

Final Report to The Change Foundation

**Evaluation Study of a Leadership
Development Intervention for Nurses**

Submitted by Dr. Ann E. Tourangeau
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Evaluation Study of a Leadership Development Intervention for Nurses: Final Report

Background

The Dorothy M. Wylie Nursing Leadership Institute was established with seed funding from the Ontario Ministry of Health & Long-term Care. The Nursing Leadership Institute (NLI) was designed to assist aspiring nurse leaders to develop effective leadership knowledge, skills, and attitudes, as well as to strengthen leadership abilities of current nurse leaders. To determine whether the NLI achieved these intended goals, both *The Change Foundation* and the *Nursing Effectiveness, Utilization and Outcomes Research Unit* at the University of Toronto generously supported this evaluation study.

Study Purpose and Research Questions

The main purpose of this study was to increase our understanding of the effectiveness of leadership development interventions for nurses. The study objective was to empirically determine immediate through long-term effects of the Dorothy M. Wylie Nursing Leadership Institute. Descriptive statistics for all outcomes at all four evaluation periods throughout the study are reported. However, analysis of changes in outcomes over the longer-term have not been possible because of declining numbers of responses from institute participants during the third and fourth testing periods.

Our primary research question was: What effects did participation in the Nursing Leadership Institute have on self-reported and observer-reported leadership practices of participants? Secondly, what effects did participation in the institute have on self-assessments of burnout reflected in self-reported levels of emotional exhaustion, sense of depersonalization, and feelings of personal accomplishment? Our hypotheses were:

1. Self-reports of each of the five leadership practices will increase from the pretest through posttest time periods.
2. Observer reports of the five leadership practices for participants will increase from the pretest through posttest time periods.
3. Self-reported levels of emotional exhaustion and depersonalization will decrease from the pretest through posttest time periods.
4. Self-reported levels of a sense of personal accomplishment will increase from the pretest through posttest time periods.

In addition, we examined the organizational environment within which nurses were functioning, as well as the commitment and readiness of key management personnel to accept the leadership development of nurses within their organization.

Evaluation Methods

Leadership Development Intervention

The Dorothy M. Wylie Nursing Leadership Institute consisted of a five-day residency program with a follow-up booster weekend held three months later. Major topics explored throughout the Institute were modeled on Kouzes and Posner's (1995) five leadership competencies, visioning and creating a culture of nursing excellence, developing quality work environments, and project development and management. Participation in the institute offered opportunities for self-reflection as well as theory acquisition about the importance of the use of self by leaders. To broaden their perspectives of issues and challenges facing health care leaders, participants engaged in learning activities related to the profession of nursing as well as the business of health care.

Design

Part A: Participant Outcomes

A one-group pretest posttest quasi-experimental design guided the study. All participants received the five-day residential leadership development intervention in August 2001. Subjects acted as their own controls. Participants were assessed immediately before intervention implementation, as well as three months later (November 2001), nine months later (May 2002) and 15 months later (November 2002).

Part B: Focus Groups

In November 2001 two focus groups were held with study participants to gather richer qualitative data on their perceptions about outcomes of their participation in the Nursing Leadership Institute.

Part C: Organizational Commitment and Readiness Interviews

Telephone interviews were conducted at two points in time with key leaders of organizations that sent participants to the Nursing Leadership Institute following a standardized questionnaire. Interview questions assessed organizational commitment and readiness to support nursing leadership development, as well as highlighted outcomes of the nurses' participation in the Leadership Institute. Initial interviews took place in September to October 2001, with follow up interviews in May to June 2002.

The Sample

Part A: Participant Outcomes

Sixty-seven of the 73 attendees of the first Dorothy Wylie Nursing Leadership Institute agreed to participate in this evaluation study. Nurses had been invited to participate in the leadership institute in pairs (dyads) consisting of an established leader and an aspiring (up-and-coming) leader. The study sample consisted of 30 established leaders and 37 aspiring leaders. Table 1 contains a description (mean and standard deviation) of characteristics of study participants for the whole sample and separately for established and aspiring leaders. Most study participants lived and worked in Ontario and represented 27 different health care or related

organizations. For each testing period, Table 2 describes the number and type of organizations from which participants came, the number of completed self-evaluations, the number of supervisor and peer questionnaires distributed, and the number of supervisor and peer questionnaires returned. At pretest time, 100 percent of self-report assessments of leadership practices and 353 (62.5%) observer responses were received. From pretest to posttest time periods, decreases occurred in response rates for both self-reports and peer observers. At the first posttest time, 58 (86.6%) self-reports and 251 (44.4%) observer responses were received. At the second posttest time, 31 (46.3%) self-reports and 221 (39.9%) observer responses were received. At the final posttest time, 28 (41.8%) self-reports and 180 (32.4%) observer responses were received.

Part B: Focus Groups

Eight participants took part in each of two focus groups that took place at the follow-up booster weekend in November 2001, for a total of 16 focus group participants.

Part C: Organizational Commitment and Readiness Interviews

Telephone interviews targeted three key organizational leaders from participating organizations: the Chief Executive Officer or President, the Chief Nursing Officer or Vice President Patient Services, and the Vice President or Senior Human Resource Leader. Due to staff turnover, leaders interviewed during the first set of interviews were not necessarily the same person interviewed in the second set of interviews. In cases where the Chief Nursing Officer was a participant of the Nursing Leadership Institute, an interview targeting this position was not conducted for that organization. In addition, people who chose not to participate in the September 2001 interviews, and remained in the same position, were not contacted for the May 2002 interviews. Table 3 describes organizational leader participants at both sets of interviews.

Data Collection Procedures

Part A: Participant Outcomes

Each participant received written information about the study before arriving at the Institute. After informed consent was obtained, pretest self-reported data collection instruments were distributed at the time of registration at the NLI and completed instruments were collected prior to the opening session. Participants completed a leadership practice inventory, burnout assessment tool, organizational environment assessment questionnaire and a demographic information tool.

To encourage maximum participation, participants were given options of which aspects of the study they wished to participate. However, if participants agreed to be part of the study, self-assessments were mandatory. Peer observer assessments were not mandatory. There were three possible types of observer assessments of leadership practices: peers, dyad partners (established and aspiring leader pairs), and supervisors. Some participants consented to complete only the self-evaluation components and did not consent to have observers assess their leadership practices. Participants who consented to peer observation were asked to invite their dyad partner, their immediate supervisor (if different from the dyad partner), and up to 10 colleagues or peers from their workplace to assess their leadership practices. Participants were provided with appropriately prepared assessment packages to distribute to observers. Observer packages

contained a study information letter, a leadership practice inventory assessment form, and a stamped return-addressed envelope.

A similar procedure was completed at all four testing time periods. Self-reported posttest data were collected three months later at the conclusion of the booster weekend, as well as nine and fifteen months after the five-day initial leadership institute experience. Again, if the participant had consented, they were invited to ask their dyad partner, their supervisor, and up to ten peers to complete assessments of their leadership practices.

Part B: Focus Groups

Participants attending the booster weekend were invited to participate in a focus group. Sixteen participants volunteered. To allow for more in-depth discussion, participants were divided into two small focus groups consisting of eight people each. Trained facilitators led the discussion following a pre-determined set of leading questions. One facilitator led the group while a second recorded detailed notes of group processes and discussions.

Part C: Organizational Commitment and Readiness Interviews

Contact names of people holding the position of Chief Executive Officer or President, Chief Nursing Officer or Vice President Patient Services, and the Vice President or Senior Human Resource Leader were obtained by phoning each organization directly. An introductory letter was faxed to the targeted individual four days prior to phoning to book a telephone interview appointment. To allow participants to prepare for the interview, the introductory letter also included the six open-ended interview questions. For the May 2002 interviews, key organizational leaders were invited to complete the Organizational Environment Assessment Questionnaire that was also provided ahead of time. Hand-written notes were taken throughout each telephone interview.

Data Collection Instruments

Part A: Participant Outcomes

According to Kouzes and Posner (1995), there are five fundamental leadership practices that contribute to exemplary leadership: challenging the process, inspiring a shared vision, enabling others to act, modeling the way, and encouraging the heart. Embedded in each of these practices are behaviors or commitments to behavior that serve as the basis for leading and allowing leaders to get extraordinary things accomplished in their organizations. Kouzes and Posner (1995) developed the 'Leadership Practice Inventory' (LPI) tool that measures both self-reported and observer-reported leadership practices. The LPI is a well-validated 30-item scale that measures leadership behaviors in each of the five leadership practices (Kouzes & Posner, 1995). There are two LPI versions, one for self-assessment and a second for observer assessment. Six items measure each of the five leadership practices. For each item, respondents were asked to identify the frequency with which the person being evaluated engages in the described behavior on a 10-point scale ranging from almost never (value of 1) to almost always (value of 10). The theoretical range for each of these 5 subscales is 10 (lowest) through 60 (highest).

The Maslach Burnout Inventory (MBI) is a well-validated and frequently used 25-item scale that measures three components of employee burnout: emotional exhaustion, personal accomplishment, and depersonalization. Burnout is conceptualized as consisting of high levels of emotional exhaustion and feelings of depersonalization, and low levels of feelings of personal accomplishment. The psychometric properties and norms of the three components of the MBI are well documented and include evidence of both reliability and validity (Maslach, Jackson, & Leitner, 1996). Respondents were asked to rate how frequently they experienced each job-related feeling described in the item using a seven-point scale ranging from never (value of 0) to everyday (value of 6). The theoretical range for personal accomplishment is 0 through 48, for emotional exhaustion is 0 through 54, and for depersonalization is 0 through 30.

The Organizational Environment Assessment Questionnaire asked respondents to identify their level of agreement with each of the following questions on a four-point scale ranging from strongly disagree (value = 1) to strongly agree (value = 4):

1. People who work in this work environment have shared goals.
2. People working in this environment feel valued for the work they do.
3. It is okay to try something new in this work environment even if it doesn't work out.
4. People working in this environment have opportunities for personal development.
5. People working in this environment have opportunities for professional development.
6. People working in this environment have the flexibility to change how they organize their work.

Part B: Focus Groups

The following six questions guided the focus group discussions:

1. What kinds of leadership situations or demands are you struggling with in your work environments since you have been involved in the Nursing Leadership Institute?
2. Is there a difference in how you deal with these leadership situations or demands in your work since you have been involved in the Nursing Leadership Institute?
3. What sources of support are helpful in dealing with these leadership situations or demands?
4. What kinds of additional support could you benefit from to deal with these leadership situations or demands?
5. What were you able to draw upon from your experiences with the leadership institute?
6. What other things would you like to tell us about how your participation in this Nursing Leadership Institute has impacted on your work?

Part C: Organizational Commitment and Readiness Interviews

The following six questions guided the organizational Commitment and Readiness Interviews with key organizational leaders in September 2001 and May 2002:

1. What expectations do you have as a result of the participation of some of the nurse employees in your organization in the nurse leadership development institute?
2. Have you noticed any effects or outcomes in your organization that might be related to participation of some nurse employees in this nurse leadership development institute? What might those outcomes be?
3. What supports or structures are there in the organization to support the development of nurse leaders?

4. What differences does nursing leadership make in your organization?
5. Are there gaps in the nursing leadership capacity in your organization?
6. If so, what actions might be undertaken to narrow those gaps?

In addition, the May 2002 interviews with key organizational leaders included a modified Organizational Environment Assessment Questionnaire that was used with NLI participants and their observers; question 3 is different than in Part A. above. Respondents identified their level of agreement with each of the following questions on a four-point scale ranging from strongly disagree (value = 1) to strongly agree (value = 4):

1. People who work in this work environment have shared goals.
2. People working in this environment feel valued for the work they do.
3. When I, or others, make decisions in this work environment, they are supported.
4. People working in this environment have opportunities for personal development.
5. People working in this environment have opportunities for professional development.
6. People working in this environment have the flexibility to change how they organize their work.

Data Analysis Procedures

Part A: Participant Outcomes

Multivariate analysis of variance (MANOVA) was used to investigate hypothesized differences in both self and observer reported leadership practices and self-reported burnout for study participants between the pretest and first posttest time periods. Preliminary analyses confirmed that the data met assumptions for MANOVA. For each participant, peer ratings were averaged for each leadership practice across all peer evaluations. This resulted in one peer score for each leadership practice for each participant at each time period. These averaged scores are compared. Only participants with at least three peer observers were included in analyses. Due to the different roles relative to the participant, analyses were conducted separately for each of the three types of observers: dyad partner, supervisor, and peers. Inter-item reliabilities, measured by Cronbach alpha, for the two self-reported leadership practices of enabling others to act and modeling the way were lower than the minimum criteria of 0.70. Therefore, comparison of these two self-reported leadership practices between pretest and posttest times was not possible. Similarly, because inter-item reliability for the self-reported depersonalization subscale of the MBI was lower than 0.70 at pretest time, comparisons between self-reported feelings of depersonalization could not be completed. However, the two other MBI subscales, emotional exhaustion and personal accomplishment, had adequate reliabilities and were used in subsequent analyses.

Part B: Focus Groups

Thematic analysis of focus group discussion content was conducted.

Part C: Organizational Commitment and Readiness Interviews

Summary statistics of interview findings were conducted.

Results

Part A: Participant Outcomes

For each of the following four hypotheses, analyses have been completed comparing differences in pretest to first posttest time periods. Comparisons with posttest time 2 and posttest time 3 data were not completed because of the inadequate sample size.

Hypothesis 1: Self-LPI. We hypothesized that self-reports of each of the five leadership practices would increase from pretest through posttest time periods. For all five self-reported LPI subscales (leadership practices) for all four testing periods, mean scores and standard deviations are presented in Table 4. These data are presented separately for aspiring and established leaders and for all participants combined.

More extensive analyses comparing pretest and first posttest data were completed only with the following self-reported LPI subscales that had Cronbach alpha scores of at least 0.70: challenging the process, inspiring a shared vision, and encouraging the heart. A 2 x 2 (leader type x time) mixed design MANOVA analysis was conducted. Significant main effects emerged for type of leader ($F_{(3,54)} = 3.167, p < .05; \eta^2 = .15$) but not for time or for time by leader type interaction. Though no significant increases in self-reports of leadership practices were found from pretest to posttest times, the multivariate effect for type of leader was further investigated using analysis of variance (ANOVA) conducted on each dependent variable separately using a Bonferroni adjustment. These contrasts revealed that established leaders rated themselves significantly higher than aspirants in the three leadership practices of challenging the process ($F_{(1,56)} = 8.341, p < .01$), inspiring a shared vision ($F_{(1,56)} = 4.294, p < .05$), and encouraging the heart ($F_{(1,56)} = 4.506, p < .05$).

Though we were unable to use inferential statistics to compare self-reported leadership practices of participants between pretest and either of the second or third posttest time periods (inadequate numbers of respondents), it is noteworthy that both aspiring and established leaders self-reported improvements in all leadership practice areas from pre-test to posttest time periods. No conclusions from these trends can be made because of the inability to perform statistical analyses of these differences. These improvements in mean self-reported leadership practices may have occurred by chance alone.

Hypothesis 2: Observer LPI. We hypothesized that observers' (i.e., dyad partner, peer, and supervisor) reports of all five leadership practices for participants would increase from pretest through posttest time periods. All reliabilities for observer rated LPI subscales exceeded 0.70 and were included in analyses.

For **dyad partner** leadership practices evaluation, mean scores and standard deviations for all five subscales at all four testing periods are shown in Table 5. To compare pretest to first posttest dyad-assessed leadership practices, a 2 x 2 (leader type x time) mixed design MANOVA analysis yielded a significant main effect for time ($F_{(5,38)} = 2.554, p < .05; \eta^2 = .25$) but no other main effects or interactions. Follow-up ANOVA analyses were conducted on each dependent variable separately using a Bonferroni adjustment. These contrasts revealed that the hypothesis was supported for the two leadership practices of challenging the process ($F_{(1,42)} = 4.706, p < .05$)

and inspiring a shared vision ($F_{(1,42)} = 4.808, p < 0.05$). Dyad partners reported that leadership practices had increased from pretest to the first posttest time periods in the two leadership practice areas of challenging the process and inspiring a shared vision.

Though we were unable to use inferential statistics to compare dyad-assessed leadership practices of participants between pretest and either of the second or third posttest time periods (because of inadequate numbers of respondents), it is noteworthy that different patterns of mean responses occurred between dyad assessments of aspiring and established leaders. Between the pretest and final posttest periods, established leaders rated their aspiring leader partners as having improved their leadership practices in three of the five leadership practice areas: challenging the process, inspiring a shared vision, and modeling the way. However, aspiring leaders rated their dyad partner established leaders as having decreased their use of leadership behaviours from the pretest to the last posttest time period in all five leadership practices. No conclusions from these trends can be made because of the inability to perform statistical analyses of these differences. These changes over time in mean dyad-reported leadership practices may have occurred by chance alone.

For **peer** observer evaluations, mean scores and standard deviations for all five subscales at all testing periods are presented in Table 6. To compare pretest to first posttest peer-assessed leadership practices, a 2 x 2 (leader type x time) mixed design MANOVA analysis yielded a significant main effect for time ($F_{(5,25)} = 11.284, p < .001; \eta^2 = .693$) but no other main effects or interactions. Follow-up ANOVA contrasts conducted on each dependent variable separately revealed that the hypothesis was supported for all five leadership practices or subscales ($F_{(1,29)} = 22.847, p < .001, F_{(1,29)} = 56.036, p < .001, F_{(1,29)} = 22.795, p < .001, F_{(1,29)} = 25.749, p < .001$ and $F_{(1,29)} = 39.275, p < .001$ for challenging the process, inspiring a shared vision, enabling others to act, modeling the way, and encouraging the heart, respectively). Peer observers reported statistically significant increases in institute participant use of all five leadership practices from pretest to the first posttest time period. It is also noteworthy that peer observers did not evaluate established nurse leaders as practicing more significantly more leadership behaviours than practiced by aspiring nurse leaders.

Though we were unable to use inferential statistics to compare peer-assessed leadership practices of participants between pretest and either of the second or third posttest time periods (because of inadequate numbers of respondents), it is interesting to examine patterns in mean peer-assessed leadership practice scores of aspiring and established leaders over time. Between the pretest and final posttest periods, peers assessed established leaders as having improved their leadership practices in all five leadership practice areas, though the final mean posttest peer-assessed scores were lower than the first posttest mean leadership practice scores. This pattern was similar for peer-assessed scores of aspiring leaders' leadership practices, with the exception of a decrease in the mean peer-assessed score for the practice of enabling others to act. No conclusions from these trends can be made because of the inability to perform statistical analyses of these differences. These changes in mean peer-reported leadership practices may have occurred by chance alone.

For **supervisor** evaluations, mean scores and standard deviations for all five subscales at all testing periods are presented in Table 7. To compare pretest and first posttest supervisor

evaluations of participant leadership practices, we intended to conduct a 2 x 2 (leader type x time) mixed design MANOVA analysis. However, the number of supervisors who returned questionnaires for established leaders at the first posttest time period was too small (N=6) to include a between-subjects factor. Instead, we completed a simple repeated measures model to analyze supervisor evaluations of participants. The repeated measures MANOVA conducted on these scores yielded a significant main effect for time ($F_{(5,17)} = 3.531, p < .05; \eta^2 = .509$). Follow-up contrasts conducted on each dependent variable separately yielded the same pattern of results obtained for dyad partners. The hypothesis was supported for challenging the process and inspiring a shared vision ($F_{(1,21)} = 8.642, p < .01$ and $F_{(1,21)} = 10.983, p < .05$ respectively), but not for any of the remaining three leadership practice subscales. Supervisors reported statistically significant increases in institute participant use of leadership practices from pretest to the first posttest time period in the two leadership practices of challenging the process and inspiring a shared vision. It is noteworthy that dyad partners and supervisors reported the same improvements in institute participant's leadership practices.

Though we were unable to use inferential statistics to compare supervisor-assessed leadership practices of participants between pretest and either of the second or third posttest time periods (inadequate numbers of respondents), it is interesting to examine patterns in mean supervisor-assessed leadership practice scores of aspiring and established leaders over time. Between pretest and final posttest periods, supervisors assessed aspiring leaders as having improved their leadership practices in all five leadership practice areas. Between the pretest and the last posttest, supervisors assessed that established leaders had improved their leadership practices in all but two leadership practice areas: modeling the way and encouraging the heart. No conclusions from these trends can be made because of the inability to perform statistical analyses of these differences. These changes in mean supervisor-reported leadership practices may have occurred by chance alone.

Hypotheses 3 and 4: Self-reported emotional exhaustion, feelings of depersonalization, and feelings of personal accomplishment are components of burnout as measured by the MBI (Maslach, Jackson, & Leitner, 1996). Mean scores and standard deviations for each burnout subscale for participants at each testing period are presented in Table 8. We hypothesized that participant self-reported levels of emotional exhaustion and depersonalization would decrease and that self-reported levels of personal accomplishment would increase after participating in the leadership institute. To compare pretest to first posttest burnout scores, we tested hypotheses 3 and 4 together using a 2 x 2 (leader type x time) MANOVA analysis on the two subscales of the MBI that demonstrated satisfactory internal reliability: emotional exhaustion and personal accomplishment. We were unable to test whether self-reported levels of depersonalization increased from pretest to first posttest time period because of unsatisfactory reliability results. Using a mixed design MANOVA, we found no significant main or interaction effects. There was no evidence that participants' levels of emotional exhaustion decreased or levels of personal accomplishment increased from pretest to the first posttest time periods.

Organizational Environment Assessment Questionnaire Results

Mean participant self-reported Organizational Environment Assessment Questionnaire (OEAQ) item scores at all four testing periods for both established and aspiring leaders are provided in Table 9.

Table 10 contains a summary of OEAQ responses from organizational leaders in May 2002 at the second posttest time period. Responses are presented for each type of organizational leader by their role in the organization (i.e., Chief Executive Officer, Chief Nursing Officer, Human Resources Leader). Notably, the vast majority of respondents agreed or strongly agreed that people in their work environment have shared goals, feel valued for the work they do, believe that decisions made by them or others are supported, that personal and professional opportunities are available, and that flexibility exists to change how they organize their work. There were three exceptions to this general pattern. Approximately 20-30 percent of respondents indicated disagreement that ‘people felt valued for the work they do’ (29 %), that ‘personal opportunities were available’ (20 %), or that ‘employees had the flexibility to change how they organized their work’ (26 %).

Part B: Focus Groups

Summaries of themes arising from focus groups with institute participants are attached in Appendix A.

Part C: Organizational Commitment and Readiness Interviews

Overall summary data for each question asked in telephone interviews with organizational leaders to assess organizational commitment and readiness are provided in Table 11. These data are also reported by role of contacted organizational leaders in Table 12. Overall, key organizational leaders:

- Described a few expectations of aspiring and established nurse leaders from their organization who participated in the leadership institute. A notable number of human resource organizational leaders had ‘no expectations’ of nurse employees who attended the institute.
- Cited at least one or more effects or outcomes that might be related to participation of aspiring and established nurse leaders who participated in the leadership institute. Chief Nursing Officers were more likely to cite more than one expected outcome, whereas human resource leaders usually did not identify any outcomes.
- Listed a few supports, structures, or processes in their organization to support the development of nurse leaders. Notably, 11-12 percent of respondents in both sets of interviews indicated that there were no organizational supports in place for nurse leaders.
- Stated that nursing leadership made ‘some’ to ‘much’ difference in their organization. Not surprisingly, Chief Nursing Officers were more likely to state that nursing leadership made ‘much difference’.
- Identified some gaps in nursing leadership capacity in their organization. Interestingly, in the second set of interviews respondents were more likely to identify ‘many’ gaps in nursing leadership capacity.
- Identified some actions that could be undertaken to narrow gaps in nursing leadership. Chief Nursing Officers were frequently able to suggest actions to address nursing leadership gaps.

Brief Discussion

Overall, results indicate that the Dorothy M. Wylie Nursing Leadership Institute was effective in strengthening leadership behaviours performed by both established and aspiring nurse leaders. However, changes in leadership behaviours by institute participants were more visible by observers than by participants themselves, particularly in the short-term. Peer observers of study participants reported significant improvements in leadership practices from the pretest to the first posttest time periods in all five leadership practice areas. There were no significant differences in how study participants rated their own performance in leadership behaviors from pretest to first posttest time periods. This might be related to processes that we undergo when changing our self-concept or how we see ourselves. It may take less time for others to change how they view our behaviour or performance than it does to change how we view ourselves. It is also possible that others may be able to detect smaller shifts or changes in behaviours of those they observe.

We were not surprised to find that established leaders rated themselves as performing significantly more leadership practice behaviors than did aspiring leaders. Established leaders have had more formal learning opportunities to develop leadership behaviors and many more informal opportunities to use leadership behaviors. However, we were surprised that peer observers did not rate established nurse leaders as practicing more leadership behaviours than aspiring nurse leaders practice. This finding is discouraging as we would have expected established leaders to consistently engage in more leadership behaviours in their formal leader roles.

Though we expected that participant job-related feelings of emotional exhaustion and feelings of personal accomplishment would be affected by their participation in the leadership development intervention, we found no such evidence. This finding suggests that levels of emotional exhaustion and feelings of personal accomplishment are related to other job-related structures and processes such as work environments (Stordeur, D'hoore, & Vandenberghe, 2001), that we did not examine in this study.

The finding that peer observers observed significant improvements in established leaders' leadership behaviors after the intervention indicated to us that leadership behaviors can indeed be developed with a specific targeted leadership intervention, not only for aspiring leaders but also for established leaders. In summary, the findings of this study suggest that a concentrated, residential leadership development intervention, such as the Dorothy Wylie Nursing Leadership Institute, can promote significant improvement in leadership practices by both established and aspiring nurse leaders.

Report on Deliverables

Presentations

The first presentation of findings at a scholarly conference 'A Leadership Development Intervention: Short Term Outcomes' was planned for University of Toronto's Nursing Research Day in April 2003. Unfortunately, this conference was cancelled due to the SARS outbreak crisis

in Toronto. A second paper titled ‘Nursing Leadership for the 21st Century: Building Leadership Capacity in Canadian Health Care Agencies’ was presented on September 19, 2003 by Dr. Ann Tourangeau (principal investigator) and Ms. Beverley Simpson (institute leader) at the *Enhancing Nursing Leadership Conference* sponsored by the Ontario Hospital Association in Toronto. Ms. Diane Dakers (research assistant) presented findings of the Organizational Commitment and Readiness interviews in August 2002 to University of Toronto’s Nursing faculty and students who were participating in a Summer Undergraduate Research Fellowship. In December 2003, Dr. Tourangeau submitted an abstract to present study findings at an international research conference in Dublin, Ireland in July 2004 sponsored by Sigma Theta Tau, the International Nursing Honor Society.

Publications

To date, there have been two publications of study findings (Tourangeau 2003; Tourangeau, Lemonde, Dakers, Alksnis, & Luba, 2003). In addition, a third manuscript by Drs. A. Tourangeau and K. McGilton ‘Measuring Leadership Practices of Nurses Using the Leadership Practices Inventory’ is undergoing final peer review for publication consideration.

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Table 1. Sample characteristics for aspiring and established leaders, as well as for the total sample

| | Aspiring Leaders N=37 | Established Leaders N=30 | Total Sample N=67 |
|--|--------------------------|-----------------------------|----------------------|
| Average age in years (SD) | 41.4 (6.5) | 46.9 (5.8) | 43.9 (6.7) |
| Percentage female | 97.3 | 100.0 | 98.5 |
| Average years employed in current organization (SD) | 10.8 (8.3) | 12.6 (8.6) | 11.6 (8.4) |
| Average years employed in current position (SD) | 2.9 (3.7) | 3.9 (3.4) | 3.3 (3.6) |
| Average years practicing as registered nurse (SD) | 18.9 (7.2) | 24.8 (6.1) | 21.6 (7.3) |
| Percentage with nursing baccalaureate degree or higher | 66.7 | 92.9 | 78.1 |

Note. SD = standard deviation.

Table 2. Response rates for self and observer-reported data for all four testing periods

| | Pretest (August 2001) | Posttest 1 (November 2001) | Posttest 2 (May 2002) | Posttest 3 (November 2002) |
|--|--------------------------|----------------------------------|--------------------------|----------------------------------|
| Number of organizations participating by type: | | | | |
| Acute care hospitals | 22 | 21 | 16 | 17 |
| Large private sector long-term care organization | 1 | 1 | 1 | - |
| University | 1 | 1 | - | - |
| Professional association | 1 | 1 | 1 | 1 |
| Health region (outside of Ontario) | 1 | 1 | - | - |
| Provincial government (outside of Ontario) | 1 | 1 | - | - |
| TOTAL | 27 | 26 | 18 | 18 |
| Number completing self-evaluation (percentage of those at pretest time) | | | | |
| Established leader | 30 (100.0) | 27 (90.0) | 15 (50.0) | 14 (46.7) |
| Aspiring leader | 37 (100.0) | 31 (83.8) | 16 (43.2) | 14 (46.7) |
| TOTAL | 67 (100.0) | 58 (86.6) | 31 (46.3) | 28 (41.8) |
| Number of supervisor and peer questionnaires <u>distributed</u> | | | | |
| Supervisor | 45 | 45 | 44 | 44 |
| Peer: Established leaders | 240 | 240 | 240 | 240 |
| Peer: Aspiring leaders | 280 | 280 | 270 | 270 |
| TOTAL | 565 | 565 | 554 | 554 |
| Number of supervisor and peer questionnaires <u>returned</u> (response rate) | | | | |
| Supervisor | 32 (71.1) | 24 (53.3) | 19 (43.1) | 18 (40.9) |
| Peer: Established leaders | 136 (56.7) | 108 (45.0) | 100 (41.7) | 84 (35.0) |
| Peer: Aspiring leaders | 185 (66.1) | 119 (42.5) | 102 (37.8) | 78 (28.9) |
| TOTAL | 353 (62.5) | 251 (44.4) | 221 (39.9) | 180 (32.5) |

Table 3. Description of sample for organizational commitment and readiness telephone interviews

| | Pretest (September 2001) | Posttest 2 (May 2002) |
|--|-----------------------------|--------------------------|
| Number of organizations approached to participate | 25 | 24 |
| Number of organizations that participated (% of those approached) | 22 (88.0) | 22 (91.7) |
| Total number of people approached to participate | 57 | 46 |
| Number of people approached to participate by role: | | |
| *CEO | 25 | 18 |
| *CNO | 8 | 8 |
| *HR leader | 24 | 20 |
| Number of people who participated (% of total approached) | 41 (71.9) | 36 (78.3) |
| Number of people who participated by role (% of those approached): | | |
| CEO | 14 (56.0) | 14 (77.7) |
| CNO | 7 (87.5) | 8 (100.0) |
| HR leader | 20 (83.3) | 14 (70.0) |
| Number of people approached but unable to contact | 16 | 10 |
| Number of people approached but unable to contact by role: | | |
| CEO | 11 | 4 |
| CNO | 1 | - |
| HR leader | 4 | 6 |

Note. CEO = Chief Executive Officer or Head Administrator, CNO = Chief Nursing Officer or Vice-President Patient Services, and HR Leader = Senior Human Resource Leader.

Table 4. Mean self-reported leadership practices inventory subscale scores at each testing period

| Leadership Practice | Leader type | | | | | | | | | | | |
|---------------------|--------------------------|------------------------------|------------------------------|------------------------------|--------------------------|------------------------------|------------------------------|------------------------------|--------------------------|------------------------------|------------------------------|------------------------------|
| | Aspiring | | | | Established | | | | Both | | | |
| | Pretest M(SD) N=37 | Posttest 1 M (SD) N=31 | Posttest 2 M (SD) N=16 | Posttest 3 M (SD) N=14 | Pretest M(SD) N=30 | Posttest 1 M (SD) N=27 | Posttest 2 M (SD) N=15 | Posttest 3 M (SD) N=14 | Pretest M(SD) N=67 | Posttest 1 M (SD) N=58 | Posttest 2 M (SD) N=31 | Posttest 3 M (SD) N=28 |
| Challenging | 44.46 (5.97) | 46.26 (6.62) | 49.31 (5.75) | 49.29 (3.75) | 48.87 (6.07) | 50.00 (4.70) | 49.27 (2.87) | 49.93 (3.71) | 46.43 (6.36) | 48.00 (6.06) | 49.29 (4.51) | 49.61 (3.68) |
| Inspiring | 42.86 (6.37) | 45.71 (7.16) | 49.56 (6.55) | 47.36 (5.20) | 46.97 (7.03) | 48.74 (5.46) | 49.33 (4.78) | 49.29 (5.20) | 44.70 (6.93) | 47.12 (6.55) | 49.45 (5.67) | 48.32 (5.19) |
| Enabling | 49.76 (3.89) | 50.45 (4.31) | 53.94 (3.26) | 53.14 (2.74) | 51.87 (4.05) | 53.30 (3.74) | 52.93 (2.63) | 52.71 (4.20) | 50.70 (4.07) | 51.78 (4.27) | 53.45 (2.96) | 52.93 (3.49) |
| Modeling | 47.00 (4.01) | 49.00 (4.89) | 52.00 (3.50) | 51.07 (2.79) | 48.87 (4.56) | 51.26 (4.36) | 50.13 (1.88) | 51.21 (3.97) | 47.84 (4.34) | 50.05 (4.75) | 51.10 (2.95) | 51.14 (3.36) |
| Encouraging | 46.22 (6.10) | 47.29 (6.99) | 50.88 (5.74) | 47.86 (7.25) | 49.87 (5.75) | 50.41 (4.99) | 51.13 (3.11) | 50.50 (4.35) | 47.85 (6.18) | 48.74 (6.28) | 51.00 (4.58) | 49.18 (6.02) |

Note. M = mean and SD = standard deviation.

Table 5. Mean leadership practices inventory subscale scores assessed by dyad partners at each testing period

| Leadership Practice | Leader type | | | | | | | | | | | |
|---------------------|--------------------------|------------------------------|-----------------------------|-----------------------------|--------------------------|------------------------------|-----------------------------|-----------------------------|--------------------------|------------------------------|------------------------------|------------------------------|
| | Aspiring | | | | Established | | | | Both | | | |
| | Pretest M(SD) N=28 | Posttest 1 M (SD) N=23 | Posttest 2 M (SD) N=7 | Posttest 3 M (SD) N=9 | Pretest M(SD) N=28 | Posttest 1 M (SD) N=21 | Posttest 2 M (SD) N=8 | Posttest 3 M (SD) N=8 | Pretest M(SD) N=56 | Posttest 1 M (SD) N=44 | Posttest 2 M (SD) N=15 | Posttest 3 M (SD) N=17 |
| Challenging | 46.41 (7.27) | 48.65 (5.87) | 50.57 (6.45) | 49.22 (9.39) | 51.61 (6.23) | 51.91 (5.79) | 52.62 (8.48) | 49.50 (9.50) | 49.01 (7.20) | 50.21 (5.99) | 51.67 (7.41) | 49.35 (9.14) |
| Inspiring | 44.46 (8.36) | 47.83 (7.13) | 49.00 (6.66) | 46.29 (10.22) | 50.61 (8.07) | 50.76 (8.07) | 51.50 (13.74) | 48.88 (10.39) | 47.54 (8.71) | 49.23 (7.65) | 50.33 (10.73) | 47.51 (10.06) |
| Enabling | 51.25 (5.19) | 51.22 (4.24) | 51.57 (5.71) | 50.56 (7.94) | 52.18 (5.81) | 51.52 (6.02) | 54.57 (7.02) | 50.25 (6.80) | 51.71 (5.48) | 51.36 (5.11) | 53.07 (6.34) | 50.41 (7.19) |
| Modeling | 49.91 (5.26) | 51.00 (5.05) | 51.86 (5.40) | 50.22 (7.86) | 52.39 (4.67) | 51.71 (4.65) | 54.25 (5.39) | 50.75 (4.92) | 51.15 (5.08) | 51.34 (4.82) | 53.13 (5.34) | 50.47 (6.44) |
| Encouraging | 49.64 (6.92) | 49.78 (5.65) | 49.57 (5.03) | 49.00 (6.78) | 50.96 (6.22) | 51.48 (5.99) | 55.63 (6.30) | 50.00 (9.56) | 50.30 (6.55) | 50.59 (5.81) | 52.80 (6.36) | 49.47 (7.95) |

Note. M = mean and SD = standard deviation.

Table 6. Mean leadership practices inventory scores assessed by peers at each testing period

| Leadership Practice | Leader type | | | | | | | | | | | |
|---------------------|----------------------------|-------------------------------|-------------------------------|------------------------------|----------------------------|-------------------------------|-------------------------------|------------------------------|----------------------------|-------------------------------|-------------------------------|-------------------------------|
| | Aspiring | | | | Established | | | | Both | | | |
| | Pretest M (SD) N=185 | Posttest 1 M (SD) N=119 | Posttest 2 M (SD) N=102 | Posttest 3 M (SD) N=78 | Pretest M (SD) N=136 | Posttest 1 M (SD) N=108 | Posttest 2 M (SD) N=100 | Posttest 3 M (SD) N=84 | Pretest M (SD) N=321 | Posttest 1 M (SD) N=227 | Posttest 2 M (SD) N=202 | Posttest 3 M (SD) N=162 |
| Challenging | 44.94 (5.00) | 46.73 (4.75) | 46.22 (9.24) | 47.04 (6.78) | 45.91 (3.57) | 49.20 (3.04) | 48.84 (7.47) | 47.75 (7.99) | 45.38 (4.37) | 47.85 (4.20) | 47.54 (8.48) | 47.41 (7.42) |
| Inspiring | 42.48 (6.19) | 46.36 (5.21) | 45.64 (10.32) | 45.73 (8.80) | 43.66 (4.75) | 47.86 (3.69) | 47.64 (8.65) | 46.88 (9.30) | 43.01 (5.53) | 47.04 (4.58) | 46.63 (9.56) | 46.33 (9.05) |
| Enabling | 49.97 (4.06) | 51.08 (3.03) | 49.85 (7.62) | 49.31 (7.13) | 47.18 (3.62) | 51.30 (3.71) | 50.54 (7.96) | 51.02 (7.74) | 48.71 (4.06) | 51.18 (3.30) | 50.19 (7.78) | 50.20 (7.48) |
| Modeling | 48.45 (5.16) | 49.88 (3.94) | 48.91 (8.04) | 48.45 (6.29) | 47.27 (4.40) | 50.91 (4.00) | 50.64 (7.48) | 50.82 (7.54) | 47.92 (4.79) | 50.34 (3.94) | 49.76 (7.80) | 49.68 (7.05) |
| Encouraging | 45.13 (6.63) | 48.70 (4.10) | 46.16 (11.75) | 47.22 (9.34) | 44.94 (4.25) | 49.48 (5.12) | 48.94 (9.34) | 48.63 (9.75) | 45.04 (5.59) | 49.05 (4.52) | 47.55 (10.68) | 47.95 (9.55) |

Note. M = mean and SD = standard deviation.

Table 7. Mean leadership practices inventory scores assessed by supervisors at each testing period

| Leadership Practice | Leader type | | | | | | | | | | | |
|---------------------|---------------------------|------------------------------|------------------------------|------------------------------|---------------------------|-----------------------------|-----------------------------|-----------------------------|---------------------------|------------------------------|------------------------------|------------------------------|
| | Aspiring | | | | Established | | | | Both | | | |
| | Pretest M (SD) N=21 | Posttest 1 M (SD) N=17 | Posttest 2 M (SD) N=15 | Posttest 3 M (SD) N=11 | Pretest M (SD) N=11 | Posttest 1 M (SD) N=7 | Posttest 2 M (SD) N=4 | Posttest 3 M (SD) N=7 | Pretest M (SD) N=32 | Posttest 1 M (SD) N=24 | Posttest 2 M (SD) N=19 | Posttest 3 M (SD) N=18 |
| Challenging | 44.25 (7.63) | 46.82 (5.43) | 47.27 (4.67) | 50.00 (4.96) | 42.09 (12.09) | 39.86 (9.79) | 43.75 (10.81) | 45.71 (6.68) | 43.53 (9.22) | 44.79 (7.48) | 46.53 (6.21) | 48.33 (5.90) |
| Inspiring | 42.68 (9.26) | 45.88 (7.14) | 47.07 (5.84) | 49.18 (6.16) | 43.09 (12.10) | 40.00 (8.83) | 46.10 (9.52) | 45.14 (5.37) | 42.82 (10.10) | 44.17 (7.96) | 46.86 (6.46) | 47.61 (6.05) |
| Enabling | 50.10 (4.84) | 49.18 (4.33) | 50.20 (4.75) | 51.36 (3.85) | 48.82 (5.62) | 45.57 (5.97) | 47.50 (8.35) | 49.00 (6.66) | 49.66 (5.07) | 48.12 (5.02) | 49.63 (5.52) | 50.44 (5.08) |
| Modeling | 49.10 (5.92) | 49.35 (3.87) | 49.13 (4.29) | 51.45 (4.25) | 50.18 (6.68) | 47.43 (6.45) | 47.00 (11.34) | 48.29 (8.02) | 49.47 (6.10) | 48.79 (4.70) | 48.68 (6.05) | 50.22 (5.99) |
| Encouraging | 45.90 (6.71) | 49.00 (5.15) | 50.33 (4.81) | 51.00 (5.27) | 48.64 (4.97) | 44.29 (7.14) | 51.25 (5.85) | 47.57 (8.66) | 46.84 (6.22) | 47.62 (6.04) | 50.53 (4.88) | 49.67 (6.77) |

Note. M = mean and SD = standard deviation.

Table 8. Mean self-reported Maslach Burnout Inventory subscale scores

| *MBI Subscale | Leader type | | | | | | | | | | | |
|-------------------------|---------------------------|------------------------------|------------------------------|------------------------------|---------------------------|------------------------------|------------------------------|------------------------------|---------------------------|------------------------------|------------------------------|------------------------------|
| | Aspiring | | | | Established | | | | Both | | | |
| | Pretest M (SD) N=37 | Posttest 1 M (SD) N=31 | Posttest 2 M (SD) N=16 | Posttest 3 M (SD) N=14 | Pretest M (SD) N=30 | Posttest 1 M (SD) N=27 | Posttest 2 M (SD) N=15 | Posttest 3 M (SD) N=14 | Pretest M (SD) N=67 | Posttest 1 M (SD) N=58 | Posttest 2 M (SD) N=31 | Posttest 3 M (SD) N=28 |
| Personal accomplishment | 39.86 (4.64) | 38.97 (5.55) | 41.19 (4.78) | 38.21 (5.89) | 39.67 (5.62) | 39.59 (4.89) | 39.67 (4.42) | 41.57 (3.67) | 39.78 (5.06) | 39.26 (5.22) | 40.45 (4.60) | 39.89 (5.11) |
| Emotional exhaustion | 21.73 (10.43) | 22.16 (11.22) | 20.44 (12.53) | 22.36 (15.08) | 18.50 (9.53) | 20.59 (9.61) | 18.40 (8.47) | 17.64 (9.47) | 20.28 (10.09) | 21.43 (10.44) | 19.45 (10.63) | 20.00 (12.59) |
| Depersonalization | 5.51 (4.11) | 6.84 (4.59) | 5.63 (4.57) | 6.07 (4.41) | 5.30 (4.55) | 5.04 (3.84) | 5.20 (3.32) | 4.43 (2.53) | 5.42 (4.28) | 6.00 (4.32) | 5.42 (3.96) | 5.25 (3.63) |

Note. MBI = Maslach Burnout Inventory, M = mean, and SD = standard deviation.

Table 9. Mean participant self-reported Organizational Environment Assessment Questionnaire (OEAQ) scores for all testing periods

| * OEAQ Item | Leader type | | | | | | | | | | | |
|--|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | Aspiring | | | | Established | | | | Both | | | |
| | Pretest M (SD) MDN N=37 | Posttest 1 M (SD) MDN N=31 | Posttest 2 M (SD) MDN N=15 | Posttest 3 M (SD) MDN N=14 | Pretest M (SD) MDN N=30 | Posttest 1 M (SD) MDN N=27 | Posttest 2 M (SD) MDN N=15 | Posttest 3 M (SD) MDN N=14 | Pretest M(SD) MDN N=67 | Posttest 1 M (SD) MDN N=58 | Posttest 2 M (SD) MDN N=30 | Posttest 3 M (SD) MDN N=28 |
| | Employees have shared goals | 2.65 (.59) 3 | 2.65 (.66) 3 | 3.00 (.54) 3 | 2.86 (.36) 3 | 2.70 (.65) 3 | 2.78 (.58) 3 | 2.87 (.52) 3 | 2.93 (.73) 3 | 2.67 (.61) 3 | 2.71 (.62) 3 | 2.93 (.52) 3 |
| Feel valued for the work they do | 2.51 (.51) 3 | 2.48 (.68) 2 | 2.67 (.62) 3 | 2.50 (.65) 3 | 2.40 (.62) 2 | 2.56 (.70) 3 | 2.73 (.70) 3 | 2.71 (.47) 3 | 2.46 (.56) 2 | 2.52 (.68) 3 | 2.70 (.65) 3 | 2.61 (.57) 3 |
| Okay to try something new | 2.95 (.58) 3 | 2.94 (.57) 3 | 3.00 (.66) 3 | 2.79 (.80) 3 | 2.90 (.55) 3 | 2.93 (.47) 3 | 2.87 (.52) 3 | 3.14 (.66) 3 | 2.93 (.56) 3 | 2.93 (.53) 3 | 2.93 (.58) 3 | 2.96 (.74) 3 |
| Opportunities for personal development | 3.08 (.49) 3 | 3.32 (.54) 3 | 3.20 (.56) 3 | 3.00 (.56) 3 | 3.10 (.66) 3 | 3.07 (.55) 3 | 3.27 (.46) 3 | 3.29 (.61) 3 | 3.09 (.57) 3 | 3.21 (.55) 3 | 3.23 (.50) 3 | 3.14 (.59) 3 |
| Opportunities for professional development | 3.08 (.60) 3 | 3.11 (.51) 3 | 3.20 (.68) 3 | 3.07 (.48) 3 | 3.20 (.48) 3 | 3.23 (.62) 3 | 3.33 (.49) 3 | 3.43 (.65) 3 | 3.13 (.55) 3 | 3.17 (.57) 3 | 3.27 (.58) 3 | 3.25 (.59) 3 |
| Flexibility to organize their work | 2.97 (.60) 3 | 3.11 (.42) 3 | 3.07 (.59) 3 | 2.93 (.27) 3 | 3.00 (.59) 3 | 2.94 (.36) 3 | 3.07 (.59) 3 | 3.36 (.50) 3 | 2.99 (.59) 3 | 3.02 (.40) 3 | 3.07 (.58) 3 | 3.14 (.45) 3 |

Note. OEAQ = Organizational Environment Assessment Questionnaire, M = mean, SD = standard deviation, MDN = Median.

Table 10. Summary of Organizational Environment Assessment Questionnaire item results from organizational leader interviews by role of contacted person at posttest 2 period in May 2002

| Organizational Environment Assessment Questionnaire Item | CEO N=14 | CNO N=8 | HR N=13 | Total N=35 | |
|--|-------------------|------------|------------|---------------|-----------|
| People have shared goals (% within role) | Disagree | 2 (14.3) | - | 1 (7.7) | 3 (8.6) |
| | Agree | 8 (57.1) | 8 (100.0) | 11 (84.6) | 27 (77.1) |
| | Strongly Agree | 4 (28.6) | - | 1 (7.7) | 5 (14.3) |
| People feel valued for the work they do (% within role) | Disagree | 4 (28.6) | 1 (12.5) | 5 (38.5) | 10 (28.6) |
| | Agree | 9 (64.3) | 7 (87.5) | 8 (61.5) | 24 (68.6) |
| | Strongly Agree | 1 (7.1) | - | - | 1 (2.9) |
| Decisions are supported (% within role) | Disagree | 1 (7.1) | - | - | 1 (2.9) |
| | Agree | 8 (57.1) | 3 (37.5) | 12 (92.3) | 23 (65.7) |
| | Strongly Agree | 5 (35.7) | 5 (62.5) | 1 (7.7) | 11 (31.4) |
| Personal opportunities available (% within role) | Strongly Disagree | 1 (7.1) | - | - | 1 (2.9) |
| | Disagree | 1 (7.1) | 1 (12.5) | 4 (30.8) | 6 (17.1) |
| | Agree | 6 (42.9) | 4 (50.0) | 6 (46.2) | 16 (45.7) |
| | Strongly Agree | 6 (42.9) | 3 (37.5) | 3 (23.1) | 12 (34.3) |
| Professional opportunities available (% within role) | Disagree | 1 (7.1) | - | 4 (30.8) | 5 (14.3) |
| | Agree | 5 (35.7) | 3 (37.5) | 6 (46.2) | 14 (40.0) |
| | Strongly Agree | 8 (57.1) | 5 (62.5) | 3 (23.1) | 16 (45.7) |
| Have flexibility to change how work is organized (% within role) | Disagree | 1 (7.1) | 3 (37.5) | 5 (38.5) | 9 (25.7) |
| | Agree | 11 (78.6) | 5 (62.5) | 6 (46.2) | 22 (62.9) |
| | Strongly Agree | 2 (14.3) | - | 2 (15.4) | 4 (11.4) |

Note. CEO = Chief Executive Officer or Head Administrator, CNO = Chief Nursing Officer or Vice-President Patient Services, and HR = Senior Human Resource Leader.

Table 11. Summary of organizational commitment and readiness interviews

| Interview Question Topic | Pretest | Posttest 2 |
|--|----------------|------------|
| Number of expectations of nurses attending leadership institute (valid %) | | |
| No expectations | 10 (26.3) | 7 (19.4) |
| A few expectations | 22 (57.9) | 22 (61.1) |
| Many expectations | 6 (15.8) | 7 (19.4) |
| TOTAL | 38 (100.0) | 36 (100.0) |
| Number of effects/outcomes related to institute participation (valid %) | | |
| No outcomes cited | Not Applicable | 10 (27.8) |
| At least one outcome cited | Not Applicable | 7 (19.4) |
| More than one outcome cited | Not Applicable | 12 (33.3) |
| Many outcomes cited | Not Applicable | 7 (19.4) |
| TOTAL | | 36 (100.0) |
| Number of structures/processes to support the development of nurse leaders (valid %) | | |
| None | 5 (12.2) | 4 (11.1) |
| A few | 26 (63.4) | 20 (55.6) |
| Many | 10 (24.4) | 12 (33.3) |
| TOTAL | 41 (100.0) | 36 (100.0) |
| Difference nursing leadership makes in the organization (valid %) | | |
| No difference | - | 1 (2.9) |
| Some difference | 21 (52.5) | 10 (28.6) |
| Much difference | 19 (47.5) | 24 (68.6) |
| TOTAL | 40 (100.0) | 35 (100.0) |
| Number of gaps in organizational nursing leadership capacity (valid %) | | |
| None | 8 (20.5) | 2 (5.7) |
| Some | 27 (69.2) | 19 (54.3) |
| Many | 4 (10.3) | 14 (40.0) |
| TOTAL | 39 (100.0) | 35 (100.0) |
| Number of actions that might be undertaken to narrow identified gaps (valid %) | | |
| None | 2 (5.6) | 2 (5.7) |
| Some | 31 (86.1) | 20 (57.1) |
| Many | 3 (8.3) | 13 (37.1) |
| TOTAL | 36 (100.0) | 35 (100.0) |

Table 12. Summary of organizational commitment and readiness interviews by role of contacted persons

| | Pretest (September 2001) | | | Posttest 2 (May 2002) | | |
|--|--------------------------|-----------|------------|-----------------------|-----------|------------|
| | CEO | CNO | HR | CEO | CNO | HR |
| Number of expectations of nurses attending institute (% within role) | | | | | | |
| No expectations | 1 (7.1) | - | 9 (52.9) | 1 (7.1) | - | 6 (42.9) |
| A few expectations | 9 (64.3) | 7 (100.0) | 6 (35.3) | 9 (64.3) | 7 (85.5) | 6 (42.9) |
| Many expectations | 4 (28.6) | - | 2 (11.8) | 4 (28.6) | 1 (12.5) | 2 (14.3) |
| Total | 14 (100.0) | 7 (100.0) | 17 (100.0) | 14 (100.0) | 8 (100.0) | 14 (100.0) |
| Number of effects/outcomes related to institute participation (% within role) | | | | | | |
| No outcomes cited | | | | 3 (21.4) | 1 (12.5) | 6 (42.9) |
| At least one outcome cited | | | | 3 (21.4) | 1 (12.5) | 3 (21.4) |
| More than one outcome cited | | | | 4 (28.6) | 5 (62.5) | 3 (21.4) |
| Many outcomes cited | | | | 4 (28.6) | 1 (12.5) | 2 (14.3) |
| Total | | | | 14 (100.0) | 8 (100.0) | 14 (100.0) |
| Number of structures to support the development of nurse leaders (% within role) | | | | | | |
| None | 1 (7.1) | 1 (14.3) | 3 (15.0) | 2 (14.3) | - | 2 (14.3) |
| A few | 8 (57.1) | 3 (42.9) | 15 (75.0) | 7 (50.0) | 5 (62.5) | 8 (57.1) |
| Many | 5 (35.7) | 3 (42.9) | 2 (10.0) | 5 (35.7) | 3 (37.5) | 4 (28.6) |
| Total | 14 (100.0) | 7 (100.0) | 20 (100.0) | 14 (100.0) | 8 (100.0) | 14 (100.0) |
| Difference nursing leadership makes (% within role) | | | | | | |
| No difference | - | - | - | 1 (7.1) | - | - |
| Some difference | 6 (42.9) | 2 (28.6) | 13 (68.4) | 2 (14.3) | 2 (25.0) | 6 (46.2) |
| Much difference | 8 (57.1) | 5 (71.4) | 6 (31.6) | 11 (78.6) | 6 (75.0) | 7 (53.8) |
| Total | 14 (100.0) | 7 (100.0) | 19 (100.0) | 14 (100.0) | 8 (100.0) | 13 (100.0) |

| | Pretest (September 2001) | | | Posttest 2 (May 2002) | | |
|---|--------------------------|-----------|------------|-----------------------|-----------|------------|
| | CEO | CNO | HR | CEO | CNO | HR |
| Number of gaps in nursing leadership capacity (% within role) | | | | | | |
| None | 3 (21.4) | - | 5 (27.8) | - | - | 2 (15.4) |
| Some | 10 (71.4) | 5 (71.4) | 12 (66.7) | 8 (57.1) | 4 (50.0) | 7 (53.8) |
| Many | 1 (7.1) | 2 (28.6) | 1 (5.6) | 6 (42.9) | 4 (50.0) | 4 (30.8) |
| Total | 14 (100.0) | 7 (100.0) | 18 (100.0) | 14 (100.0) | 8 (100.0) | 13 (100.0) |
| Number of actions to narrow identified gaps (% within role) | | | | | | |
| None | - | - | 2 (12.5) | 1 (7.1) | - | 1 (7.7) |
| Some | 12 (92.3) | 5 (71.4) | 14 (87.5) | 9 (64.3) | 2 (25.0) | 9 (69.2) |
| Many | 1 (7.7) | 2 (28.6) | - | 4 (28.6) | 6 (75.0) | 3 (23.1) |
| Total | 13 (100.0) | 7 (100.0) | 16 (100.0) | 14 (100.0) | 8 (100.0) | 13 (100.0) |

Note. CEO = Chief Executive Officer or Head Administrator, CNO = Chief Nursing Officer or Vice-President Patient Services, and HR = Senior Human Resource Leader.

APPENDIX A

FOCUS GROUP THEMES AND ASSOCIATED STATEMENTS (held December 2001)

The six following leading questions were posed to participants in the December 2001 focus groups:

1. What kinds of leadership situations or demands are you struggling with in your work environments since you have been involved in the Nursing Leadership Institute?
2. Is there a difference in how you deal with these leadership situations or demands in your work since you have been involved in the Nursing Leadership Institute?
3. What sources of support are helpful in dealing with these leadership situations or demands?
4. What kinds of additional support could you benefit from to deal with these leadership situations or demands?
5. What were you able to draw upon from your experiences with the leadership institute?
6. What other things would you like to tell us about how your participation in this Nursing Leadership Institute has impacted on your work?

These six questions were condensed into three main topic areas:

- A. Leadership demands/situations that nurse leaders are struggling with in their work environments (Question 1)
- B. Ways in which leadership institute participation influenced how nurses deal with leadership demands/situations (Questions 2, 5 & 6)
- C. Supports that help with leadership demands/situations (Questions 3 & 4)

Numerous thematic categories were proposed and tried out to determine the best fit for data collected during the focus groups for each of the three topic areas listed above. We used Kouzes and Posner's (1995) five leadership practices to organize emerging themes from the focus group data. These five leadership practice themes are used to organize individual statements made during the focus groups under each of the three main topic areas.

LEADERSHIP DEMANDS/SITUATIONS

♥ Difficulty "Encouraging the Heart"

- *I need to take more care of myself*
- *I struggle to care for myself when I have other obligations*
- *I find it hard to balance without exceeding the scope of my role*

☉ Difficulty "Challenging the Process"

- *My work environment is not necessarily receptive to empowered attitudes*

- *I wondered if I was up to the challenges that are ongoing – the reality of where nurses are historically*
- *I have limited opportunities for reflection among competing priorities*
- *My financial situation is a barrier to a leadership agenda*
- *There are external demands for statistics but I have no secretarial support. I need to prioritize demands*

♠ Difficulty “Inspiring a Shared Vision”

- *I may want to change but I find staff still the same when I want to try change*
- *I have changed through participation in the institute but the work environment/people have not changed*

♣ Difficulty “Enabling Others to Act”

- *I am too busy managing the bureaucracy*

WAYS IN WHICH INSTITUTE PARTICIPATION INFLUENCED HOW NURSES DEAL WITH LEADERSHIP DEMANDS/SITUATIONS

♥ Encouraging the Heart

- *I changed how I looked at staff; I became more aware of the need to encourage the heart*
- *Since participating in the institute, I am trying to find balance*
- *I try to encourage the heart by teaching staff what I learned*
- *I feel more confident working in new areas*
- *I think more about changing roles*
- *I need to take better care of myself*
- *I appreciate the need to go back to relationships – encouraging the heart feels makes me good*
- *I have shared this information with our new vice president who supports encouraging the heart*

☉ Challenging the Process: Broadening Horizons, Changing Ways of Thinking and Doing

- *I realized the need to make outside connections*
- *I collaborate more with other organizations*
- *Networks are very important. I know I can contact anybody from the institute for support*
- *I am more conscious of my behaviour*
- *I am more aware of my own vulnerabilities*
- *I have learned the importance of evidence to effect change*
- *I need to reframe my thinking*
- *I am full of ideas and enthusiasm and I want to change things*
- *I shifted focus from managing the work to leading work*

♠ Inspiring a Shared Vision

- *I wrote Kouzes and Posner’s 5 competencies on the white board at work*
- *My Chief Nursing Officer wants to build a similar leadership model*
- *The institute was a lived experience. Sending more people from health care organizations will produce energy that comes from such a group experience*
- *I presented an overview of the leadership model with staff nurses. I am trying to build support by enthusiastically sharing the leadership model.*

- *When I experienced experts reinforcing the values that I already had, this strengthened the credibility of my beliefs*

♣ Enabling Others to Act: Need for Information, Support and Training

- *I grab “teachable moments” when others ask/look for change*
- *I need access to syntheses of evidence – I must have research evidence available to support change*
- *I found information summarized by presenters helpful and easy to use*
- *I realize I need to involve staff (potential leaders) in leadership development activities (i.e. attending conferences)*

♦ Modeling the Way: Modeling and Mentoring

- *I need to engage people at work the way I was engaged at the institute*
- *Working with dyad partners is helpful because we now speak the same language*
- *I realize the necessity to make mentoring more accessible*

SUPPORTS THAT HELP WITH LEADERSHIP DEMANDS/SITUATIONS

♥ Encouraging the Heart

- *My vice president is supporting “encouraging the heart” in my organization*
- *My CEO very supportive*
- *I need more administrative support so I can spend my time on things that make a difference*
- *I suggest we have a yearly weekend for institute renewal as a way to stay connected and motivated*
- *I appreciate hearing people’s success stories*

☺ Challenging the Process: Broadening Horizons, Changing Way of Thinking/Doing

- *I try harder to collaborate with other organization and establish support groups*
- *We should keep up to date and connected via a website*
- *It would be great to visit each other’s workplaces - like an administrative fellowship*

♠ Shared Vision

- *My CNO wants to build a similar leadership model*

♣ Enabling Others to Act: Need for Information

- *I realize I need more information consistently and need to find more efficient mechanisms to access this information*
- *We share information among institute participants*