (Kouzes & Posner 1995).

Job-in-General (JIG) scale

This is a multidimensional scale developed by Smith *et al.* (1989) to measure overall job satisfaction on a continuum from satisfaction to dissatisfaction. The instrument consists of 18 one- to three-word adjectives describing the employee's feelings about their job in general. The respondents are expected to respond 'yes', 'no' or '?' if uncertain about their feelings. A positive response scored three, a negative response scored zero and a '?' or a blank scored one. A higher overall score or mean score indicates greater job satisfaction and vice versa.

The JIG has its theoretical underpinnings and widespread application to a variety of settings. Internal consistency reliability was measured by Cronbach's alpha as 0.91–0.95 (Smith *et al.* 1989). Current studies demonstrated internal consistency (alpha = 0.88–0.90) (Smith *et al.* 1989). Convergent validity was demonstrated through correlations with four other job satisfaction scales ($r = 0.66$–0.80) (Smith *et al.* 1989).

Productivity scale

This scale, which measured self-perception of productivity, was developed by McNeese-Smith (1995). There are 15 statements, which describe the employee's contribution to productivity, using a five-point Likert-type scale. The instrument was tested and re-tested for reliability among hospital staff. Test–retest reliability demonstrated stability at $r = 0.95$. Internal consistency was demonstrated using Cronbach's alpha (0.90–0.93) (McNeese-Smith 1995).

Organizational commitment scale

This scale was developed by Porter *et al.* (1974). There are 15 items to measure employee's organizational commitment. Each statement is cast on a seven-point Likert scale. Nine items are worded positively, and the remaining worded negatively and scored in reverse. This scale demonstrated internal consistency of alpha 0.82–0.93 and predictive validity with both intent to leave the organization within 1 year ($r = -0.37$) and actual leaving ($r = -0.22$) (Porter *et al.* 1974). Other researchers have found this instrument to be satisfactory. The scale has also demonstrated internal consistency alpha (0.88–0.92) in current studies (Porter *et al.* 1974).

Results

All 20 managers invited to participate returned the questionnaires, representing a response rate of 100%. The rate of return of employee questionnaires per department was four to five, of which 97% of returned questionnaires were usable.

Demographic characteristics

The demographic information regarding managers and employees is reported in Table 1. The findings revealed that the average manager was aged between 50 and 59 years (60%), female, educated with a post-basic certification or an advanced diploma, and had been in position for more than 10 years. The average staff nurse

Table 1
Demographic characteristics of managers and nurses

	Managers (n=20)		*Employees (n=97)*	
Data	*n*	%	*n*	%
Gender				
Female	18	90.0	88	90.7
Male	2	10.0	9	9.3
Age (yr)				
18–29	0	0.0	44	45.4
30–39	1	5.0	35	36.1
40–49	7	35.0	5 1	5.5
50–59	12	60.0	3	3.1
Education				
3 years certificate/diploma	3	15.0	31	31.9
Post-basic/advanced diploma	9	45.0	44	45.4
Diploma in management studies	1	5.0	2	2.1
Bachelors or BSN	5	25.0	20	20.6
Master's degree	2	10.0	0	0.0
Position held				
Staff nurses (contractual basis)	0	0.0	12	12.4
Staff nurses	0	0.0	34	35.1
Senior staff nurses	0	0.0	49	50.5
Nursing officers	7	35.0	2	2.1
Senior nursing officers	13	65.0	0	0.0
Career experience (yr)				
5 or less	0	0.0	29	29.9
6–10	2	10.0	25	25.8
11–20	1	5.0	30	30.9
21 or more	17	85.0	13	13.4
Years at hospital				
<1	0	0.0	1	1.0
1–3	0	0.0	22	22.7
4–6	0	0.0	9	9.3
7–10	1	5.0	33	34.0
$\geqslant 11$	19	95.0	32	33.0
Years as/under manager				
0.5 or less	0	0.0	10	10.3
0.6–1	0	0.0	8	8.2
$<$2–3	3	15.0	20	20.6
$<$4–5	4	20.0	16	16.5
$<$6–10	7	35.0	23	23.7
$<$11 or more	6	30.0	20	20.6

was aged between 18 and 29 years, female, educated with a post-basic certification or an advanced diploma, and had 11–20 years of nursing experience.

Although female managers tended to be rated higher on the LPI-observer scale (Table 6), when using analysis of variance, there was no significant difference in the scores between female and male leaders. The results (Table 4) show a statistically significant linear relationship between job satisfaction and nurses' age, career experience and their number of years serving in the hospital. These demographic variables were entered as control variables to job satisfaction in the regression analysis. A similar relationship was also determined between productivity and the same set of demographic characteristics; nurses' age, career experience and their number of years serving in the hospital were entered as control variables to productivity in the regression analysis. Organizational commitment is found to be linearly correlated to nurses' age and career experience, and the two variables were entered as control variables to organizational commitment in the regression analysis.

Leadership behaviours

The LPI-self and LPI-observer scales were analysed for total scores and by department to determine manager mean scores for the use of leadership behaviours (Table 5). Managers rated themselves highest in *enabling others to act* whereas employees rated managers highest in *modelling the way*. Both managers and employees rated *inspiring a shared vision* the lowest in the LPI scores (Table 9).

On the LPI-observer scale alone (Table 6), female managers were rated higher compared to male managers, nevertheless male managers scored higher in *modelling the way*. When using analysis of variance, there was no significant difference in the scores between female and male leaders. Employees rated male managers highest in *modelling the way* and lowest in *inspiring a shared vision*. Similarly, employees rated female managers highest in *modelling the way and* lowest in *inspiring a shared vision* and *enabling others to act*.

Employee outcomes

Mean scores for employee outcomes were determined (Table 3). Nurses scored the highest in organizational commitment (mean = 4.52), followed by productivity (mean = 3.41), nurses' job satisfaction being the lowest in score (mean = 2.07). The mean scores for employee outcomes were also determined by demographic characteristics (Table 2). Male employees tended to score higher in all of the three employee outcomes. Similarly, the higher aged group, who had been with the hospital longer, with more qualifications and who hold a higher position in the hospital (senior staff nurses/nursing officers), tend to score higher in all three employee outcomes.

Relationships among variables

Employee outcomes and leadership behaviours were analysed as a whole and examined for patterns of association. A positive, significant correlation was shown among employee outcomes, using the Pearson product r; productivity and job satisfaction, $r=0.199$,

Table 2
Employee outcomes as rated by nurses according to demographic characteristics

	Job satisfaction		*Productivity*		*Organizational commitment*	
Employee outcomes	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*
Gender						
Female	2.04	0.65	3.36	0.66	4.49	0.76
Male	2.30	0.51	3.82	0.36	4.72	0.77
Age (yr)						
18–29	1.93	0.64	3.20	0.71	4.30	0.80
30–39	2.04	0.68	3.49	0.57	4.63	0.73
40–49	2.35	0.36	3.75	0.48	4.83	0.58
50–59	2.85	0.25	3.76	0.66	4.82	0.31
Education						
3 years certificate/diploma	1.96	0.62	3.23	0.72	4.38	0.84
Post–basic/advanced diploma	2.10	0.64	3.49	0.64	4.51	0.72
Bachelors or BSN	2.06	0.65	3.47	0.56	4.57	0.76
Diploma (management studies)	3.00	0.00	3.60	0.85	4.67	0.19
Position held						
Staff nurses (contractual basis)	2.09	0.60	3.26	0.68	4.46	0.94
Staff nurses	1.90	0.66	3.37	0.76	4.41	0.80
Senior staff nurses	2.17	0.63	3.44	0.56	4.60	0.70
Nursing officers	2.08	0.20	4.17	0.14	4.47	0.57
Career experience (yr)						
5 or less	1.80	0.67	3.26	0.66	4.30	0.79
6–10	1.97	0.66	3.25	0.80	4.29	0.85
11–20	2.29	0.58	3.52	0.51	4.80	0.61
21 or more	2.34	0.37	3.77	0.47	4.76	0.51
Years at hospital						
1–3	2.00	0.65	3.18	0.69	4.46	0.81
4–6	1.64	0.75	3.39	0.60	4.16	1.00
7–10	0.03	0.70	3.38	0.75	4.39	0.78
$\geqslant$11	2.30	0.49	3.59	0.51	4.78	0.56
Years under manager						
0.5 or less	2.07	0.54	3.23	0.69	4.68	0.80
0.6–1	2.27	0.43	3.38	0.31	4.70	0.30
<2–3	1.89	0.63	3.21	0.55	4.17	0.87
<4–5	1.73	0.65	3.58	0.60	4.41	0.73
<6–10	2.14	0.68	3.40	0.76	4.48	0.77
<11 or more	2.38	0.58	3.57	0.53	4.83	0.65

Table 3
Employee outcomes as rated by nurses on the JIG, productivity and organizational commitment scales ($n=97$)

Employee outcomes	*Mean*	*SD*
Job satisfaction	2.07	0.64
Productivity	3.41	0.65
Organizational commitment	4.52	0.76

productivity and organizational commitment, $r=0.209$ and job satisfaction and organizational commitment, $r=0.476$. A very much higher significant positive correlation was shown among the leadership behaviours (using the Pearson product *r*) (Table 7), ranging from 0.60 between *enabling others to act* and *inspiring a shared vision* to 0.84 between *enabling others to act* and *modelling the way*.

The relationships between managers' use of leadership behaviour as noted by employees and employee outcomes are ascertained using the Pearson *r* product (Table 8). The results showed a positive statistically significant ($P<0.01$) correlation between each leadership behaviour and productivity, job satisfaction and organizational commitment of employees. The correlation ranged from a low of $r=0.10$ between *encouraging the heart* and organizational commitment to $r=0.43$ between *inspiring a shared vision* and job satisfaction and between *modelling the way* and job satisfaction. The results also demonstrated a positive statistically significant correlation between the composite of leadership behaviours and the three employee outcomes, of which job satisfaction and the composite leadership behaviours were the highest; $r=0.44$ ($P<0.01$).

Predictive capability of the model when all five behaviours are present was determined with the use of regression analysis with simultaneous entry. The data were analysed separately for all the three outcomes: productivity, job satisfaction and organizational commitment

Table 4
Regression analysis of demographic characteristics with employee outcomes ($n=97$)

Employee outcomes	*R*	R^2	*SE*	*F*	*t*	*P*
Job satisfaction						
Gender	0.116	0.013	0.223	1.289	1.135	0.259
Age (yr)	0.292	0.085*	0.076	8.839	2.973	0.004*
Education	0.021	0.021	0.083	2.002	1.415	0.160
Position held	0.114	0.013	0.089	1.252	1.119	0.266
Career experience (yr)	0.340	0.116	0.059	12.438	3.527	0.001*
Years at hospital	0.231	0.053*	0.054	5.344	2.312	0.023*
Years under manager	0.142	0.020	0.041	1.953	1.398	0.165
Productivity						
Gender	0.205	0.042*	0.225	4.156	2.039	0.044*
Age (yr)	0.313	0.098*	0.077	10.338	3.215	0.002*
Education	0.157	0.025	0.085	2.405	1.551	0.124
Position held	0.137	0.019	0.091	1.814	0.181	1.347
Career experience (yr)	0.259	0.067	0.062	6.855	2.618	0.010*
Years at hospital	0.226	0.051*	0.056	5.123	2.263	0.026*
Years under manager	0.160	0.026	0.041	2.506	1.583	0.117
Organizational commitment						
Gender	0.086	0.007	0.265	0.714	0.845	0.400
Age (yr)	0.270	0.073*	0.090	7.478	2.735	0.007*
Education	0.047	0.002	0.099	0.213	0.461	0.646
Position held	0.088	0.008	0.105	0.736	0.858	0.393
Career experience (yr)	0.281	0.079*	0.076	8.135	2.852	0.005*
Years at hospital	0.160	0.025	0.065	2.481	1.575	0.119
Years under manager	0.093	0.009	0.048	0.825	0.908	0.366

* Significant at $P=\leqslant 0.05$.

(Table 9). When controlling nurses' gender, age, their career experience and their numbers of years at the hospital, none of the leadership behaviours was found to be a predictor for productivity ($R^2=0.088$). Holding the independent variables of nurses' age, their career experience and number of years at the hospital constant, *inspiring a shared vision* and *enabling others to act* emerged as the significant predictors of job satisfaction ($R^2=0.292$). As for organizational commitment, *inspiring a shared vision and encouraging the heart* emerged as the predictors of this model ($R^2=0.218$).

Discussion

This research is a replication of the researches conducted in Seattle and Los Angeles. There were significant differences in the samples and the settings. Differences include geographical location, hospital types, funding, size and departments, and in the samples, gender, age, education, experience, part/full time status, ethic composition and culture, and their political and socio-economic environment.

Despite the vast differences, some of the findings are similar to the original two studies. The employee outcomes, productivity, job satisfaction and organizational commitment, are found to be statistically correlated to the

Table 5
Leadership practices of managers as rated by managers on the LPI-self scale and by employees on the LPI-observer scale

	LPI-self (managers) ($n=20$)		*LPI-observer (employees)* ($n=97$)	
Practices	*Mean*	*SD*	*Mean*	*SD*
Challenging the process	3.88	0.46	3.31	0.59
Inspiring a shared vision	3.72	0.53	3.21	0.95
Enabling others to act	4.28	0.36	3.22	0.77
Modelling the way	4.14	0.50	3.37	0.64
Encouraging the heart	3.96	0.44	3.27	0.80
Composite of leadership behaviours	4.00	0.38	3.28	0.65

Scale is 1–5 with 5 as highest.

Table 6
Leadership practices of managers as rated by employees on the LPI-observer scale

	LPI-observer (*Male managers*) ($n=9$)		*LPI-observer* (*Female managers*) ($n=88$)	
Practices	*Mean*	*SD*	*Mean*	*SD*
Challenging the process	3.28	0.48	3.32	0.60
Inspiring a shared vision	3.07	0.86	3.23	0.96
Enabling others to act	3.09	0.64	3.23	0.78
Modelling the way	3.39	0.48	3.37	0.65
Encouraging the heart	3.11	0.83	3.28	0.80
Composite of leadership behaviours	3.19	0.58	3.29	0.66

Scale is 1 $-$5 with 5 as highest

managers' use of leadership behaviours (Table 8). In the regression analysis, leadership behaviours explained 8.8% of the dependent variable of productivity, 29.2% of job satisfaction and 21.8% of organizational commitment. The scores are higher than the study conducted in Seattle and similar to the findings in Los Angeles.

Table 7
Correlations (r) between managers' use of leadership behaviours, as rated by employees ($n=97$)

Practices	*Challenging the process*	*Inspiring a shared vision*	*Enabling others to act*	*Modelling the way*
Encouraging the heart	0.74	0.64	0.75	0.75
Modelling the way	0.77	0.64	0.84	
Enabling others to act	0.71	0.60		
Inspiring a shared vision	0.68			

All r-values significant at P = 0.01.

Table 8
Correlations (r) between managers' use of leadership behaviours, as rated by employees and employee outcomes ($n=97$)

Practices	*Job satisfaction*	*Productivity*	*Organizatinal commitment*
Challenging the process	0.37	0.17	0.30
Inspiring a shared vision	0.43	0.16	0.34
Enabling others to act	0.42	0.14	0.25
Modelling the way	0.43	0.15	0.30
Encouraging the heart	0.29	0.22	0.10
Composite leadership behaviours	0.44	0.19	0.29

All r-values significant at P = 0.01.

Encouraging the heart has the lowest correlation with job satisfaction and organizational commitment (Table 8), supporting the findings in the United States of America. However, in contrast, it has the highest correlation with productivity. All positive results show that the leadership behaviours of being a considerate and caring manager, who makes an effort to celebrate employee accomplishments, are important, especially in producing productive employees. Nevertheless, the regression analyses demonstrated that besides leadership behaviours, other factors emerged as more important determinants of productivity (Table 4). The regression analysis indicated the importance of the effects of *encouraging the heart* because of its negative relationship established with organizational commitment. This study shows that *encouraging the heart* is even more important in instilling a sense of organizational commitment in times of tension such as the current economic crisis.

ICU nurses with the higher qualifications, tend to stand a better chance of promotion, which may also contribute to their higher job satisfaction and productivity (Table 3). A factor worth addressing is that nurses from ICUs tend to be more cohesive due to their smaller settings; such cohesiveness is believed to promote satisfaction and productivity (Gaynor *et al*. 1995, Misener *et al*. 1996). However, nurses' degree of organizational commitment may be minimal. It may be that nurses chose to remain in their positions because of scarcity of jobs (McDermott *et al*. 1996). This is where the appropriate use of leadership

Table 9
Leadership behaviours predicting productivity, job satisfaction and organizational commitment:regression results ($n=97$)

	β	R^2	*t*	*P*
Job satisfaction		0.292	4.460	0.000
	(controlling nurses' age, year of experience and year at hosp)			
Challenging the process	−0.016		−0.101	0.920
Inspiring a shared vision	0.300*		2.381	0.019*
Enabling others to act	0.307*		1.813	0.073*
Modelling the way	0.143		0.776	0.440
Encouraging the heart	−0.239		−1.556	0.123
Productivity		0.088	0.982	0.329
	(controlling nurses' gender, age, year of experience and year at hosp)			
Challenging the process	−0.067		−0.374	0.709
Inspiring a shared vision	0.041		0.286	0.775
Enabling others to act	−0.093		−0.479	0.633
Modelling the way	0.040		0.187	0.852
Encouraging the heart	0.263		1.508	0.135
Organizational commitment		0.218	6.643	0.000
	(controlling nurses' age, year of experience)			
Challenging the process	0.171		1.040	0.301
Inspiring a shared vision	0.300*		2.315	0.023*
Enabling others to act	0.154		0.869	0.387
Modelling the way	0.202		1.043	0.300
Encouraging the heart	−0.498*		−3.153	0.002*

Significant at $P=0.01$.

behaviours, especially *encouraging the heart,* becomes critical, as indicated in this study.

Enabling others to act is a leadership behaviour that infuses others with energy and confidence, developing relationships based on mutual trust, and providing subordinates with discretion to make their own decisions. The results showed that this leadership behaviour has a moderately high positive correlation with job satisfaction, productivity and organizational commitment; this suggests that it is important for leaders to ensure that their subordinates feel strong and capable enough to make their own decisions. The regression analysis indicated that *enabling others to act* is critical for inducing job satisfaction among nurses. Conceptually, employee control, responsibility and decision making should be positively associated with employee participation (Misener *et al*. 1996). However, in this sample, although it is not significant, the analysis suggested that if managers overly involve nurses in planning and making their own decisions, they may adversely lower nurses' productivity. One possible explanation for this finding might be the cultural influences and authoritarian management style that are pervasive throughout the nursing hierarchy in this organization.

Inspiring a shared vision emerged as an important predictor for both job satisfaction and organizational commitment. It has the highest correlation with these two employee outcomes. Similar to the findings in the Los Angeles regression analysis of a positive relationship, it supported the emphasis on the importance of leaders' ability to create a common vision and involve subordinates in that vision in order to induce greater job satisfaction and organizational commitment.

Challenging the process is found to be important, because of its strong positive correlation with productivity, job satisfaction and organizational commitment. However, the regression analysis suggests that too much emphasis on this leadership behaviour may contribute to lower productivity and job satisfaction. This may be an attribution of the inadequate preparation of nurses to practise autonomously, right from their time in schools of nursing. Besides, the overemphasis on medical models in the delivery of patient care has also to a large extent, hindered innovative approaches to nursing practice. Complicating these issues is the insufficient support from nursing administration and management, as perceived by nurses. It is not uncommon for many to feel that nurse administrators always fail to genuinely pass on authority and power of control for any true autonomous nursing practice which is essential for innovation.

In the regression analysis, the other four leadership behaviours and other factors show more significant effect on productivity, job satisfaction and organizational commitment than *modelling the way*. Yet this leadership behaviour is important because of its strong positive correlation with employee outcomes.

Recommendations

The impact of each leadership behaviour on the employees' job satisfaction, productivity and commitment was not established, nevertheless when these leadership behaviours are considered together, they do explain the employee outcomes. Based on the findings, it is indicated that employee outcomes are affected by but not limited to managers' use of leadership behaviours. Leadership behaviour as the key to productive and happily satisfied nurses with great organizational commitment (Kennerly 1996) remains crucial for delivering high quality care (Frank, Eckrich & Rohr 1997), and is needed more than ever for the mere survival of any health care organization. In fact, the appropriate use of leadership behaviour may be more important during the current economic crisis in Asia. Nurses comprise the major component of all health care employees, being on the front-line and having the most frequent direct contact with clients (patients and their families); their job performances, affected by job satisfaction, and organizational commitment, which are in turn affected by leadership behaviours, have a great impact on the organizational success.

According to Kouzes & Posner (1995), leadership is an observable and learnable set of practices. Nursing administrators should focus their efforts on leadership behaviours which they have control over. In order that nurse managers contribute to making a difference in the health care organization, the five leadership behaviours need to be formally introduced and enhanced. The continual use of the leadership behaviours should then be constantly encouraged. Promotion can no longer be based on seniority and qualifications alone. Nurses with the qualifications who display sets of leadership behaviours effectively in their work place should be considered for a promotion to managerial levels. This enables a positive influence on other nurses and allied health care providers on a larger scale. However, it is of no use if nursing administration and other top administrations do not work cohesively with the middle management and use the five leadership behaviours constructively to create the standard for organizational leadership.

Challenging the process

Kouzes & Posner (1995) explained that leaders must be able to pioneer projects, and be willing to experiment and

take risks to seek out new opportunities to improve the organization. They must have courage to face failures and take them as learning experiences, rather than threats. Hence, nurse managers must not remain passive but must learn to go beyond cost management and productivity enhancement. In order to challenge any processes, they must keep an open mind to question long-established practices and make assumptions explicit. In this way, any complexities, including those relating to employee issues, would not stay undesirable, instead they may become necessary components of innovation.

It is very important that administrators take caution in setting nursing policies. There should be room for flexibility. The presence of fewer rules and procedures allows more innovative behaviour, which is essential for organizational success in times of dramatic changes (Morrison *et al*. 1997).

In order that nurse administrators demonstrate leadership quality, and assume their important role as facilitators for innovative approaches, they must often stay on the edge of new developments and ensure that middle management do the same. Most importantly, administrators must also demonstrate their support for changes in patient-care processes and should not prevent nurses from exploring and broadening the scope of autonomous and enlightened nursing practice. However, demonstration of 'administrative support' is insufficient, it has to be perceived by nurses, as nurses' behaviours are highly dependent on a manager's skill in leading.

Inspiring a shared vision

Similar to the findings in the original studies, this leadership behaviour has the highest priority among the five. *Inspiring a shared vision* is especially important in influencing the degree of job satisfaction and organizational commitment in nursing staff. Unfortunately, it is also the weakest behaviour among the nurse managers. Its importance has long been recognized after public hospitals were restructured in the late 1980s and early 1990s, when funds and efforts were involved in order to have mission statements displayed in the form of posters along common corridors and entrances of offices. Organizations' new values and revised management practices and policies were also written down and communicated to functional levels through periodically produced circulars. Some organizations even utilized large amount of funds to send employees to service quality centres to learn about the hospital's mission, in the hope that they would learn to make improvements in the sub-processes in their departments.

The extent of the impact of the new practices on employees must be properly determined and related issues must not be taken lightly and neglected. Otherwise, instead of appreciating the changes for better organizational outcomes, employees and even management at the lower level can become cynical about any enlisted vision. The inability to share similar visions will deter the achievement of any targeted goals.

Enabling others to act

Employees are sent for upgrading and developmental courses to acquire both problem solving and analytical skills. The necessary training for different skills, tools and techniques, is an important part of resourcing requirements for independent decisions in any project. Attention must be given to interfaces; this builds credibility and acceptance amongst nurses in the early stage of any new programmes. Otherwise, fear and alienation of new development may emerge, and may result in confusion. This can be detrimental to organizational survival, let alone success. The purpose of upgrading employees is also to keep them abreast of new technologies and developments to develop an active thinking group of employees who are independent, participative and responsible. In other words, empowering employees with knowledge and increasing employees' self-efficacy to enable them to act autonomously in order to achieve departmental goals, which are in line with organizational goals.

Empowerment implies sharing influence and power and not striving to enhance one's power. It is believed that when employees are empowered by structural characteristics of the organizations, they are more likely to be satisfied with their job, more committed (McDermott *et al*. 1996), feel that they can exercise autonomy in their workplace (Kanter 1993) and, hence, are more productive (Sabiston & Laschinger 1995).

Nurses are trained and expected to act autonomously; ironically, they receive little or even no support to do so (Sabiston & Laschinger 1995). In addition, the supposedly restructured health institutions have retained their tall organizational structures with a narrow span of control. Although there is a well-defined hierarchy of authority, which provides direct supervision and unity of command, without duplicating efforts of members unnecessarily, such bureaucracy deters free communication, especially bottom-up. In fact, to improve organizational productivity, the number of hierarchical levels must be eliminated through increasing the span of control. Hatcher (1993), in her study, also suggested that access to organizational power and opportunity is a critical factor in reducing burnout among employees. Organizations must effectively create a balance, and emphasis must be placed on 'decentralization' in which authority is delegated to the

lower management through the organizational hierarchy. By appropriately integrating an organic structure to reduce rigidity in the mechanistic approach, there will be more emphasis on non-institutional models of care so that nurses can become party to collaborative interdisciplinary models of care. Nurses will then be able to participate in and accept responsibility and accountability for decisions concerning their actions, and for activities and performance of the organization. The increased autonomy and flexibility would induce job satisfaction and involvement and improve professional competence.

However, this must be implemented in accordance with nurses' ability, otherwise nurses who are not well-equipped will be overwhelmed with increased responsibilities and may feel disheartened and lose confidence throughout their period of employment.

Modelling the way

Organizational culture consists of shared values, beliefs, assumptions, perceptions, norms, artifacts and behaviours that can be shaped under the influence of power holders, such as administrators. In other words, direction and meanings of employees' activities are provided through guidance from administrators and managers as role models. Thus, administrators and managers must act in accordance with what is preached, especially in relation to the other four leadership behaviours. Only if the practice of the administrators and managers is consistent with their beliefs and values, will employees be better in anticipating correctly what is expected of them. In fact, in a study by Ingersoll *et al*. (1996) it was found that nurses were more satisfied when leadership style was consistent with their expectations. Leaders can empower their followers by providing role models that reflect the organization's value system as well as transmit the organization's vision of quality (Morrison *et al*. 1997). This can lead to a happy and satisfied organization where intense commitment to corporate goals can be bred and where increased productivity follows. General lack of enthusiasm and effort can be eliminated, and organization stability is promoted and enhanced with a low labour turnover, saving the organization's funds for meaningful uses.

Encouraging the heart

Administrators must give full active support, reassurance and encouragement throughout the period of employment of the managers and expect the managers to also do so. It is extremely important to give due recognition. Praise may be used to encourage staff. However, such a form of leadership should not be over-used, for it gradually becomes insignificant. For greater tasks accomplished or goals achieved, empty praises are insufficient, rewards must be given to satisfy operative needs, thus *encouraging the heart*. Rewards can be in any form: a horizontal or vertical promotion, an award in the form of monetary or recognition gain and even an offer of a scholarship. Employees must be made to understand the reward system so that they are able to see the impact of their performance and the equity of the scheme. They must be made believe that effort will lead to reward, so that a departmental culture of striving for the best in any assigned tasks is created.

Conclusion

This study shows that leadership behaviours have a great impact on employees' outcomes. Its findings also indicate that nurse managers should not just use leadership behaviours but must use them appropriately to influence employees for better organizational outcomes. Otherwise, instead of trying to provide a supportive environment for increased job satisfaction, productivity and organizational commitment, an adverse impact on these employee outcomes may result. Hence it is important that all managers, must be trained and retrained to incorporate their leadership behaviours into their management skills. It is only through leadership moving away from a directive, or structured, style into a more independent decision-making approach, that conflict and dissatisfaction will be resolved (Ingersoll *et al*. 1996). The appropriate use of leadership becomes even more important in enhancing employee performances as the healthcare industry continues to undergo internal structural changes, where traditional career opportunities for nurses are closed, and pressures to add value to the organization continue to rise. It is important not to use one narrowly focused intervention. By designing interventions that allow the relative influence of leadership, nurse managers can help to induce greater job satisfaction and promote a higher level of organizational commitment in nurses to lead them to demonstrate more productivity at work, ultimately to drive 'breakthroughs' and make significant advances in organizational performances.

Reflections/limitations

With the similar findings to the two original studies, leadership behaviours as a group were correlated with the three outcomes. Because of the high intercorrelation among the leadership behaviours, it is not possible to predict the individual leadership behaviours' effect on employee outcomes. For example, when other predictors

are taken into consideration, *encouraging the heart* has a significant negative impact on organizational commitment in the regression model. However, when this leadership behaviour is examined alone, although the relationship between the variables is not strong, it has a positive correlation with organizational commitment.

This study also supports the use of the four instruments in the leadership research. There are vast differences between the Singapore population and the populations in Los Angeles and Seattle, yet the findings are quite similar. The use of the LPI by Kouzes and Posner is based on the European-American middle-class, the type of population on which many leadership research is based. The productivity scale was developed by McNeese-Smith for the original studies. It was used in the Seattle population, which is middle-class European-American and the Los Angeles population, which is multiethnic. The organizational commitment scale was developed by Porter in 1972–1974, with no differences in ethnicity being addressed. The Job-in-General scale developed by Smith has been used to measure job satisfaction among African-Americans, Mexican-Americans and European-Americans.

Participation was voluntary, and the obtained results may be biased. The study was limited methodologically by the use of one acute care institution that was purposefully selected. Moreover, the sample size is also rather small and it may not represent the general population of registered nurses in Singapore.

All these limit the possibility of generalization of the results. The results of the study can only be generalized to all registered nurses employed full-time in the ICUs and wards in this hospital. Nevertheless, findings consistent with theoretical predictions and similar to previous studies offset these limitations to a certain extent. Further studies are required to substantiate or refute the findings. This study may serve as a foundation for future studies, in different nursing settings, on a larger scale in the country. That is, future studies should include different categories of nursing personnel, such as assistant nurses and part-time nurses. It would also be interesting to explore the relationships between leadership behaviours and employee outcomes of other health care providers.

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