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Testing the effects of an empowerment-based leadership development programme: part 2 – staff outcomes

V. S. Dahinten, M. Macphee, S. Hejazi, H. Laschinger, M. Kazanjian, A. McCutcheon, J. Skelton-Green, L. O’Brien-Pallas

Abstract

Aim: To determine if nurse leaders' attendance at a leadership development programme based on an empowerment framework would increase staff perceptions of organisational support and organisational commitment.

Background: Leadership empowering behaviours are teachable relational competencies that have been associated with quality leader-staff relationships and positive staff outcomes.

Methods: A quasi-experimental, pre-test–post-test design was used to compare perceptions of staff whose leaders participated in a year-long leadership programme with staff of similar leaders who did not attend the programme. A series of multiple regression analyses were used to test the conceptual model of programme effects.

Results: Leaders' programme participation was directly associated with greater staff organisational commitment 1 year after the programme. Both programme attendance and leader-empowering behaviours were found to act as independent catalysts for staff empowerment, with structural empowerment partially mediating the effects of leader empowering behaviours on organisational commitment.

Conclusions: Leader participation in a development programme based on an empowerment framework may be an important means of increasing staff organisational commitment, a key predictor of staff turnover.

Implications for nurse management: Leadership development programmes should emphasize relational competencies, including leader empowering behaviours, given their potential for enhancing organisational commitment.

Introduction

Through this study we address the importance of leaders' participation in a leadership development programme with respect to staff outcomes. In Part 1, we described a leadership development programme, the Nursing Leadership Institute (NLI), which is based on a theoretical workplace empowerment framework. We demonstrated that the NLI was a successful instructional strategy for leaders, increasing their self-reported use of empowering behaviours, an important aspect of relational leadership. Part 2 reinforces the findings of Part 1 by demonstrating the positive influences of leadership training on staff organisational commitment.

Effective nurse leaders have been associated with many positive staff outcomes, including increased staff work satisfaction and organisational commitment (Laschinger et al. 2001a) and decreased staff
burnout (Leiter & Laschinger 2006). In a systematic review of nurse leader influence on staff performance (Germain & Cummings 2010), the authors concluded that 'effective nursing leadership is essential to the creation of practice environments that support nurses' ability to perform' (p. 436). Effective leadership is associated with management (task-centred) and relational (person-centred) competencies (Yukl 2006). At the NLI, both sets of competencies are included in curricular content and reinforced through hands-on project work conducted within NLI leaders' respective work environments (MacPhee & Bouthillette 2008, MacPhee et al. 2011).

Relational leadership focuses on the quality of leader-staff relationships. Relational leadership styles and behaviours foster staff engagement and effectiveness (Pearce & Sims 2002, Pearce et al. 2003). There are many relational styles associated with positive staff outcomes, such as transformational leadership (Cummings et al. 2010), emotionally intelligent leadership (Lucas et al. 2008) and authentic leadership (Wong & Cummings 2009). Leader empowering behaviours are specific relational leadership competencies that can be taught and assessed (Battilana et al. 2010, Laschinger et al. 2012). These behaviours are associated with shared leadership, where leaders and staff are responsible for collaboratively seeking ways to ensure better organisational outcomes (Mehra et al. 2006, Carson et al. 2007). Shared responsibility, particularly through teamwork, has the capacity to promote staff autonomy, creativity and innovation (Zhang & Sims 2005, Boxall & Macky 2009).

The theoretical framework for our NLI curriculum is workplace empowerment theory. There are different theoretical approaches associated with workplace empowerment, and our framework is based on organisational and management theories (Kanter 1993) and social-psychological theories (Conger & Kanungo 1988, Spreitzer 1995). Leader empowering behaviours, for instance, are associated with social-psychological theories (Hui 1994). Our particular workplace empowerment framework emphasizes the importance of building high-quality leader-staff relationships that empower staff (Uhl-Bien et al. 2007).

Researchers have suggested that leader empowering behaviours are a catalyst for the staff empowerment process, leading to decreased job tension and increased work effectiveness (Laschinger et al. 1999), and decreased burnout (Greco et al. 2006). Leader-empowering behaviours are teachable strategies as evidenced by Part 1 of this study, and these behaviours were some of the relational competencies included in the NLI curriculum. To our knowledge, no other researchers have conducted interventional studies to examine staff outcomes with respect to leaders' participation in training programmes based on staff empowerment strategies. The purpose of this study, therefore, was to determine whether the NLI curricular approach to leadership development would have a positive influence on staff outcomes.

Staff empowerment

Relational leaders are known for using social processes to enable staff to actively engage with their work (Zhang & Bartol 2010). Rather than conferring power on staff (a passive approach), leaders socially engage with staff, encouraging them to self-manage and self-lead (an active approach) (Pearce & Sims 2002). Nurse researchers have shown that the workplace empowerment process is an avenue for leaders to socially engage and empower their staff (Wagner et al. 2010). In this study, we focused on two types of empowerment associated with the staff empowerment process: structural and psychological empowerment. Structural empowerment (Kanter 1993) represents employees' access to
organisational empowerment structures that enhance their work effectiveness. These empowerment structures include information, resources, supports and opportunities – acquired informally (e.g. the grapevine) or formally through the chain of command (i.e. through leaders). Psychological empowerment represents employees’ perceptions of being empowered at work, and there are four psychological beliefs associated with psychological empowerment: meaning (‘I value my work’), impact (‘I make a difference at work’), self-determination (‘I have control over my work’) and competence (‘I am confident/competent that I can do my work well’) (Conger & Kanungo 1988, Spreitzer 1995, 2007).

Nurse researchers have shown that psychological empowerment typically arises from structural empowerment: when leaders ensure access to organisational empowerment structures, staff feel psychologically empowered by these leadership actions (Wagner et al. 2010). Researchers have also shown that psychological empowerment mediates or accounts for the relationship between structural empowerment and nurse outcomes, such as increased job satisfaction (Manojlovich & Laschinger 2002) and decreased job strain (Laschinger et al. 2001b).

Although there may be many relational leader–staff social processes associated with positive staff outcomes, in this study we focused on five main categories of leader empowering behaviours that have been associated with staff empowerment in previous studies (Laschinger et al. 1999, Greco et al. 2006). These categories are: fostering participation in decision-making; facilitating goal accomplishment; providing autonomy or control over work; and removing bureaucratic barriers associated with powerlessness (Conger & Kanungo 1988, Hui 1994).

Some researchers have suggested that empowered staff are more highly committed to their organisations (Boxall & Macky 2009). Organisational commitment ‘is the strength of an individual’s identification with and involvement in a particular organisation’ (Tansky & Cohen 2001, p. 287). Laschinger et al. (2009) found that the quality of leader–staff relationships directly and indirectly influenced staff reports of organisational commitment. The indirect pathway was via the staff empowerment process: the quality of leader–staff relationships directly influenced staff perceptions of being structurally empowered, which in turn, had a significant direct effect on staff psychological empowerment and organisational commitment. Nurse researchers have shown that organisational commitment is a key predictor of staff turnover (Hayes et al. 2006). There is some evidence, therefore, that relational leaders empower staff who, in turn, are more committed to their organisations and less likely to leave.

Empowered staff may also perceive more support from their organisations. Perceived organisational support refers to staff perceptions that the organisation values their contributions and cares about their well-being (Rhoades & Eisenberg 2002). According to organisational support theory (Eisenberger et al. 1986), staff infer organisational support from the quality of their relationships with ‘organisational agents’, such as their supervisors or leaders. ‘Management behaviours and organisational policies form the basis for employees’ interpretations of organisational support’ (Laschinger et al. 2006, p. 21). In a meta-analysis of 72 studies, Rhoades and Eisenberger (2002) found that fairness of treatment was most strongly associated with employee-perceived organisational support. Armstrong-Stassen and Cameron (2003) conducted a longitudinal study to track staff outcomes during hospital restructuring. Those staff who reported greater control over work-related decisions also reported significantly higher levels of perceived organisational support and trust. Perceived organisational support, therefore, may reflect the quality of leader-staff relationships from the staff perspective.
Researchers, therefore, suggest that empowering leaders catalyse the staff empowerment process, resulting in positive staff nurse outcomes. Based on previous research related to the quality of leader-staff relationships and staff outcomes, we were particularly interested in two outcomes: staff nurse perceptions of organisational support and their organisational commitment. Our four study hypotheses (depicted in Figure 1) were:

![Figure 1. Conceptual model. Staff Outcomes: OC, Organisational Commitment; POS, Perceived Organisational Support.]

Hypotheses 1 and 2: NLI participation will be associated with positive changes in staff Perceived Organisational Support (no. 1) and Organisational Commitment (no. 2).

Hypothesis 3. Leader Empowering Behaviour will mediate the relationship between NLI attendance and Structural Empowerment.

Hypothesis 4. Structural Empowerment will mediate the relationship between Leader Empowering Behaviours and Psychological Empowerment.

Hypotheses 5 and 6. Psychological Empowerment will mediate the relationships between Structural Empowerment and Perceived Organisational Support (no. 5) and Organisational Commitment (no. 6).

Methods

A quasi-experimental, pre-test–post-test design was used to explore the direct and indirect effects of leaders’ participation in a leadership development programme (i.e. the NLI) on staff outcomes. Data were collected from staff of the leader intervention and control groups at baseline (Time 1, when the leaders attended the NLI) and 1 year after the leaders of the intervention group had participated in the NLI residential workshop (Time 2).

Sample

The target sample for this study was comprised of staff nurses of nurse leaders who attended the NLI between 2007 and 2010 (the intervention group) and staff nurses of the leaders who were identified as a comparison group of nurse leaders (described in Part I). Nurse leaders from both groups gave permission for their staff to be recruited into the study. We received responses from 1067 staff nurses.
at time 1 (923 in the intervention group and 144 in the comparison group), but only 129 completed data collection at both Time 1 and Time 2: 99 (11%) in the intervention group and 30 (23%) in the comparison group. These 129 study participants were the staff of 44 nurse leaders. For the intervention group, attrition analyses showed no significant differences in baseline measures of structural empowerment, psychological empowerment, perceived organisational support or organisational commitment between those who participated at both data collection points and those who completed baseline data collection only. However, for the comparison group, t-test results indicated that those who participated at both data collection points had higher levels of organisational commitment at Time 1 [mean = 4.63, standard deviation (SD) = 1.03] than those who completed baseline data collection only (mean = 4.10, SD = 1.15), t(142) = −2.29, P < 0.05.

Procedures

This study received ethics approval from the affiliated university and provincial health authorities. Nurse leaders in the comparison and intervention groups placed advertisement flyers and questionnaire packets in their respective staff lounges. Each questionnaire packet included a cover letter, staff questionnaire booklet, stamped, return envelope and a raffle ticket to be entered into a raffle draw worth a maximum of $400 for professional development purposes, such as a professional conference. This maximum amount was determined by the ethics review boards. The return of completed questionnaires implied consent. Questionnaires were coded to match survey respondents to their leaders and to match Time 1 and Time 2 surveys. We also asked leaders to post a ‘reminder’ flyer 2 weeks after distribution of the packets. Leaders received flyers and packets via mail, and we e-mailed prompts to them at 1 and 2 weeks after the mail-out of study materials.

Measures

Five standardized instruments were used to measure the key variables in our conceptual model. A single total scale score, representing the mean scale scores or the means of the subscale mean scores, was used in all analyses, consistent with recommendations of the test authors. Higher mean scores indicate higher levels of the construct. Demographic information (i.e. age, gender, education level, leadership rank, years of leadership experience and years of nursing experience) was also collected.

Structural empowerment, based on Kanter's organisational and management theory (1993), was measured using the 19-item Conditions of Work Effectiveness (II) Scale (CWEQII) (Laschinger et al. 2001b). Possible mean scale scores ranged from 1 to 5. Cronbach's alphas for the total scale for the intervention and comparison groups were 0.88 and 0.90, respectively.

Psychological empowerment, based on social-psychological theory (Conger & Kanungo 1988), was measured using the Psychological Empowerment Scale (PES) (Spreitzer 1995). Cronbach's alphas for the total scale were 0.85 for the intervention group and 0.85 for the comparison group, with possible mean scale scores ranging from 1 to 5.

Staff nurses' perceptions of Leader Empowering Behaviours were measured with the Leader Empowering Behaviors Scale (LEBS) (Hui 1994), with possible mean scores ranging from 1 to 7. This scale
is based on social-psychological theory (Conger & Kanungo 1988). Cronbach’s alphas for the total scale were 0.98 for the total scale for both groups. See Part I for a more complete description of the measures of structural empowerment, psychological empowerment and leader empowering behaviours.

Perceived organisational support was measured with the 8-item Perceived Organisational Support Scale (POSS) (Rhoades & Eisenberg 2002), rated on a seven-point Likert scale. Cronbach’s alphas for the total scale were 0.90 for both the intervention and the comparison groups, with possible mean scale scores ranging from 1 to 7. This scale has been used in other nurse empowerment research (Burke 2003, Patrick & Laschinger 2006).

Organisational commitment was measured with the Organisational Commitment Questionnaire (OCQ) affective commitment subscale (Meyer & Allen 1991, Meyer et al. 1993). This subscale contains eight items measured on a seven-point Likert scale, so that possible mean scores also range from 1 to 7. Cronbach’s alphas were 0.84 and 0.82 for the intervention and comparison groups, respectively. The affective commitment subscale has been used in other nurse empowerment research (Laschinger et al. 2001a, 2009).

Analytic procedures

Hierarchical multiple regression analysis was used to evaluate the effects of the NLI on the two outcome variables (Organisational Commitment and Perceived Organisational Support), controlling for demographic characteristics and baseline (Time 1) measures of each outcome variable. Each set of analyses also included an interaction term between NLI and the baseline measure of the outcome variable, and measures of Leader Empowering Behaviour, Structural Empowerment and Psychological Empowerment at Time 2. Additional regression analyses were conducted to test the hypothesized mediation effects of Leader Empowering Behaviour, Structural Empowerment and Psychological Empowerment. All analyses were conducted using SPSS v19 for Windows (SPSS Inc., Chicago, IL, USA).

Results

Demographic characteristics of participants

As shown in Table 1, the majority of the staff participants were female (98%), and approximately half (54%) had a BSc degree in nursing. The mean age of the sample was 46 years, and one-half had at least 21 years of experience in nursing. Results indicated that the nursing staff of leaders who attended the NLI were younger, t(127) = −3.5, P < 0.01, and had fewer years of nursing experience (Mann–Whitney U-test = 909.50, z = −3.10, P < 0.01) than nurses in the comparison group.
Preliminary analyses

Pearson’s correlations among key study variables, along with sample means and SDs, are shown in Table 2. In general, the strongest correlations occurred between Time 1 and Time 2 measures of the same variable. Time 1 Structural Empowerment ($r = -0.18; P < 0.05$) and Time 1 Organisational Commitment ($r = -0.21; P < 0.05$) were the only two variables shown to be significantly correlated with NLI attendance.

Table 2. Correlations, means and standard deviations for key study variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. NLI (1 = Yes, 0 = No)</td>
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<td></td>
<td></td>
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<tr>
<td>2. Time 1-Structural empowerment</td>
<td>$-0.18^*$</td>
<td></td>
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<td></td>
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<tr>
<td>3. Time 1-Psychological empowerment</td>
<td>$-0.13^*$</td>
<td></td>
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<tr>
<td>4. Time 1-Organisational commitment</td>
<td>$-0.21^*$</td>
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<td></td>
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<tr>
<td>5. Time 1-Perceived organisational support</td>
<td>-0.01</td>
<td>$0.53^*$</td>
<td>$0.27^*$</td>
<td>$0.61^*$</td>
<td></td>
<td></td>
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<tr>
<td>6. Time 1-Leader empowering behaviour</td>
<td>$-0.05^*$</td>
<td>$0.68^*$</td>
<td>$0.46^*$</td>
<td>$0.39^*$</td>
<td>$0.41^*$</td>
<td></td>
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<tr>
<td>7. Time 2-Structural empowerment</td>
<td>$0.05$</td>
<td>$0.52^*$</td>
<td>$0.43^*$</td>
<td>$0.36^*$</td>
<td>$0.38^*$</td>
<td>$0.44^*$</td>
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</tr>
<tr>
<td>8. Time 2-Psychological empowerment</td>
<td>$0.05$</td>
<td>$0.32^*$</td>
<td>$0.53^*$</td>
<td>$0.26^*$</td>
<td>$0.26^*$</td>
<td>$0.30^*$</td>
<td>$0.59^*$</td>
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</tr>
<tr>
<td>9. Time 2-Organisational commitment</td>
<td>$-0.10$</td>
<td>$0.40^*$</td>
<td>$0.37^*$</td>
<td>$0.56^*$</td>
<td>$0.44^*$</td>
<td>$0.36^*$</td>
<td>$0.54^*$</td>
<td>$0.44^*$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Time 2-Perceived organisational support</td>
<td>$-0.03$</td>
<td>$0.40^*$</td>
<td>$0.23^*$</td>
<td>$0.33^*$</td>
<td>$0.50^*$</td>
<td>$0.30^*$</td>
<td>$0.53^*$</td>
<td>$0.36^*$</td>
<td>$0.56^*$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Time 2-Leader empowering behaviour</td>
<td>$0.05$</td>
<td>$0.32^*$</td>
<td>$0.17^*$</td>
<td>$0.18^*$</td>
<td>$0.27^*$</td>
<td>$0.49^*$</td>
<td>$0.47^*$</td>
<td>$0.41^*$</td>
<td>$0.41^*$</td>
<td>$0.41^*$</td>
<td>$0.48^*$</td>
</tr>
</tbody>
</table>

| Mean                          | 3.25 | 3.02 | 4.17 | 4.57 | 4.02 | 3.31 | 3.92 | 4.22 | 4.50 | 5.04   |
| Standard deviation             | 0.53 | 0.49 | 1.19 | 1.33 | 1.16 | 0.60 | 0.50 | 1.18 | 1.21 | 1.12   |

Table 3 presents the descriptive statistics for the key study variables by group and by time, and t-test results. Independent t-tests showed that the intervention group scored significantly lower than the comparison group on Structural Empowerment, $t(127) = -2.08, P < 0.05$, and Organisational Commitment, $t(126) = -2.44, P < 0.05$, at Time 1, although the differences were small in effect size (Cohen’s $d = 0.18$ and 0.21, respectively). There were no significant between-group differences at Time
2, indicating that scores for the intervention group had caught up to those for the comparison group. Paired t-tests, used to examine differences over time within each group, showed that the intervention group had higher Structural Empowerment scores at Time 2 compared with Time 1, $t(98) = 2.23, P < 0.01$ (a small-sized effect, Cohen’s $d = 0.22$). In contrast, the comparison group showed lower Structural Empowerment scores at Time 2 compared with Time 1, $t(29) = -2.61, P < 0.01$, (a medium-sized effect, Cohen’s $d = 0.44$).

Hypotheses 1 and 2: the effects of NLI attendance on organisational commitment and perceived organisational support

Separate hierarchical multiple regression analyses were performed to assess the effects of the NLI on the two outcome variables after controlling for baseline measures of each, as well as their interactions with NLI attendance. We controlled for age, education and years of nursing experience, and tested their interactions with the NLI. None of the demographic variables were found to be significantly related to the outcome measures and, therefore, these variables and interaction terms were removed from the final models for reasons of statistical power. Each set of regressions also assessed the main effects of Leader Empowering Behaviours, Structural Empowerment and Psychological Empowerment.

Tables 4 and 5 show the series of steps followed for the final set of regressions. In Model 1, we entered the Time 1 measure of the outcome variable. In Model 2, we introduced the NLI variable and the interaction effects of NLI and the outcome variables at Time 1, followed by Leader Empowering Behaviour in Model 3, Structural Empowerment and Psychological Empowerment in Models 4 and 5, respectively. No major violation of the assumptions underlying multiple regression analysis was noted.
Table 4. Hierarchical regression results for organisational commitment at Time 2 (N = 129)

<table>
<thead>
<tr>
<th>Model</th>
<th>Organisational commitment $T_1$</th>
<th>$\beta$</th>
<th>CI (95%)</th>
<th>$R^2$</th>
<th>Change in $R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td></td>
<td></td>
<td>0.36 $^{***}$</td>
<td>0.4–0.69</td>
<td>0.31</td>
</tr>
<tr>
<td>Model 2</td>
<td>Organisational commitment $T_1$</td>
<td>0.37 $^*$</td>
<td>0.01–0.72</td>
<td>0.32</td>
<td>0.01000</td>
</tr>
<tr>
<td></td>
<td>NLI</td>
<td>$-0.36000$</td>
<td>$-2.84–0.82$</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NLI by Organisational commitment $T_1$</td>
<td>0.39000</td>
<td>$-0.16–0.62$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 3</td>
<td>Organisational commitment $T_1$</td>
<td>0.14</td>
<td>$-0.20–0.48$</td>
<td>0.43</td>
<td>0.11 $^{***}$</td>
</tr>
<tr>
<td></td>
<td>NLI</td>
<td>$-0.70^*$</td>
<td>$-3.67–0.23$</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NLI by Organisational commitment $T_1$</td>
<td>0.70 $^*$</td>
<td>0.06–0.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leader empowering behaviour $T_2$</td>
<td>0.35 $^{***}$</td>
<td>0.22–0.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 4</td>
<td>Organisational commitment $T_1$</td>
<td>$-0.01$</td>
<td>$0.33–0.33$</td>
<td>0.49</td>
<td>0.06 $^{**}$</td>
</tr>
<tr>
<td></td>
<td>NLI</td>
<td>$-0.83^{**}$</td>
<td>$-3.98–0.67$</td>
<td></td>
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<tr>
<td></td>
<td>NLI by Organisational commitment $T_1$</td>
<td>0.90 $^{**}$</td>
<td>0.13–0.83</td>
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<tr>
<td></td>
<td>Leader empowering behaviour $T_2$</td>
<td>0.20 $^*$</td>
<td>0.04–0.38</td>
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<tr>
<td></td>
<td>Structural empowerment $T_2$</td>
<td>0.32 $^{***}$</td>
<td>0.33–1.03</td>
<td></td>
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</tr>
<tr>
<td>Model 5</td>
<td>Organisational commitment $T_1$</td>
<td>0.03</td>
<td>$0.30–0.36$</td>
<td>0.50</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>NLI</td>
<td>$-0.76^*$</td>
<td>$-3.70–0.45$</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>NLI by Organisational commitment $T_1$</td>
<td>0.73 $^*$</td>
<td>0.08–0.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leader empowering behaviour $T_2$</td>
<td>0.18 $^*$</td>
<td>0.03–0.30</td>
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<tr>
<td></td>
<td>Structural empowerment $T_2$</td>
<td>0.20 $^{***}$</td>
<td>0.16–0.95</td>
<td></td>
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<tr>
<td></td>
<td>Psychological empowerment $T_2$</td>
<td>0.11</td>
<td>$-0.12–0.65$</td>
<td></td>
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</tr>
</tbody>
</table>

NLI: Nursing Leadership Institute; $T_1$: Time 1; $T_2$: Time 2; $\beta$: standardized beta coefficient; CI (95%): 95% confidence intervals. $P < 0.001$, $^*P < 0.05$, $^{**}P < 0.01$, $^{***}P < 0.001$. 
The results for Organisational Commitment (Table 4) indicate that the NLI and the interaction effect of NLI and Organisational Commitment at Time 1 became significant after controlling for Leader Empowering Behaviour at Time 2 (Model 3), $F$ change (1,121) = 23.7, $P < 0.001$. NLI leader attendance had a positive effect on staff Organisational Commitment at Time 2 ($\beta = 0.70$, $P < 0.05$) for those staff with higher levels of Organisational Commitment scores at Time 1 (see Figure 2), but only after controlling for Leader Empowering Behaviour. Structural empowerment at Time 2 was also predictive of Organisational Commitment, explaining an additional 6.2% of the variance in Organisational Commitment, $F$ change (1,120) = 14.7, $P < 0.001$. Moreover, the addition of Structural Empowerment led to a reduction in the Beta coefficient for Leader Empowering Behaviour from 0.35 ($P < 0.001$) to 0.20 ($P < 0.01$), suggesting that Structural Empowerment may be partially mediating the effects of Leader Empowering Behavior on Organisational Commitment. No main effects were shown for Psychological Empowerment at Time 2. Total variance explained by Model 5 was 50%, $F$(6, 119) = 19.9, $P < 0.001$, with NLI attendance and the interaction term (NLI × Organisational Commitment at Time 1) remaining the strongest predictors.

<table>
<thead>
<tr>
<th>Model 1</th>
<th>$\beta$</th>
<th>CI (95%)</th>
<th>$R^2$</th>
<th>Change in $R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived organisational support $T_1$</td>
<td>0.48***</td>
<td>0.29–0.57</td>
<td>0.23</td>
<td>0.23***</td>
</tr>
<tr>
<td>Model 2</td>
<td></td>
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<tr>
<td>Perceived organisational support $T_1$</td>
<td>0.42</td>
<td>0.07–0.68</td>
<td>0.23</td>
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</tr>
<tr>
<td>NLI</td>
<td>-0.13999</td>
<td>-2.00–1.25</td>
<td></td>
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<tr>
<td>NLI by Perceived organisational support $T_1$</td>
<td>0.13000</td>
<td>-0.27–0.41</td>
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<tr>
<td>Model 3</td>
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<tr>
<td>Perceived organisational support $T_1$</td>
<td>0.24</td>
<td>-0.07–0.50</td>
<td>0.37</td>
<td>0.14***</td>
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<td>-2.37–0.61</td>
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<td>NLI by Perceived organisational support $T_1$</td>
<td>0.31000</td>
<td>-0.15–0.46</td>
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<tr>
<td>Leader empowering behaviour $T_2$</td>
<td>0.39**</td>
<td>0.26–0.59</td>
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<td>Model 4</td>
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<tr>
<td>Perceived organisational support $T_1$</td>
<td>0.11</td>
<td>-0.18–0.38</td>
<td>0.42</td>
<td>0.05**</td>
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<tr>
<td>NLI</td>
<td>-0.43999</td>
<td>-2.68–0.22</td>
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<tr>
<td>NLI by Perceived organisational support $T_1$</td>
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<td>-0.07–0.54</td>
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<tr>
<td>Leader empowering behaviour $T_2$</td>
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<td>0.10–0.46</td>
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<tr>
<td>Structural empowerment $T_2$</td>
<td>0.26**</td>
<td>0.23–0.69</td>
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<tr>
<td>Model 5</td>
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<tr>
<td>Perceived organisational support $T_1$</td>
<td>0.11</td>
<td>-0.19–0.36</td>
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<td>NLI</td>
<td>-0.42</td>
<td>-2.66–0.26</td>
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<tr>
<td>NLI by Perceived organisational support $T_1$</td>
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<td>-0.09–0.54</td>
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<td>Leader empowering behaviour $T_2$</td>
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<td>0.00–0.45</td>
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<tr>
<td>Structural empowerment $T_2$</td>
<td>0.26**</td>
<td>0.14–0.69</td>
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<td></td>
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<tr>
<td>Psychological empowerment $T_2$</td>
<td>0.04</td>
<td>-0.32–0.53</td>
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NLI. Nursing Leadership Institute; $T_1$, Time 1; $T_2$, Time 2; $\beta$, standardized coefficient; CI (95%), 95% confidence intervals. $P < 0.001$. $^*P < 0.05$, $^**P < 0.01$, $^***P < 0.001$. The results for Organisational Commitment (Table 4) indicate that the NLI and the interaction effect of NLI and Organisational Commitment at Time 1 became significant after controlling for Leader Empowering Behaviour at Time 2 (Model 3), $F$ change (1,121) = 23.7, $P < 0.001$. NLI leader attendance had a positive effect on staff Organisational Commitment at Time 2 ($\beta = 0.70$, $P < 0.05$) for those staff with higher levels of Organisational Commitment scores at Time 1 (see Figure 2), but only after controlling for Leader Empowering Behaviour. Structural empowerment at Time 2 was also predictive of Organisational Commitment, explaining an additional 6.2% of the variance in Organisational Commitment, $F$ change (1,120) = 14.7, $P < 0.001$. Moreover, the addition of Structural Empowerment led to a reduction in the Beta coefficient for Leader Empowering Behaviour from 0.35 ($P < 0.001$) to 0.20 ($P < 0.01$), suggesting that Structural Empowerment may be partially mediating the effects of Leader Empowering Behavior on Organisational Commitment. No main effects were shown for Psychological Empowerment at Time 2. Total variance explained by Model 5 was 50%, $F$(6, 119) = 19.9, $P < 0.001$, with NLI attendance and the interaction term (NLI × Organisational Commitment at Time 1) remaining the strongest predictors.
Figure 2. The interaction effects of Nursing Leadership Institute (NLI) and Time 1 organisational commitment (OC) on organisational commitment at Time 2. Scale range = 1–7.

Table 5 indicates that Leader Empowering Behaviour and Structural Empowerment, both measured at Time 2, were the only significant predictors of Perceived Organisational Support at Time 2, after controlling for other variables in the model. Together they accounted for 42% of the variance in the outcome variable. Neither NLI leader attendance nor its interaction with Perceived Organisational Support at Time 1 showed an association with staff Perceived Organisation Support at Time 2.

Hypotheses 3 to 6: the mediating effects of leader empowering behaviour, structural and psychological empowerment

We tested the hypothesized mediating effects using a series of regression analyses, according to the causal step approach outlined by Baron and Kenny (1986), and controlling for the baseline measure of each outcome measure (See Part 1 for description of the approach).

Hypothesis 3

Our hypothesis that Leader Empowering Behaviour would mediate the effect of NLI attendance on Structural Empowerment at Time 2 was not supported. No significant relationship was found between NLI attendance and Time 2 Leader Empowering Behaviour (the purported mediator) before or after controlling for Time 1 Leader Empowering Behaviour ($r = 0.05$, $P = 0.29$ and $\beta = 0.07$, $P = 0.35$, respectively), so no further mediation sub-analyses were conducted. However, with other regression analyses we were able to demonstrate that NLI attendance led directly to changes in Structural Empowerment at Time 2 ($\beta = 0.16$, $P < 0.05$), after controlling for baseline levels of Structural Empowerment ($\beta = 0.58$, $P < 0.001$).
We had also hypothesized that Structural Empowerment would mediate the effects of Leader Empowering Behaviour on Psychological Empowerment, and our results indicated that the effects of Leader Empowering Behaviour were partially mediated. The first and second steps in the analysis showed that Time 2 Leader Empowering Behaviour had a positive relationship with Time 2 Psychological Empowerment ($\beta = 0.32, P < 0.001$, Regression 1) and Time 2 Structural Empowerment ($\beta = 0.43, P < 0.001$, Regression 2). In the third regression, the strength of the relationship between Leader Empowering Behaviour and Psychological Empowerment decreased but remained statistically significant ($\beta = 0.16, P < 0.05$) when the mediator (Structural Empowerment) was added to the equation, whereas Structural Empowerment continued to show unique effects on Leader Empowering Behaviour ($\beta = 0.35, P < 0.05$). Together, these findings indicate partial mediation.

Hypotheses 5 and 6

Our last two hypotheses that Psychological Empowerment would mediate the effects of Structural Empowerment on Perceived Organisational Support and Organisational Commitment were not supported within the context of the full regression models. Although there were significant bivariate correlations between Psychological Empowerment and the two outcome variables measured at Time 2, no main effects were found for Psychological Empowerment on Organisational Commitment ($\beta = 0.11, P = 0.18$) or Perceived Organisational Support ($\beta = 0.04, P = 0.63$) after controlling for other variables in the regression models.

Additional analyses

After failing to find main or mediating effects for Psychological Empowerment on Organisational Commitment, we tested and found support for an alternative mediational model: that Structural Empowerment mediates the effects of Leader Empowering Behaviour on Organisational Commitment at Time 2. Time 2 Leader Empowering Behaviour showed a positive relationship with Time 2 Organisational Commitment ($\beta = 0.32, P < 0.001$, Regression 1) and Time 2 Structural Empowerment ($\beta = 0.43, P < 0.001$, Regression 2). In the third regression, the strength of the relationship between Leader Empowering Behaviour and Organisational Commitment weakened ($\beta = 0.17, P < 0.05$) with the mediator (Structural Empowerment) in the equation, whereas Structural Empowerment continued to show unique effects on Organisational Commitment ($\beta = 0.29, P < 0.01$). This suggests that the effects of Leader Empowering Behaviour on Organisational Commitment were partially mediated by Structural Empowerment.

Discussion

The purpose of this study was to examine the direct and indirect effects of leader participation in the NLI leadership development programme on two staff outcomes, and to explore the role that the empowerment process played in leading to those staff outcomes. We demonstrated the positive effects of NLI attendance on staff organisational commitment 1 year later, and we found support with regard to the hypothesized antecedents and outcomes of the staff empowerment process.
We found that leader participation in the NLI led to increased staff organisational commitment at Time 2, but only for staff who were already committed to the organisation at Time 1. In this study, we used an affective commitment scale to measure organisational commitment. Affective commitment refers to an individual's emotional attachment and involvement in an organisation. Laschinger et al. (2001a) found that affective commitment was positively associated with staff access to empowerment structures, such as information and resources, and organisational trust, or the belief that organisational leadership will follow through on commitments. Researchers have found evidence that organisational factors may have a strong influence on staff affective commitment (Meyer et al. 1998, Mishra et al. 1998). Researchers have shown that during restructuring, vulnerability and uncertainty can permeate organisational culture and erode staff organisational trust and commitment, making it difficult even for relational leaders to influence staff emotional or affective investment in the organisation (Blythe et al. 2001, Laschinger et al. 2001a). Given that extensive restructuring was underway in our province prior to and during the time of the study, it may be that the leaders were able to ‘reach’ only those staff who had maintained a certain level of affective commitment. We speculate that positive changes in leaders’ behaviours may not have been noticeable by staff that had already disengaged emotionally from the organisation.

Our second significant finding was that organisational commitment was also associated with leader empowering behaviours and structural empowerment. Consistent with the findings from other nursing research (Laschinger et al. 2001b, Greco et al. 2006), we found that leader empowering behaviours seem to have acted as a catalyst for the staff empowerment process. Some well-documented examples of successful leader empowering behaviours include ‘fostering participatory decision-making’ through shared governance councils (Force 2004, Williamson 2005); ‘providing autonomy from bureaucratic constraints’ by eliminating unnecessary rules and policies and updating important protocols and guidelines (Rycroft-Malone 2008, Kitson 2009); ‘enhancing the meaningfulness of work’ by forging connections between the vision/mission of the organisation and nurses’ work (Thyer 2003, Cummings et al. 2010); ‘expressing confidence in high performance’ by acknowledging the value of nurses’ work whenever possible (Batalden et al. 2003, Germain & Cummings 2010); and ‘facilitating goal accomplishment’ by providing training and supports for professional development (George et al. 2002, Lacey et al. 2008). Researchers have also shown how these leader-empowering behaviours are important for supporting new graduate nurses (Uhlrich et al. 2010), a segment of the nursing population at particular risk for turnover within their first year of practice (Hayes et al. 2006). Through our findings, we demonstrated that leader-empowering behaviours are a catalyst for staff empowerment, and a considerable body of research supports organisational investment in teaching leaders these behaviours.

Our staff empowerment process findings were mixed. Leader empowering behaviours were associated with positive changes in structural empowerment, but the NLI was not found to be the catalyst for the staff empowerment process through leader empowering behaviours. There was evidence that NLI attendance led directly to positive changes in staff structural empowerment, but the pathway from structural empowerment [RIGHTWARDS ARROW] psychological empowerment [RIGHTWARDS ARROW] organisational commitment was not supported. There was, however, evidence supporting a pathway from leader empowering behaviours [RIGHTWARDS ARROW] structural empowerment [RIGHTWARDS ARROW] organisational commitment.

The lack of a demonstrated relationship between leader attendance at the NLI and staff perceptions of leader empowering behaviours is inconsistent with results from Part I of this study in which leaders who participated in the NLI reported increases in their leader empowering behaviours. There are a number of
possible explanations. It may be that leaders over-rated their behaviours, that there was inadequate power to find significant differences in staff reports of leader empowering behaviours, or that there is measurement variance inherent in the Leader Empowering Behaviors Scale (Hui 1994) where leaders and staff did not interpret and respond to the items in the same way (Vandenberg & Lance 2000). There may also have been other intervening factors in between leader attendance at the NLI and staff perceptions of leader empowering behaviours that were not captured by our conceptual model.

We found that structural empowerment had direct effects on staff outcomes: psychological empowerment did not have mediating effects on staff outcomes. In a longitudinal analysis by Laschinger et al. (2004) that investigated the impact of the staff workplace empowerment process on nurses' job satisfaction, structural empowerment had direct effects on job satisfaction, and psychological empowerment did not mediate the relationship between structural empowerment and job satisfaction. The researchers surmised that differences in design (cross-sectional versus longitudinal) may have influenced their findings. They concluded that the direct effects of structural empowerment highlighted the significance of staff access to organisational empowerment structures. Other factors may be more important mediators between staff structural empowerment and organisational commitment than psychological empowerment. For example, Laschinger and Finegan (2005) found that in addition to its direct effects on organisational commitment, structural empowerment yielded indirect effects on organisational commitment through its effect on respect, trust and interactional justice. This suggests that relational leadership practices associated with staff perceptions of fair treatment and trust may enhance staff commitment to the organisation as much as, or more so, than psychological empowerment.

We failed to show an effect for leader NLI participation on staff perceptions of organisational support. However, as with organisational commitment, leader empowering behaviours and structural empowerment were significant predictors of perceived organisational support. The non-significant result for NLI attendance was surprising given the positive staff outcomes with respect to organisational commitment. However, some researchers have shown that another type of support, perceived supervisor support, may be a better measure than organisational support (Maertz et al. 2007). Some researchers have found that employees' workplace relationships with their immediate managers play a major role in their intentions to leave or stay (Payne & Huffman 2005, Maertz et al. 2007) and their levels of stress and burnout (Thomas & Lankau 2009). DeConinck and Johnson (2009) conducted one study within a business setting where sales people reported perceptions of greater organisational support and lower turnover intentions when they believed that their supervisors valued their contributions to the organisation and were concerned about their well-being. In a nursing study, Hall (2007) found that perceptions of supervisor support were positively related to nurses' reports of job control, coworker support and collective efficacy; and negatively related to job stress and health-related complaints. More research is needed, therefore, to establish the relationships between staff empowerment and different types of perceived support.

Limitations

A major limitation of our study was sample size – in particular, the small size of the comparison group. Ideally, we would have analysed all hypothesized pathways simultaneously through structural equation
modelling but we were limited to a sequence of multiple regression models and nested sub-models, which may partially account for some of our mixed findings.

Conclusions

In Parts 1 and 2 of our study, we demonstrated the value of leader participation in the NLI for both staff and leader outcomes. In Part 1, we showed an increase in self-reported leader empowering behaviours 1 year after attendance at the NLI. In Part 2, we demonstrated an increase in the organisational commitment of nursing staff 1 year after their leaders attended the NLI. Given the length of the follow-up period during a time of extensive provincial health care restructuring, our findings are impressive. There are many unknown factors and processes that remain to be more fully explored, such as the antecedents to the leader empowerment process and the role(s) of psychological empowerment. Relational leadership is a social process influenced by many organisational factors. As stated by Edmonstone and Western (2002, p. 35) 'Leaders cannot control or manipulate the culture of their organisation, but can only influence and shape that direction as it emerges'. Although more research is needed to flush out details related to leader and staff empowerment, we believe that our findings from Parts I and 2 unequivocally support the importance of training and supporting relational leaders using an empowerment approach.

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Ethical approval

The study was approved by UBC behavioural ethics review board: H07-01559.

References


Thyer G. (2003) Dare to be different: transformational leadership may hold the key to reducing the nursing shortage. Journal of Nursing Management 11, 73–79.


Wong G. & Cummings G. (2009) Authentic leadership: a new theory for nursing or back to basics?

