Nurses’ leadership self-efficacy, motivation, and career aspirations

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Abstract

Purpose – This paper aims to test a model examining precursors and outcomes of nurses’ leadership self-efficacy, and their aspirations to management positions.

Design/methodology/approach – A cross-sectional survey of 727 registered nurses across Canada was conducted. Structural equation modelling using Mplus was used to analyse the data.

Findings – Results supported the hypothesized model: $\chi^2(312) = 949.393; CFI = 0.927; TLI = 0.919; RMSEA = 0.053 (0.049-0.057); SRMR 0.044$. Skill development opportunities ($\beta = 0.20$), temporary management roles ($\beta = 0.12$) and informal mentoring ($\beta = 0.11$) were significantly related to nurses’ leadership self-efficacy, which significantly influenced motivation to lead ($\beta = 0.77$) and leadership career aspirations ($\beta = 0.23$). Motivation to lead was significantly related to leadership career aspirations ($\beta = 0.50$).

Practical implications – Nurses’ leadership self-efficacy is an important determinant of their motivation and intention to pursue a leadership career. Results suggest that nurses’ leadership self-efficacy can be influenced by providing opportunities for leadership mastery experiences and mentorship support. Leadership succession planning should include strategies to enhance nurses’ leadership self-efficacy and increase front-line nurses’ interest in leadership roles.

Originality value – With an aging nurse leader workforce, it is important to understand factors influencing nurses’ leadership aspirations to develop and sustain nursing leadership capacity. This research study makes an important contribution to the nursing literature by showing that nurses’ leadership self-efficacy appears to be an important determinant of their motivation to lead and desire to pursue a career as a nurse leader.

Keywords Nursing, Leadership, Mentorship, Leadership self-efficacy, Motivation to lead

Paper type Research paper

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Background
Nursing leadership is critical to effectively address health-care system challenges such as workforce sustainability and patient outcomes (CNA, 2012, 2015; Wong et al., 2013). Many countries around the world are anticipating a shortage of nurse leaders (Hader et al., 2006, Thompson, 2008). In an international survey of 1,000 nurse leaders in 2006, 74.5 per cent reported that they planned to retire before 2020 (Hader et al., 2006). A recent study in Canada indicated that the nurse manager population is aging, with an average age of 52 years (Laschinger et al., 2008). Using this data, Wong et al. (2014) projected a national shortage of 4,200 nurse managers by the year 2022. In addition, many staff nurses are not interested in taking on leadership roles (Bulmer, 2013) and health-care lags behind other industries in leadership development and succession planning (Carriere et al., 2009; Titzer et al., 2013). Additional work is needed to increase nursing leadership capacity and address the expected shortage of nurse leaders.

Given the important role that nursing leaders play, it is imperative to understand and address this expected shortage. Understanding how leadership development experiences influence nurses’ interest in assuming a management role is a critical first step in addressing the future nurse leadership shortage and may help inform leadership development and succession planning strategies within healthcare organizations. Using Bandura’s (1977) self-efficacy theory as a guiding framework, this study examined the impact of leadership development experiences on staff nurses’ leadership self-efficacy, motivation to lead and aspirations to take on a management role in the future.

Theoretical framework
Self-efficacy
Self-efficacy forms the foundation of an individual’s motivation, well-being and personal accountability and is defined as an individual’s judgement of their personal capability to perform a specific behaviour or set of behaviours (Bandura, 1977, 1986). Self-efficacy is not a trait; rather it is dynamic, can be changed and is related to performance (Bandura, 1986; Van Vianen 1999). A key assumption of self-efficacy theory is that an individual’s self-appraisal influences associated outcome expectations and behaviour (Bandura, 1977, 1986, 1997; Sandau et al., 2013). Specifically, individuals are more likely to engage in behaviours when they believe that they will lead to successful outcomes.

Bandura (1986) identified four informational sources that enable individuals to make judgments concerning self-efficacy: mastery experiences, vicarious experiences, social persuasion and somatic and emotional arousal. Mastery experiences (actually performing or practicing a behaviour) have been described as the most influential source of self-efficacy (Bandura, 1977, 1986). Although mastery experiences are important for strengthening self-efficacy beliefs, there is a lack of evidence showing that performance accomplishment alone generates expected behaviour change. In fact, Bandura (1995) claimed that many factors influence the establishment of self-efficacy beliefs, including an individual’s perceptions of ability, the difficulty and importance of the task at hand, required effort, support, and circumstances, as well as previous successes and failures. Thus, self-efficacy expectations are influenced by other informational sources including vicarious experience, social persuasion and somatic and emotional arousal.

Vicarious experience is a secondary informational source that occurs when an individual observes another similar person successfully performing a behaviour (Bandura, 1997). The third information source that influences the establishment of self-efficacy beliefs is social persuasion, which includes verbal persuasion. Verbal persuasion refers to the act of telling
an individual that they have the capabilities to master a specific behaviour (Bandura, 1997). Finally, somatic and emotional arousal also provide physiological feedback to the individual as they make judgements about their self-efficacy (Bandura, 1986). This fourth informational source may manifest as pain or anxiety, which in turn may hinder an individual from performing a behaviour. Clinically, interventions to alter the interpretation of physiological feedback and assist with coping have enhanced self-efficacy and improved performance (Pretzer-Aboff et al., 2009).

The relationship between self-efficacy and employee performance has been established in the research literature (Paglis, 2010). For instance, Alessandri et al. (2015) found that general self-efficacy was a significant factor influencing employee job performance. Employee self-efficacy has also been linked to employee motivation and personal goal setting behaviours across numerous studies (Cherian and Jacob, 2013). Among nurses, self-efficacy has been linked to increased initiative and effort at work (Salanova et al., 2011). Overall, these findings show that self-efficacy is an important personal factor that positively influences employee behaviour.

**Leadership self-efficacy.** In the context of leadership development, Bandura (1997) stated that efficacy is a critical mechanism through which other types of efficacy operate. Efficacy beliefs

 [...] affect whether individuals think in self-enhancing or self-debilitating ways, how well they motivate themselves and persevere in the face of difficulties, the quality of their well-being and their vulnerability to stress and depression, and the choices they make at important decision points (Bandura and Locke, 2003, p. 87).

According to Lester et al. (2011), self-efficacy is important for motivating leader effectiveness and influencing the individual’s selection of future leadership experiences and challenges.

Rooted in Bandura’s (1977) theory of self-efficacy, leadership self-efficacy is a specific form of self-efficacy, defined as the individual’s assessment of their knowledge, skills and abilities needed to lead others effectively (Hannah et al., 2008; Kane, 1999; Paglis, 2010). Empirically, leadership self-efficacy has been positively linked to leadership performance. For example, Chemers et al. (2000) examined the effect of leadership self-efficacy on the assessment of military cadet leaders. In the first part of the study, the leadership potential of the military cadet leaders was rated by their military professors. Findings revealed that leadership self-efficacy was associated with ratings of leadership potential. In the second part of the study, leadership self-efficacy was related to performance assessments during simulated experiences, and to ratings of leadership ability by peers and leaders. Ng et al. (2008) also found that leadership self-efficacy predicted leadership performance among military personnel in Singapore and that leadership self-efficacy was significantly related to leadership experience. In a recent study, Seibert et al. (2017) also linked employee leadership self-efficacy to leadership effectiveness and promotability.

Given the links between leadership self-efficacy and leadership performance, we proposed that nurses who evaluate their leadership abilities positively would be more likely to pursue opportunities to lead others, whereas nurses with negative leadership self-evaluations would be more likely to avoid such opportunities. Leaders with high leadership self-efficacy focus their attention and manage complex situations in the work environment. They perceive themselves as influential in their organizations and thus engage in activities to bring about change (Pearlmutter, 1998). It seems reasonable that nurses who believe they
are able to influence change in the work environment and achieve organizational goals (i.e. those with high leadership self-efficacy) would be more likely to feel confident in their ability to successfully take on a leadership role, thus increasing their desire to become a nurse leader.

Based on Bandura’s (1997) work, Hannah et al. (2008) argue that in addition to mastery experiences, leadership self-efficacy may be developed through vicarious learning, social persuasion, positive feedback and through psychological, physiological and emotional arousal. This aligns with findings from a systematic review of the nursing literature by Cummings et al. (2008) who concluded that nursing leadership can be developed through activities that include education, role modelling and practicing leadership competencies. Applied to the acute care environment, mastery experiences may occur as staff nurses successfully complete specific educational experiences that result in the development of leadership skills, or by assuming a temporary management role (Cummings et al., 2008, Bondas, 2006). Vicarious learning may transpire as the staff nurse observes a high performing nurse manager interacting with staff, facilitating complex problem-solving, or leading a change initiative (Cummings et al., 2008). Here, the staff nurse identifies with the high performing nurse manager who serves as an attractive role model and exemplar for staff nurse leadership development plans (Ibarra, 1999). The high performing nurse manager becomes the staff nurse’s “possible self”; a leader that can be emulated to achieve similar performance (Lord and Brown, 2004). Lester et al. (2011) claimed that competent and relevant role models play an invaluable role in developing leadership self-efficacy in observers by preparing the new leader for future leadership situations. Verbal persuasion through encouragement by nurse leaders and mentors may enhance staff nurses’ confidence to develop leadership skills and reach their leadership potential (Allen, 1998; Lester et al., 2011; Bulmer, 2013). Similarly, formal and informal feedback from a nurse leader or mentor regarding performance of leadership skills and competencies may enable the learner to regulate anxiety that may accompany performance of a new leadership behaviour or competency (Lester et al., 2011). Further, Mellor et al. (2006) found that encouragement and social persuasion from senior leaders was associated with junior leaders’ leadership self-efficacy.

The role of mentorship and its relationship to the development of leadership self-efficacy has received minimal attention in the research literature. In a longitudinal, experimental research study conducted in the US Military Academy, Lester et al. (2011) examined the effects of a mentoring relationship on leadership development. These researchers found that a mentorship training program had a positive impact on the development of leadership self-efficacy when compared to a formalized leadership development program only. In a recent study, Seibert et al. (2017) found that formal leadership development programs, developmental supervision and developmental job challenges were significantly associated with retail managers’ leadership self-efficacy, leading to greater leadership effectiveness. Further, these researchers suggested that a mixture of leadership developmental experiences may have incremental and complementary effects. Surprisingly, in this study, the size of their mentoring network and amount of mentoring support they received were not significantly related to leadership self-efficacy. These findings align with Bandura’s (1997) earlier claims that prior success alone does not increase self-efficacy. Development is affected by how an individual understands success and the circumstances surrounding their performance (Lester et al., 2011).

In this study, we examined the impact of four leadership development experiences on staff nurses’ leadership self-efficacy:
Assignment of a project that enabled the development of new skills (mastery);
(2) opportunity to take on a temporary management role (mastery);
(3) encouragement by managers to pursue leadership positions (verbal persuasion);
and
(4) informal mentoring (verbal persuasion and vicarious learning).

Research has demonstrated that developmental leadership opportunities and supervision are important factors influencing employees' confidence in their leadership skills (Fernandez et al., 2015; Seibert et al., 2017). In nursing work environments, nurse managers are optimally placed to act as coaches and advisors, supporting and encouraging nursing staff to lead and providing them with developmental experiences to foster their leadership abilities. Understanding how these leadership development opportunities impact staff nurse leadership self-efficacy will inform future educational programming for those staff nurses who are motivated to lead and pursue a nursing management career.

Motivation to lead
Chan and Drasgow (2001) defined motivation to lead as an individual's desire “[…] to assume leadership training, roles, and responsibilities that affect his or her intensity of effort at leading and persistence as a leader”. Built on Lord and Hall’s (1992, p. 153) earlier claims that “the prediction of leadership is likely to be a multivariate problem” rather than simple bivariate correlations, Chan and Drasgow (2001) posited that personality, values, previous leadership experiences and leadership self-efficacy are antecedents of an individual's motivation to lead. In turn, motivation to lead influences an individual’s involvement in leadership roles and activities, enabling the individual to develop the social skills and knowledge required for leading and further enhancing leadership self-efficacy and motivation to lead. An important assumption of Chan and Drasgow’s theory is that leadership skills are learned and motivation to lead can change over time. In this study, we examined the relationships between staff nurses’ prior leadership experiences, leadership self-efficacy, motivation to lead and career aspirations. Based on Chan and Drasgow’s (2001) work, it seems logical to predict that staff nurse involvement in leadership development opportunities will positively influence their leadership self-efficacy and motivation to lead, which in turn will positively influence their career aspirations.

Career aspirations
Nurse Managers play a critical role in unit operations, patient safety and staff retention (Wong et al., 2010). Yet, few studies have been conducted to determine the factors that attract staff nurses to this important role. Recent studies have shown that aspirations to take on leadership roles remain low among nurses working in staff nurse positions. For example, Bulmer (2013) found that only 14.2 per cent of nurses in their study were interested in pursuing a leadership position in their career. In a recent dissertation study, Baker (2015) found that women in health-care leadership positions perceived challenges related to balancing their career with family caregiving responsibilities, as well as confidence in their leadership abilities. Thus, while not the only factor, leadership self-efficacy is likely to play an important role in determining nurses’ aspirations to pursue leadership roles.

In this study, we examined the relationships among leadership self-efficacy, motivation to lead and career aspirations. We argue that staff nurses with high levels of...
leadership self-efficacy will be more confident in their ability to assume a nursing leadership role, increasing their motivation to lead others and their desire to take on a formal leadership role. Based on Chan and Drasgow’s (2001) work, staff nurses who are highly motivated to lead will also be more interested in pursuing a nursing leadership role in the future. The relationships among variables, including direct and indirect effects, are depicted in Figure 1.

Methods

Study design and data collection procedures

In this study, a subsample of the data from the New Leader Study was analysed (Spence Laschinger et al., 2013). Papers that have been published from this study have focused on nurses’ aspirations to take on leadership roles (Wong et al., 2013, 2014) and the role of leadership and empowering working conditions on incivility (Laschinger et al., 2014). This paper is distinct from these other publications because we examined nurses’ sources of leadership self-efficacy and the influence on motivation to lead and career aspirations among a subsample of nurses who had experienced informal mentoring. The original study was a cross-sectional survey of Registered Nurses from across Canada conducted using the procedures recommended by Dillman et al. (2009). Data were collected from September to December 2010. More recent national data about nurses’ career aspirations is not currently available. A stratified random sample of 400 nurses from each of nine of the ten provinces was obtained from the provincial nursing regulatory bodies for a total possible sample of 3,600. Participants were mailed a letter of information, study questionnaire, and a $2 coffee voucher as a token of appreciation for their time. Four weeks later, a reminder letter was sent to those who had not responded. Four weeks after that an identical replacement questionnaire was mailed to non-responders to encourage participation. In response, 1,269 surveys were returned (35 per cent response rate). Of these, 145 were not working in acute care staff nurse positions and 397 did not report having a mentor which was a key variable tested in the model, resulting in a final sample of 727.

Participants

As shown in Table 1, our final sample had representation from all nine provinces involved in the study with the most respondents from Newfoundland (n = 110) and Alberta (n = 100) and the least from New Brunswick (n = 49). On average, participants were 40.72 years old
with 16.12 years of nursing work experience. Approximately half of the sample had a bachelor’s degree in nursing (54.9 per cent), while 42.2 per cent had a college diploma, and a small percentage (2.9 per cent) held master’s degrees. Most worked full-time (63 per cent) or part-time (30.8 per cent) on medical or surgical units (56.3 per cent), while 26.5 per cent worked in critical care, 13.5 per cent worked in maternal/child specialty areas and 3.7 per cent worked in mental health settings.

**Study instruments**

Where possible, valid and reliable instruments were used to measure each of the study variables. A summary is provided in Table II including reliability estimates from the current analysis. To examine the impact of leadership opportunities and mentoring experiences, we examined participant responses to the following questions: “I have often been assigned projects that have enabled me to develop and strengthen new skills” (Skill Development Opportunities); “I have had an opportunity to take on a temporary management role to replace an existing position (e.g. manager on leave)” (Temporary Management Roles); “My managers have often encouraged me to pursue leadership experiences in the organization” (Encouragement to Lead); and “Please rate the impact of informal mentoring on your career

<table>
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<tr>
<th>Demographic variable</th>
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<tbody>
<tr>
<td>Age</td>
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<tr>
<td>Years of experience as RN</td>
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<td>11.64</td>
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**Gender**

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<tr>
<td>Female</td>
<td>670</td>
<td>92.2</td>
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<td>Male</td>
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<td>7.8</td>
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**Highest degree received**

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<tr>
<td>MScN</td>
<td>21</td>
<td>2.9</td>
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<tr>
<td>College diploma</td>
<td>307</td>
<td>42.2</td>
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**Employment status**

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<tr>
<td>Full time</td>
<td>450</td>
<td>63.0</td>
</tr>
<tr>
<td>Part time</td>
<td>220</td>
<td>30.8</td>
</tr>
<tr>
<td>Casual</td>
<td>44</td>
<td>6.2</td>
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**Unit specialty**

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<th>Specialty</th>
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<tbody>
<tr>
<td>Medical-surgical</td>
<td>409</td>
<td>56.3</td>
</tr>
<tr>
<td>Critical care</td>
<td>193</td>
<td>26.5</td>
</tr>
<tr>
<td>Maternal-child</td>
<td>98</td>
<td>13.5</td>
</tr>
<tr>
<td>Mental health</td>
<td>27</td>
<td>3.7</td>
</tr>
</tbody>
</table>

**Province**

<table>
<thead>
<tr>
<th>Province</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alberta</td>
<td>100</td>
<td>13.8</td>
</tr>
<tr>
<td>British Columbia</td>
<td>7.4</td>
<td>10.2</td>
</tr>
<tr>
<td>Manitoba</td>
<td>87</td>
<td>12.0</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>49</td>
<td>6.7</td>
</tr>
<tr>
<td>Newfoundland</td>
<td>110</td>
<td>15.1</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>95</td>
<td>13.1</td>
</tr>
<tr>
<td>Ontario</td>
<td>70</td>
<td>9.6</td>
</tr>
<tr>
<td>Quebec</td>
<td>58</td>
<td>8.0</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>84</td>
<td>11.6</td>
</tr>
</tbody>
</table>

**Table I.**

Demographic variables (n = 727)

Nurses’ leadership self-efficacy
Responses were rated using Likert Scales. A seven-point scale was used for the first three items (Strongly Disagree = 1 to Strongly Agree = 7), and a four-point scale for the fourth item (Low = 1 to High = 4).

**Statistical analysis**

Descriptive statistics were analyzed using SPSS (version 23, IBM, 2015). Structural equation modelling with maximum likelihood estimation using Mplus software (version 7.2, Muthen and Muthen, 1998/2015) was used to test the hypothesized model. Less than 2 per cent of all values were missing and data were found to be missing completely at random (Little’s MCAR test: $\chi^2 = 571.540, df = 573, p = 0.509$). Missing values were left in the data set and handled using full information maximum likelihood estimation (Schafer and Graham, 2002) in Mplus (version 7.2, Muthen and Muthen, 1998/2015).

**Results**

Descriptive results (Table III) showed that on average, staff nurses felt that they had some opportunity to develop leadership skills (4.52 of 7), but few had opportunities to take on temporary management roles (2.46 of 7). Informal mentoring was moderate (3.97 of 7) and encouragement to lead was low (3.24 of 7). On average, nurses in our sample rated their self-efficacy moderately at 3.83 of 5, while motivation to lead was lower (3.32 of 5). Career aspirations to take on leadership roles were moderate (2.27 of 4).

Correlations between study variables were all significant with the exception of the correlation between temporary management roles and informal mentoring. Particularly noteworthy were the high correlations between skill development opportunities and encouragement to lead (0.51), leadership self-efficacy and motivation to lead (0.68) and career aspirations (0.53), and motivation to lead and career aspirations (0.58).
Structural equation modelling results showed that the hypothesized model was a good fit for the data: \( \chi^2 (312) = 949.393; \ CFI = 0.927; \ TLI = 0.919; \ RMSEA = 0.053 (0.049-0.057); \) and SRMR 0.044. Most hypothesized paths between study variables were significant, demonstrating support for the theoretical relationships proposed in the model. Skill development opportunities (\( \beta = 0.20 \)), temporary management roles (\( \beta = 0.12 \)) and informal mentoring (\( \beta = 0.11 \)) were all significantly related to staff nurses’ leadership self-efficacy, which, in turn, had a significant positive effect on motivation to lead (\( \beta = 0.77 \)) and career aspirations (\( \beta = 0.23 \)). Motivation to lead also had a significant direct effect on career aspirations (\( \beta = 0.50 \)). The path between encouragement to lead and leadership self-efficacy was not significant (\( \beta = 0.08 \)). Finally, an indirect effect of leadership self-efficacy on career aspirations through motivation to lead was also observed (Figure 2).

**Discussion**

Our findings showed support for the hypothesized model testing a modification of Bandura’s self-efficacy theory specific to nurses’ leadership self-efficacy. The findings also supported Chan and Drasgow (2001) claim that leadership self-efficacy is an antecedent to motivation to lead. Consistent with Bandura’s theory, the results suggest that staff nurses’ leadership self-efficacy can be influenced by providing nurses with leadership development opportunities.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Skill development opportunities</td>
<td>4.52</td>
<td>1.88</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>2. Temporary management roles</td>
<td>2.46</td>
<td>2.07</td>
<td>0.29</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>3. Encouragement to lead</td>
<td>3.24</td>
<td>2.08</td>
<td>0.51</td>
<td>0.40</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
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<tr>
<td>4. Informal mentoring</td>
<td>3.97</td>
<td>1.11</td>
<td>0.20</td>
<td>NS</td>
<td>0.12</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>5. Leadership self-efficacy</td>
<td>3.83</td>
<td>0.73</td>
<td>0.28</td>
<td>0.19</td>
<td>0.22</td>
<td>0.16</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>6. Motivation to lead</td>
<td>3.22</td>
<td>0.76</td>
<td>0.22</td>
<td>0.16</td>
<td>0.22</td>
<td>0.07</td>
<td>0.68</td>
<td>–</td>
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<tr>
<td>7. Career aspirations</td>
<td>2.27</td>
<td>0.90</td>
<td>0.22</td>
<td>0.08</td>
<td>0.20</td>
<td>0.10</td>
<td>0.53</td>
<td>0.58</td>
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Notes: NS = Not significant; \( p < 0.05 \)

Table III. Means, standard deviations and Pearson’s \( r \) correlations for main study variables

![Figure 2. Final model](image)
opportunities. The results confirm Bandura’s assertion that practical experiences promote mastery and have an important influence on the development of leadership self-efficacy. In alignment with Seibert et al. (2017) findings, we found that leadership development opportunities that involved the opportunity to assume a temporary management role or take on a project that involved the development of new skills were significantly related to staff nurses’ leadership self-efficacy. Informal mentoring also significantly influenced the development of leadership self-efficacy, indicating that other informational sources, such as vicarious learning and verbal persuasion from leadership mentors are important factors for developing staff nurses’ confidence in their leadership abilities. In turn, these leadership development experiences resulted in greater motivation to lead and positively influenced staff nurses’ aspirations to take on leadership roles in their careers.

Staff nurses in this study reported they were exposed to some opportunities to develop leadership skills, while few had been offered the opportunity to assume a temporary management role (Table III). Given the important role that these leadership development experiences play in the development of leadership self-efficacy and resulting impact on motivation to lead and career aspirations, it is critical that organizations review their succession planning programs and incorporate practical leadership development experiences (Thompson, 2008; Titzer et al., 2013; Seibert et al., 2017). Change agent projects that require staff collaboration and participatory decision-making have been identified in the literature as pivotal to nursing leadership development (Allen, 1998). MacPhee and Bouthillette (2008) described a nursing leadership development program in Canada that consisted of a four-day residential program and a year-long leadership project. Projects provided opportunities for the incumbent to work with an organizational mentor to gain knowledge of their organization at a systems level while developing their leadership skills. Examples of projects included addressing human resources and healthy work environment issues such as self-scheduling practices and the recruitment and retention of new graduate nurses, the implementation of a care delivery model and introduction of new technology (MacPhee and Bouthillette, 2008). Similarly, Fernandez et al. (2015) also showed that a leadership development program for maternal/child public health professionals comprised a 13-day leadership retreat plus tailored distance learning for two hours/week over the following year resulted in significant improvements in participants’ confidence in their leadership skills. Future research to determine the optimal mix of practical experiences that enhance staff nurse leadership self-efficacy will inform nursing leadership development programs (Seibert et al., 2017).

Health-care organizations have implemented other creative strategies that provide leadership development opportunities. In an examination of nurse manager stress and coping, Shirey et al. (2010) reported enhanced coping in those participants who worked as a co-manager and recommended that additional research be conducted to examine this role. The co-manager structure may provide a practical and supportive solution for staff nurses who transition to the nurse manager role. Working regularly with an experienced senior co-manager, staff nurse leadership development activities may be influenced through role modelling and a mentoring relationship (Ibarra, 1999). In addition to creating a nursing leadership pipeline for the organization by preparing future leaders to take on management roles, financial benefits may also be realized using this type of strategy. Wendler et al. (2009) reported that when an internal nursing leader is hired, development costs are recouped within one year and costs associated with external hiring are reduced.

Participants in this study reported a moderate level of informal mentoring related to their career progress (Table III); yet, the relationship between informal mentoring and leadership self-efficacy was significant. The significant relationship between informal mentoring and
leadership self-efficacy supports Lester et al.’s (2011) study findings that demonstrated the positive impact of a mentoring program on leadership self-efficacy. Collectively, these findings underscore the necessity and importance of organizational mentorship programs to facilitate staff nurse career planning. The importance of the mentoring relationship on leadership development has been emphasized in the nursing literature. Educational opportunities and informal mentorship at the unit level have been highlighted as ways to increase nursing leadership development (Cummings et al., 2008; Dignam et al., 2012; Thompson, 2008; Titzer et al., 2013). The mentoring relationship provides a nurturing learning environment whereby the future leader receives organizational knowledge and comprehensive feedback on their performance (Lester et al., 2011; Swearingen, 2011; Titzer et al., 2013). Guillen et al. (2015) confirmed the importance of role models, who act as “behavioural scripts” and increase confidence to succeed as a leader.

Encouragement to lead by managers was reported as low in this study and was not significantly related to leadership self-efficacy. However, we recommend that further research is conducted to explore this relationship. It is conceivable that the score was low because participants have limited exposure to their manager to discuss career and succession planning. Nurse managers face heavy workloads and increasing responsibilities, limiting the time and energy available to interact with employees under their supervision. Shirey et al. (2010) purported that organizations require a comprehensive strategy to support nurse managers. Recommended strategies included an examination of the nurse manager role, determination of an appropriate span of control and organizational support structures. Nurse managers who are supported at the organizational level will be more autonomous and empowered to fulfil all aspects of their roles such as conducting staff performance reviews and career planning, mentoring staff to lead projects, and through role modelling leadership competencies during daily huddles and staff meetings (ACN, 2015).

The significant relationships between leadership self-efficacy, motivation to lead and career aspirations underscore the importance of identifying staff nurses with high leadership self-efficacy scores early in their careers (Paglis, 2010). Assessment of external candidates could occur during the hiring phase or as staff nurses change positions in the organization. Staff nurses with high leadership self-efficacy scores who express interest in a career as a nurse leader may participate in a targeted succession plan that incorporates practical nursing leadership development activities (Titzer et al., 2013). Future research is required to determine the effectiveness of this strategy. In addition, the high correlations between skill development opportunities and encouragement to lead warrants further exploration.

**Implications for management**

The creation of nursing leader pipelines within organizations are essential to address nursing leadership shortages. Consistent with Bandura’s theory of self-efficacy, our findings suggest that providing staff nurses with leadership experiences such as opportunities to develop leadership skills, take on temporary leadership roles and providing informal mentoring relationships, are important ways that nurse leaders affect staff nurse leadership self-efficacy and, ultimately, their motivation and aspirations to become health-care leaders. Nurse leaders are well positioned to identify staff nurses who are interested in leadership development opportunities, in daily practice and through formal assessment of leadership self-efficacy during hiring and performance review processes. Nurse leaders and organizations should consider including these practical strategies in leadership development, talent management and succession planning programs. Additional organizational strategies that may be considered include the integration of succession and
talent management as part of the organization’s strategic planning processes, assignment of required resources and an organizational assessment to determine future needs and required skills (Carriere et al., 2009). Given the extent and impact of a nursing leadership shortage, future research is warranted to understand how and when leadership self-efficacy assessment tools to identify nurses with leadership potential should be used, and which leadership development experiences are most effective, individually or in combination. At the policy and governmental levels, strategies to support and enhance the image of the nurse leader may attract staff nurses to this most important role.

Limitations
The main limitation of the current study is that it was cross-sectional; therefore, the causal nature of the hypothesized relationships remains tentative. Our findings provide initial support for future longitudinal studies to further test these relationships. In addition, the data were collected in 2010 which may limit the generalizability of the findings to the present time. However, the most recent Canadian nursing workforce statistics show that overall, there were few demographic changes in the nursing workforce between 2010 and 2015 (CIHI, 2016), suggesting that the results are still relevant. Longitudinal research examining nurses’ leadership self-efficacy and career aspirations throughout their career is still encouraged.

Conclusions
This research study makes an important contribution to the nursing literature. Nurses’ leadership self-efficacy appears to be an important determinant of their motivation to lead and desire to pursue a career as a nurse leader. The findings support Bandura’s self-efficacy theory and suggest that mastery experiences through practical leadership development opportunities, together with a mentoring relationship are practical ways to influence staff nurses’ leadership self-efficacy and ultimately their decision to pursue further leadership opportunities. Early identification of staff nurses with leadership potential and targeted succession planning may assist organizations to develop a nursing leader pipeline and mitigate a nursing leadership shortage.

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