

Factors contributing to nursing leadership: a systematic review

Author(s): Greta Cummings, How Lee, Tara MacGregor, Mandy Davey, Carol Wong, Linda Paul and Erin Stafford

Source: *Journal of Health Services Research & Policy*, Vol. 13, No. 4 (October 2008), pp. 240-248

Published by: Sage Publications, Ltd.

Stable URL: <https://www.jstor.org/stable/26751106>

Accessed: 06-04-2020 05:18 UTC

REFERENCES

Linked references are available on JSTOR for this article:

https://www.jstor.org/stable/26751106?seq=1&cid=pdf-reference#references_tab_contents

You may need to log in to JSTOR to access the linked references.

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <https://about.jstor.org/terms>



JSTOR

Sage Publications, Ltd. is collaborating with JSTOR to digitize, preserve and extend access to *Journal of Health Services Research & Policy*

Factors contributing to nursing leadership: a systematic review

Greta Cummings, How Lee, Tara MacGregor, Mandy Davey¹, Carol Wong², Linda Paul, Erin Stafford

Faculty of Nursing, University of Alberta, Alberta; ¹Bonnyville Health Centre; ²School of Nursing, University of Western Ontario, Canada

Objectives: Leadership practices of health care managers can positively or negatively influence outcomes for organizations, providers and, ultimately, patients. Understanding the factors that contribute to nursing leadership is fundamental to ensuring a future supply of nursing leaders who can positively influence outcomes for health care providers and patients. The purpose of this study was to systematically review the multidisciplinary literature to examine the factors that contribute to nursing leadership and the effectiveness of educational interventions in developing leadership behaviours among nurses.

Methods: The search strategy began with 10 electronic databases (e.g. CINAHL, Medline). Published quantitative studies were included that examined the factors that contribute to leadership or the development of leadership behaviours in nurse leaders. Quality assessments, data extraction and analysis were completed on all included studies.

Results: A total of 27,717 titles/abstracts were screened resulting in 26 included manuscripts reporting on 24 studies. Twenty leadership factors were examined and categorized into four groups – *behaviours and practices of individual leaders*, *traits and characteristics of individual leaders*, *influences of context and practice settings*, and *leader participation in educational activities*. Specific behaviours and practices of individual leaders, such as taking on or practising leadership styles, skills and roles, were reported as significantly influencing leadership in eight studies. Traits and characteristics of individual leaders were examined in six studies with previous leadership experience (three studies) and education levels (two of three studies) having positive effects on observed leadership. Context and practice settings had a moderate influence on leadership effectiveness (three of five studies). Nine studies that examined participation in leadership development programs all reported significant positive influences on observed leadership.

Conclusion: These findings suggest that leadership can be developed through specific educational activities, and by modelling and practising leadership competencies. However, the relatively weak study designs provide limited evidence for specific factors that could increase the effectiveness of current nursing leadership or guide the identification of future nurse leaders. Robust theory and research on interventions to develop and promote viable nursing leadership for the future are needed to achieve the goal of developing healthy work environments for health care providers and optimizing care for patients.

Journal of Health Services Research & Policy Vol 13 No 4, 2008: 240–248

© The Royal Society of Medicine Press Ltd 2008

Introduction

Leadership has been studied in a wide variety of areas including psychology, military, education, management, health care and, most recently, in nursing. Recent reports suggest that leadership practices of formal nurse leaders and managers contribute to

positive outcomes for organizations, patients,¹ and health care providers;² and that findings of leadership research in nursing have not been systematically examined. Although leadership has been conceptualized in many ways in the literature, the following elements are central to the definition of leadership: leadership (a) is a process; (b) entails influence; (c) occurs within a group setting or context; and (d) involves achieving goals that reflect a common vision.^{3–6} Commonly-used leadership theories that grew out of psychology, sociology and business literatures translate to nursing. Theories of transformational leadership and, more recently, emotional intelligent leadership have guided nursing leadership research and interventions,

Greta Cummings PhD, Associate Professor, How Lee, Faculty Lecturer, Tara MacGregor BA, Project Coordinator, Linda Paul BScN, Masters Student, Erin Stafford BScN (Honours), Faculty of Nursing, University of Alberta, 3-120 CSB Edmonton, Alberta T6G 2G3, Canada; Mandy Davey MN, Bonnyville Health Centre, Bonnyville, Alberta; Carol Wong PhD, Assistant Professor, School of Nursing, University of Western Ontario, Canada.

Correspondence to: gretac@ualberta.ca

presumably due to their emphasis on relationships as the foundation for effecting positive change or outcomes.⁷ For this review, we use Northouse's definition of leadership – 'a process whereby an individual influences a group of individuals to achieve a common goal'.⁴

Effective nursing leadership provides guidance for solving complex problems related to nursing care delivery.⁸ Nurse leaders create structure, implement processes for nursing care and facilitate positive outcomes.⁹ With a forthcoming shortage of nursing leaders compounded by the current shortage of nurses, it is increasingly important to find ways to develop and retain nursing leaders to ensure positive outcomes in the health care system.^{10,11} Developing nursing leaders and recruiting and retaining staff nurses into leadership positions¹² are essential components of succession planning for future nursing leadership.¹³ Health care organizations spend considerable resources every year on personnel and leadership development, so understanding the factors that contribute to nursing leadership is imperative. The purpose of this review was to describe the findings of a systematic review of studies that examine the factors that contribute to enhancing nursing leadership and to make recommendations for further study.

After completing an initial scoping review of the nursing leadership development literature, we found two main themes. A larger group of studies examined factors contributing to enhancing nursing leadership using predominantly correlational survey designs and a smaller number of studies examined the effectiveness of educational interventions to develop leadership behaviour using quasi-experimental pre/post designs. From that scoping review, two research questions were developed that guided the full systematic review:

- (1) What factors contribute to leadership in nursing?
- (2) How effective are educational interventions in developing leadership behaviours among nurses?

Methods

Search strategy, data sources and screening

The search strategy began with ten electronic databases: CINAHL, Medline, PsychInfo, ABI, ERIC, Sociological Abstracts, Embase, Cochrane, Health Star and Academic Search Premier. Keywords used included 'leadership', 'research', 'evaluation' and 'measurement', to find studies published between 1985 and December 2006 that examined factors contributing to nursing leadership. See Appendix 3 (www.jhsrp.rsmjournals.com/cgi/content/full/13/4/240/DC1) for search strategy.

Inclusion criteria

Titles, abstracts and manuscripts were included if they met all inclusion criteria: (1) peer-reviewed research; (2) studies that measured leadership by nurses; (3)

studies that measured one or more factors contributing to nursing leadership; and (4) studies that examined the relationship between these factors and nursing leadership. This excluded qualitative studies and grey literature.

Screening

Each abstract was reviewed twice for inclusion. Studies meeting inclusion criteria were categorized into nursing, other professions (such as medicine, teachers, etc.) and other settings (such as business, military or education). Due to the large volume of abstracts and only English language proficiency in our research team, we focused only on nursing studies published in English. All nursing studies were sorted into those that examined: (a) factors contributing to nursing leadership; (b) outcomes associated with nursing leadership; and (c) the measurement of leadership in nursing. The latter studies comprise two additional systematic reviews (submitted for publication).

Data extraction

The following data were extracted from included studies: author, journal, country, research purpose/questions, theoretical framework, design, setting, subjects, sampling method, measurement instruments and their reported reliability and validity, analysis, leadership measures, factors contributing to nursing leadership and significant/non-significant results. Two research team members completed and checked each data extraction.

Quality review

Each published article was reviewed twice for methodological quality by two team members using a quality assessment tool was adapted from several previously published systematic reviews.^{1,14–16} The adapted tool (Appendix 1, see www.jhsrp.rsmjournals.com/cgi/content/full/13/4/240/DC1) was used to assess four areas of each study: research design, sampling, measurement and statistical analysis for a total of 14 possible points assigned from 13 criteria. Twelve items were scored as 0 (=not met) or 1 (=met) and one item related to the measurement of leadership was scored as 2 (=objective observation), 1 (=self-report) and 0 (= not met). Based on assessed points, each study fell into one of three categories: high (10–14), medium (5–9) and low (0–4).

Studies that reported on implementation of an educational intervention to develop leadership skills were assessed using a pre/post quality assessment tool adapted from another published systematic review.^{15,17} The adapted tool (Appendix 2, www.jhsrp.rsmjournals.com/cgi/content/full/13/4/240/DC1) was used to assess six areas of each study: sampling, design, control of confounders, data collection and outcome measurement, statistical analysis and study dropouts. Thirteen items comprised the tool for a total of 16 points.

The primary author reviewed and approved all quality assessments, data extractions and analyses.

Results

Search results

The electronic database search yielded over 27,717 titles and abstracts. Following removal of duplicates, 18,963 titles and abstracts were screened using the inclusion criteria and 1278 manuscripts were retrieved. Of these, 141 were specific to nursing. Following quality assessment, 23 low quality correlational and exploratory/pilot studies were removed, leaving 118 nursing leadership studies. After final selection using the inclusion criteria for this review, 26 manuscripts (reporting 24 studies) were identified as examining the factors contributing to nursing leadership. Cunningham *et al.*^{18,19} and Tourangeau^{11,20} each had two included papers that reported on one study. The final 24 included quantitative studies and their characteristics are presented in Appendix 4 (see www.jhsrp.rsmjournals.com/cgi/content/full/13/4/240/DC1).

Sixteen of the 24 studies were conducted in the United States, two in Canada, one study in England and two had no country stated. For these two studies, the USA was assumed to be country of origin as their authors were located here.

Summary of quality review

The most common weaknesses in the 24 quantitative study designs related to sampling, design and analysis (Tables 1 and 2). Fifteen of the final 24 studies using correlational, non-experimental, cross-sectional or exploratory designs were rated as moderate or high (scores ≥ 5). However, these correlational designs limit interpretations of causality. The remaining nine studies

Table 2 Summary of quality assessment – nine included pre/post intervention studies

Criteria: Pre/post intervention design	Studies (n)		
	YES	NO	N/A
<i>Sampling</i>			
Was probability sampling used?	0	9	
Was sample size justified to obtain an appropriate power?	0	9	
<i>Design</i>			
One pre-test or baseline and several post-test measures*	3	6	
Simple before-and-after study	6	3	
<i>Control of confounders</i>			
Does the study employ a comparison strategy?	0	9	
Attempt to create or assess equivalence of the groups at baseline by:			
a) Matching*	0	9	
b) Statistical	9	0	
c) None	0	9	
d) The group comparisons were the same for all occasions (Pre, baseline and post evaluations)*			
<i>Data collection and outcome measurement</i>			
Was the dependent variable directly measured by an assessor?	4	5	
Were dependent variables either:			
a) directly measured*	4	5	
b) self-reported	5	4	
Were dependent variables measured reliably (with reliability indices previously or for this study)?	6	3	
Were dependent variables measured validly (with validity assessments previously or for this study)?	4	5	
<i>Statistical analyses and conclusions</i>			
Was (were) the statistical test(s) used appropriate for the main outcome and at least the 80% of the others?	9	0	
Were P values and confidence intervals reported properly?	9	0	
If multiple outcomes were studied, were correlations analysed?	1	0	8
Were missing data managed appropriately?	0	9	
<i>Drop-outs</i>			
Is attrition rate <30%	6	3	

*This item scored 2 points. All others scored 1 point

Table 1 Summary of quality assessment – 15 included correlational studies

Criteria	Studies (n)	
	YES	NO
<i>Design</i>		
Prospective studies	15	0
Used probability sampling	6	9
<i>Sample</i>		
Appropriate/justified sample size	1	14
Sample drawn from more than one site	13	2
Anonymity protected	4	11
Response rate >60%	8	7
<i>Measurement</i>		
Reliable measure of leadership	12	3
Valid measure of leadership	8	7
Effects (outcomes) were observed rather than self-reported*	2	13
Internal consistency ≥70 when scale used	9	6
Theoretical model/framework used	12	3
<i>Statistical analyses</i>		
Correlations analysed when multiple effects studied	5	10
Management of outliers addressed	4	11

* This item scored 2 points. All others scored 1 point

used pre/post implementation (quasi-experimental) designs and were rated as low quality (scores < 0.60). None of these studies used a control group for comparison. Comparisons were made only within each sample before and after the educational intervention to assess for a change in leadership behaviours. Despite the low ratings, this group of studies contained valuable information on the development of nursing leadership and were retained. Only seven of the 24 included studies used probability sampling, partially due to the difficulty in using random sampling methods to study leadership in specific individuals or units. As these studies must target leaders and their followers, convenience sampling may be used more frequently. Most studies used correlational and regression analyses and 16 studies failed to report the management of outliers. Only one study addressed appropriateness of sample size and three addressed anonymity of respondents. Seventeen studies used samples from more than one site.

The majority of studies (19 of 24) used a theoretical framework to guide the research. Five of the nine pre/post

studies used a theoretical framework to test leadership development interventions. Ten of the 15 exploratory, correlational designs also used a theoretical framework to guide studies that examined whether particular traits, characteristics and behaviours were associated with the report of leadership (five self- and four observer-reported). These frameworks used a variety of leadership theories including Hersey and Blanchard’s Situational Leadership Model, Kouzes and Posner’s Leadership Challenge, Burns’ Transformational Leadership, Bass and Avolio’s Transformational and Transactional Leadership, and McLelland’s Theory of Leadership Motivation.

Factors contributing to nursing leadership

The 24 included studies investigated relationships between various factors (20 different factors in total)

and nursing leadership, primarily in acute care settings. Using content analysis, we categorized these factors into four groups based on similar themes: *behaviours and practices* of individual leaders, *traits and characteristics* of individual leaders, influences of *context and practice settings*, and *leader participation in educational activities* to develop leadership (Table 3).

Behaviour and practices of individual leaders

This category included eight studies that described factors contributing to nursing leadership that our research team conceptualized as arising from the conscious, purposeful actions or decisions of leaders.^{21–27} Jenkins and Ladewig²³ reported how demonstrating and practising leadership skills increased leadership behaviours in both leaders and nurses who worked for those leaders. Initiating structure and consideration,

Table 3 Factors contributing to nursing leadership

Leadership factor	Source	Significant findings	Leadership
A. Behaviours and practices of individual leaders			
Demonstrating and practising leadership	Jenkins & Ladewig ²³	+	Enactive mastery and ability to lead groups (leaders)
		+	Modelling and leadership behaviours
		+	Practising leadership behaviours and self-efficacy, skill acquisition
Modelling leadership behaviours	Jenkins & Ladewig ²³	+	Self-efficacy in nurses
Leadership style	Perkel ³⁰	+	Leadership style predominantly transformational
	Goldenberg ²¹	+	Leadership style is dominant (low task, high relationship)
Structuring and consideration behaviours	Norris & Vecchio ²⁷	+	Use of situational leadership
	Lucas ²⁵	+	Expertise in initiating structure and consideration
Managerial competencies	Kondrat ²⁴	+	Human, leadership categories ranked highest versus technical
Length of time in present position	Irurita ²²	—	Length of time in position and effectiveness
Role-taking and effectiveness	Mansen ²⁶	+	
B. Traits and characteristics of individual leaders			
Previous leadership experience	Irurita ²²	+	Non-nursing experience and effectiveness
	Jenkins & Ladewig ²³	+	Previous nursing management and effectiveness
	Perkel ³⁰	NS	
Previous nursing education	Irurita ²²	+	Education level and effectiveness
	Perkel ³⁰	NS	
Personality traits	Hansen <i>et al.</i> ²⁸	+	Openness, extroversion and motivation to manage
		+	Nurses prefer leaders to use personal power
Leadership motivation	Henderson ²⁹	+	Power motive and effectiveness
		NS	Type of motivation and effectiveness
Age	Kondrat ²⁴	+	Being older and managerial competencies
Gender and sex role	Rozier ³¹	NS	Gender, sex role and leadership style, supervisory style
Value congruence	Perkel ³⁰	NS	
C. Influence of context and practice settings on leadership			
Differentiated practice – accessibility and contact with formal leaders	Boumans <i>et al.</i> ³³	—	Social emotional leadership due to social distance
Implementation of Enhanced Professional Practice Model (EPPM)	Ingersoll <i>et al.</i> ³⁴	+	Facilitative Leadership Style (EPPM features)
			- Control over practice
			- Compensation and rewards
			- Continuity of care delivery
			- Continuing education
			- Collaborative practice
Overall organizational climate	Jones <i>et al.</i> ³²	+	Predicts leadership behaviour
Performance feedback	Wallin <i>et al.</i> ³⁵	+	Predicts improvement in leadership
Employee maturity	Norris and Vecchio ²⁷	NS	Situational leadership
Educational activities, formal and informal	Young ³⁶	+	High transformational leadership

as well as role-taking (often linked to cognitive empathy) were also significantly related to leadership effectiveness^{26,27} and the use of situational leadership.²⁷ Relationship-based competencies were reported as more important than financial and technical competencies for leadership effectiveness.^{25,28} This was supported by Goldenberg’s work²¹ where most leaders used a low task and high relationship style.

Traits and characteristics

Seven studies reported on relationships between specific traits and characteristics of nurse leaders and their reported leadership practices.^{22–24,28–31} Previous leadership experience was related to higher reports of a leader’s skills and practices in three studies,^{22,23,30} although length of time in the present position was negatively correlated with leadership effectiveness.²² More effective leaders also had personality traits of openness, extroversion and motivation to manage.²⁸ Significant positive relationships were reported between the leaders’ motivation and their leadership behaviours.^{29,32} While motivation was significant, no particular style of motivation (such as socialized power or personalized power) led to increased leadership effectiveness. Age was positively related to leadership skills.²⁴ These studies reported that older and more experienced nurses were more effective leaders. Value congruence between the leader and the organization was also not a significant predictor of leadership behaviour.³⁰ Only one included study examined the influence of sex roles or gender as other studies in this area were removed due to low quality. That study found no significant relationship between sex role behaviour, gender and leadership style or effectiveness.³¹

Context and practice settings

This category consisted of six studies that examined the influence of context and differentiated practice settings on the behaviours of nursing leaders (Table 4).^{27,32–36} The results in this category were predicated on contact between leaders and employees as factors contributing to enhancing nursing leadership. One study explored changes in the practice setting which increased the distance between supervisor and caregivers.³³ When staff had less contact with the leader, reported leader effectiveness decreased due to removing the influence of social emotional leadership. Nurses also reported greater self-efficacy in leadership behaviours when given the opportunity to observe, model and practice leadership behaviours.²³ Ingersoll and colleagues³⁴ found that when nurses reported more autonomy and control, their leaders used a facilitative leadership style whereas a structured leadership style was used with staff that required more direction. Young³⁶ explored the types of educational opportunities available in the practice setting finding that individuals who ranked high on transformational leadership participated in more formal and informal leadership education.

Leader participation in educational activities

Educational activities (e.g. leadership development programs) were most frequently examined and the most significant factor contributing to increased leadership practices (nine studies).^{11,18–20,23,37–42} All nine studies using pre/post measures of leadership skills and competencies reported an increase in leadership skills and competencies when rated by either self or observers. Tourangeau and colleagues reported both significant development of leadership practices observed by others and no significant change in self-reported leadership practices after participation in a weekend leadership training course.²⁰ Three studies measured the results of leadership development after one post-intervention measurement.^{23,38,40} Two of these three studies reported that increased leadership skills remained three months after participating in the leadership development program and the third study reported positive results both six and 12 months after the program.³⁸

The leadership development programs varied widely in programming, length and delivery. They ranged in length of time from three days to 18 months, and from being offered in all-day workshop format, structured self-directed learning, to a five-day residency

Table 4 Results of educational interventions to develop leadership behaviours

Leadership factor	Source	Significant findings	Leadership
<i>Leader participation in educational activities</i>			
Leadership development training/program	Cleary <i>et al.</i> ³⁷	+	Self-reported leadership behaviour
	Cunningham and Kitson ^{18,19}	+	Self-rated leadership ability
	George ³⁸	+	Self-reported, observed leadership behaviours
	Jenkins and Ladewig ²³	+	Self-efficacy, shared governance behaviour
	Wessel-Krejeci and Malin ⁴⁰	+	Managerial competencies
	Krugman and Smith ³⁹	+	Self-reported leadership behaviour
	Tourangeau <i>et al.</i> ^{11,20}	+	Observed leadership behaviour
		NS	Self-reported leadership practices
	Werrett <i>et al.</i> ⁴¹	+	Self-reported leadership behaviour
	Wolf ⁴²	+	Leadership adaptability
		+	Two-way communication in leadership style

program with follow-up three months later. Three of the nine studies had very similar interventions focused on leadership development over a period of three or four days.^{11,40,42} Two studies extended their program with one four-day program being delivered over a period of two months and another program spanning 18 months with a variety of activities ranging from learning plans to observation.³⁸ However, the specific contents of the leadership development programs were not reported in detail.

Discussion

The integrated findings from the 24 included studies in this review provide limited evidence, but a foundation for discussion of the investment in leadership development and mentorship programs, the recruitment and selection of nursing leaders, and future research.

Interventions to develop leadership

All studies that examined the influence of a leadership development program reported significantly increased leadership behaviours post intervention. However, given the propensity for published work to report positive results, these positive results should be viewed with cautious optimism. Our review may potentially be missing data about leadership development programs that did not significantly influence the development of leadership skills and were not published. With no control groups in these studies, the positive results stem primarily from observer or self-report methods without comparison to groups not receiving an intervention. Experimenter effects on self-report methods may also inflate the reporting of improvements. However, the use of observed measures of leaders' styles and behaviours by others strengthens the validity of these leadership study results. Leadership measures by followers are free of social desirability response bias often associated with leaders' self-report measures.^{43,44}

Most of the leadership development programs in this review were conducted in workshop format with or without opportunities to receive coaching and mentoring from senior skilled leaders. The majority of studies based their interventions on pre-existing leadership development programs while two programs were developed in-house. Three studies reported that effects of training remained three months or longer. While the positive results were not differentiated across these different types of programs, leadership development programs could be structured in ways that are even more effective or particularly influential in developing specific leadership skills than those represented in the studies reviewed. Longitudinal research examining a variety of leadership development interventions, with data collection extending beyond 18 months and using both control and intervention groups, would help to determine the longer-term effects of educational

interventions on leadership behavior.⁴⁵ Such research would also identify whether the length or type of program influences the duration or magnitude of enhanced leadership behaviour.

The results of this review also point to the importance of leaders' role in modelling, demonstrating and practising leadership skills during the course of their work. As leaders develop and learn new skills, they should demonstrate, model and use these skills in the practice setting since study results suggest that leaders will continue to develop and improve by using their abilities as well as by teaching others. By wanting to learn and choosing to make an intentional behavioural change, people can change their performance on a complex set of competencies that distinguish outstanding managers.⁴⁶ With the considerable financial resources that health care organizations invest in leadership development annually,⁴⁷ the results of these studies suggest that investments in educational programs to develop leadership competencies are well placed.

Recruitment and selection of leaders

Studies examining traits and characteristics of nursing leaders found that higher levels of education and experience led to increased leadership effectiveness, with the exception of one study²⁰ in which leaders with more experience were rated as exhibiting less effective leadership. These results suggest that the relationship between length of time in a leadership role and leadership practices can promote the development of leadership competence, as well as the development of burnout, job stress and apathy when leaders remain in their positions for lengthy periods.

Rozier³¹ found a balance between sex role characteristics, suggesting that an effective leader utilizes a blend of both masculine and feminine traits. The demographic results from the lone study on sex role indicated that leadership style tended to be high task and high relationship which also points to emotional intelligence, a theme consistent with studies from other leadership literature.^{2,48}

Further research should explore the relationship between traits and characteristics, such as levels of education, experience, sex/gender roles and leadership in greater detail as the studies in this review provided no clear indication on how much education and expertise leads to greater leadership effectiveness. Additional research should also explore the sex role behaviour of male leaders in nursing to add diversity and contrast to the findings since nursing is a female dominated profession. This would provide additional insight into the characteristics and differences between female and male leaders in nursing.

Context and practice setting characteristics

Contact between the leader and staff is important as it provides opportunities for both staff nurses and leaders to use and develop their leadership skills. The

reported reduction in leadership effectiveness resulting from increased distance between leader and staff may arise from leaders having fewer opportunities to use their leadership skills or staff not observing them.³³ This suggests a need for health care organizations to understand the most effective way to use and implement leadership within the organization as visible and accessible leadership also increases job satisfaction and retention of staff.³⁴

The influence of organizational climate in predicting leadership behaviour³² is consistent with the current interest in the relationship between context, culture and leadership.⁴⁹ Leadership behaviours may also have a reciprocal relationship with organizational culture. The dynamic interplay between leadership and culture can be further explored as culture plays a strong role in many factors ranging from job satisfaction to staff retention. This knowledge could lead to more effective strategies on how health care organizations can support and implement leadership roles. Jones *et al.* suggested that behaviours involved in decision-making, information dissemination and developing interpersonal relationships within an organization can facilitate leadership development. Role taking in the transformational leadership perspective involves leader–follower exchange where the leader attempts to understand follower needs and the follower provides the leader with their perception of leadership effectiveness. This suggests that the process of role taking involves a relationship-based style of leadership and a need for leaders with high emotional intelligence. Employee maturity and situational leadership should also be explored further. Norris and Vecchio²⁷ suggested that their non-significant results may arise from instrumentation, or employee maturity being rated as subjective and dynamic.

Last, the availability of educational opportunities including activities, ranging from formal lectures/in-services to informal staff mentorship in the practice setting, increased leadership behaviour. This suggests that providing opportunities to learn may strengthen leadership development.

Design and analysis

There was a notable lack of random sampling in the reviewed studies due in part to the nature of studying leadership because the specific populations of leaders are most easily accessed by convenience sampling. However, to further strengthen study design, future research using probability sampling and quasi-experimental designs with matched or random allocation to control and intervention groups, is needed.⁴⁷ The application of higher level multivariate statistical procedures like HLM and SEM can be used to test models and theories of leadership, specifically causal relationships of the influence of factors or interventions on the development of leadership. Models can include multiple factors contributing to nursing leadership and other variables influenced by leadership

such as job satisfaction and retention. Finally, qualitative approaches examining the factors contributing to enhanced nursing leadership should be encouraged to generate themes and theoretical connections for future study.

One strength of this review was that the majority of studies were guided by a framework. Use of theoretical frameworks strengthen the validity of the study as theory provides a basis from which relationships between ideas and variables are constructed in order to be tested empirically, and to guide the choice of intervention design. However, we did not find a theoretical approach specific to leadership development in nursing, which is therefore an area for future development.

Measurement of leadership

A variety of tools were used to measure leadership in this systematic review. The most frequently used were the *Leadership Practices Inventory* (three studies), *Multifactor Leadership Questionnaire* (two studies), *Leader Behaviour Descriptive Questionnaire* (three studies) and the *Leadership Effectiveness and Adaptability Description* (two studies). The remaining studies used other instruments including those developed by the study's researcher. While many studies had similar leadership goals, the researchers may have had different conceptualizations of leadership that encompassed a broad range of areas, styles and principles applied differently in a variety of settings. A variety of tools were used to measure leadership, therefore each may have measured a different conceptualization of leadership suggesting no consensus on the definition of leadership. Thus, leadership to nurses may vary from what leadership means to those in business or the military. The lack of reporting of leadership measurement tool validity (only 10 of 24 studies reported) limits the external validity of their findings. This is a topic that could be addressed by further qualitative inquiry to add greater depth to the conceptualization of leadership in nursing. Finally, only 11 of the 24 studies reported internal consistency greater than 0.70. While studies may have actually had appropriate validity and internal consistency, insufficient details may have been reported in the final study.

This review was limited by a potential reporting bias since published work tends to over report positive and significant findings. Variability in the conceptualizations and measurement of leadership may limit the validity and generalizability of the findings. No randomized control trials (RCTs) were found and there was limited control for extraneous variables. The exclusion of non-English studies may have resulted in overlooking additional evidence of specific culturally influenced factors that enhance or develop leadership in nursing. Finally, qualitative studies were not included due to the volume of quantitative studies selected which may reduce the comprehensiveness of results.

Conclusion

As health care faces a looming shortage of nursing leaders and nurses, understanding the factors that contribute to enhancing nursing leadership can help organizations create strategies to develop leaders and enhance succession planning and staff retention. The findings of this systematic review suggest that leadership qualities can be developed through specific and dedicated educational activities. Characteristics such as transformational, high relationship styles and previous leadership experience are identified as contributing to leadership qualities. However, the relatively weak study designs provide limited evidence for specific factors that could increase the effectiveness of current nursing leadership or guide the identification of future nurse leaders. Robust theory and research on interventions to develop and promote viable nursing leadership for the future are needed to achieve the goal of developing healthy work environments for health care providers and optimizing quality care for patients.

Acknowledgements

This work was supported by a New Investigator Award, Canadian Institutes of Health Research (CIHR), Population Health Investigator award, Alberta Heritage Foundation for Medical Research (AHFMR) to Dr Greta Cummings. The authors sincerely acknowledge the very helpful assistance of the journal reviewers through their feedback and suggestions.

References

- Wong C, Cummings GG. The relationship between nursing leadership and patient outcomes: a systematic review. *J Nurs Manag* 2007;15:508–21
- Cummings GG, Hayduk L, Estabrooks CA. Mitigating the effects of hospital restructuring on nurses: the responsibility of emotionally intelligent leadership. *Nurs Res* 2005;54:1–11
- Hunt JG. What is leadership? In: Antonakis J, Cianciolo AT, Sternberg RJ, eds. *The Nature of Leadership*. Thousand Oaks, CA: Sage Publications, 2004:19–47
- Northouse PG. *Leadership: Theory and Practice*. 3rd edn. Thousand Oaks, CA: Sage Publications, 2004
- Shaw S. *Nursing Leadership*. Oxford: Blackwell Publishing, 2007
- Shortell SM, Kaluzny AD. *Health Care Management: Organization Design and Behavior*. 5th edn. Albany, NY: Delmar Publishers, 2006
- Hibberd J, Smith DL, Wylie DM. Leadership and leaders. In: Hibberd J, Smith DL, eds. *Nursing Leadership and Management in Canada*. 3rd edn. Toronto: Elsevier Mosby, 2006:369–94
- Smith SL, Manfredi T, Hagos O, Drummond-Huth B, Moore PD. Application of the clinical nurse leader role in an acute care delivery model. *J Nurs Adm* 2006;36:29–33
- Anthony MK, Standing T, Glick J, et al. Leadership and nurse retention: the pivotal role of nurse managers. *J Nurs Adm* 2005;35:146–55
- Laschinger HKS, Wong C, Ritchie J, et al. A profile of the structure and impact of nursing management in Canadian hospitals. *Healthc Q* 2008;11:85–94
- Tourangeau AE. Building nurse leader capacity. *J Nurs Adm* 2003;33:624–6
- Cullen K. Recruitment, retention, & restructuring report. Strong leaders strengthen retention. *Nurs Manag (Harrow)* 1999;30:27–8
- Kleinman C. Leadership: a key strategy in staff nurse retention. *J Contin Educ Nurs* 2004;35:128–32
- Cummings GG, Estabrooks CA. The effects of hospital restructuring including layoffs on nurses who remained employed: a systematic review of impact. *Int J Social Soc Pol* 2003;23:8–53
- Estabrooks CA, Goel V, Thiel E, Pinfold SP, Sawka C, Williams J. Decision aids: are they worth it? A systematic review of structured decision aids. *J Health Serv Res Policy* 2001;6:170–82
- Estabrooks CA, Floyd JA, Scott-Findlay S, O'Leary K, Gushta M. Individual determinants of research utilization: a systematic review. *J Adv Nurs* 2003;43:506–20
- Estabrooks CA, Cummings GG, Olivo-Armijo S, Squires J, Giblin C, Simpson N. Effects of shift length on quality of patient care and health provider outcomes: a systematic review. *Quality and Safety in Health Care* (in press)
- Cunningham G, Kitson A. An evaluation of the RCN Clinical Leadership Development Programme: Part 1. *Nurs Stand* 2000;15:34–7
- Cunningham G, Kitson A. An evaluation of the RCN Clinical Leadership Development Programme: Part 2. *Nurs Stand* 2000;15:34–40
- Tourangeau AE, Lemonde M, Luba M, Dakers D, Alksnis C. Evaluation of a leadership development intervention. *Can J Nurs Leader* 2003;16:91–104
- Goldenberg D. Nursing education leadership Effect of situational and constraint variables on leadership style. *J Adv Nurs* 1990;15:1326–34
- Irurita V. A study of nurse leadership. *Aust J Adv Nurs* 1988;6:43–51
- Jenkins LS, Ladewig NE. A self-efficacy approach to nursing leadership for shared governance. *Nurs Leader Forum* 1996;2:26–32
- Kondrat BK. Operating room nurse managers – competence and beyond. *AORN J* 2001;73:1116
- Lucas MD. The relationship of nursing Deans' leadership behaviors with institutional characteristics. *J Nurs Educ* 1986;25:50–4
- Mansen TJ. Role-taking abilities of nursing education administrators and their perceived leadership effectiveness. *J Prof Nurs* 1993;9:347–57
- Norris WR, Vecchio RP. Situational leadership theory: a replication. *Group & Organization Management* 1992;17:331–42
- Hansen HE, Woods CQ, Boyle DK, Bott MJ, Taunton RL. Nurse manager personal traits and leadership characteristics. *Nurs Adm Q* 1995;19:23–5
- Henderson MC. Nurse executives: leadership motivation and leadership effectiveness. *J Nurs Adm* 1995;25:45–51
- Perkel LK. Nurse executives' values and leadership behaviors: conflict or coexistence? *Nurs Leader Forum* 2002;6:100–7
- Rozier CK. Nurse executive characteristics: gender differences. *Nurs Manag (Harrow)* 1996;27:33–8
- Jones LC, Guberski TD, Soeken KL. Nurse practitioners: leadership behaviors and organizational climate. *J Prof Nurs* 1990;6:327–33
- Boumans NP, Landeweerd JA, Visser M. Differentiated practice, patient-oriented care and quality of work in a hospital in the Netherlands. *Scand J Caring Sci* 2004;18:37–48
- Ingersoll GL, Schultz AW, Hoffart N, Ryan SA. The effect of a professional practice model on staff nurse perception of work groups and nurse leaders. *J Nurs Adm* 1996;26:52–60
- Wallin L, Ewald U, Wikblad K, Scott-Findlay S, Arnetz BB. Understanding work contextual factors: a short-cut to

- evidence-based practice. *Worldviews Evid Based Nurs* 2006;**3**:153–64
- 36 Young SW. Educational experiences of transformational nurse leaders. *Nurs Adm Q* 1992;**17**:25–33
 - 37 Cleary M, Freeman A, Sharrock L. The development, implementation, and evaluation of a clinical leadership program for mental health nurses. *Issues Ment Health Nurs* 2005;**26**:827–42
 - 38 George V, Burke LJ, Rodgers B, *et al.* Developing staff nurse shared leadership behavior in professional nursing practice... three studies. *Nurs Adm Q* 2002;**26**:44–59
 - 39 Krugman M, Smith V. Charge nurse leadership development and evaluation. *J Nurs Adm* 2003;**33**:284–92
 - 40 Wessel-Krejci JW, Malin S. Impact of leadership development on competencies. *Nurs Econ* 1997;**15**:235–41
 - 41 Werrett J, Griffiths M, Clifford C. A regional evaluation of the impact of the Leading an Empowered Organisation leadership programme. *NT Research* 2002;**7**:459–70
 - 42 Wolf MS. Changes in leadership styles as a function of a four-day leadership training institute for nurse managers: a perspective on continuing education program evaluation. *J Contin Educ Nurs* 1996;**27**:245–52, 280–1
 - 43 Polit D, Beck C. *Nursing Research: Principles and Methods*. 7th edn. Philadelphia, PA: Lippincott Williams & Wilkins, 2004
 - 44 Xin KR, Pelled LH. Supervisor-subordinate conflict and perceptions of leadership behaviour: a field study. *Leadership Quarterly* 2002;**14**:25–40
 - 45 Bartholomew Craig S, Hannum K. Experimental and quasi-experimental evaluations. In: Hannum K, Martineau JW, Reinelt C, eds. *The Handbook of Leadership Development Evaluation*. San Francisco, CA: Jossey-Bass, 2006:19–47
 - 46 Boyatzis RE. Unleashing the power of self-directed learning. 28 May 2001. See http://www.eiconsortium.org/research/self-directed_learning.htm (last checked 25 October 2002)
 - 47 Phillips JJ, Phillips P. Measuring return on investment in leadership development. In: Hannum K, Martineau JW, Reinelt C, eds. *The Handbook of Leadership Development Evaluation*. San Francisco, CA: Jossey-Bass, 2006:137–67
 - 48 Cummings GG. Investing relational energy: the hallmark of resonant leadership. *Can J Nurs Leader* 2004;**17**:76–87
 - 49 Cogliser CC, Schriesheim CA. Exploring work unit context and leader-member exchange: a multi-level perspective. *J Organ Behav* 2000;**21**:487–511