THE EFFECT OF MENTORING ON LEADERSHIP SELF-EFFICACY IN NURSES

by

Margaret Blastorah

A thesis submitted in conformity with the requirements

for the degree of Doctor of Philosophy

Graduate Department of Nursing Science

Lawrence S. Bloomberg Faculty of Nursing, University of Toronto

© Copyright by Margaret Blastorah 2009
ABSTRACT

The Effect of Mentoring on Leadership Self-Efficacy in Nurses

Margaret Blastorah,

Graduate Department of Nursing Science, Lawrence S. Bloomberg Faculty of Nursing,

University of Toronto

PhD 2009

The literature suggests that mentoring is an important factor in the development of nurse leaders. Preliminary evidence suggests that self-efficacy may provide the conceptual link between receipt of mentoring functions and leadership performance.

The purpose of this study was to contribute to the scientific knowledge base that informs nursing administration by examining the contribution of mentoring to development of leadership self-efficacy (LSE) among nurses. The conceptual framework that guided the study integrated theoretical perspectives from mentoring, leadership, and self-efficacy theories. A prospective, repeated measures design was used. One hundred Registered Nurses completed measures of LSE at the beginning and conclusion of leadership training and three months following training, and mentoring just prior to the final LSE measurement.

Hierarchical regression analysis was used to assess the effect of mentoring on self-efficacy for each of five leadership practices. The change in LSE levels over the course of the leadership training intervention was included as a control for the effect of training. Participant administrative experience and professional education were included as controls.

Study results did not support the proposition that protégé exposure to career and psychosocial mentoring would lead to higher levels of LSE. Mentorship did not predict self-efficacy for any of the leadership practices. The impact of participants’ mentoring experiences
prior to the study, low statistical power due to a small sample size, homogeneity of respondents with respect to their mentorship experiences, and the possibility of a ceiling effect for LSE are possible explanations for these results. Results did suggest that mentored nurses were able to enhance their LSE during leadership training, and to sustain this increase upon return to their home organizations.

Findings also provided insight into the prevalence of mentoring among nurses who are actively pursuing leadership development. Nearly two-thirds of the respondents were mentored during the study period, and these nurses reported that their mentoring relationships were active and positive.

Mentoring continues to be advanced as an important contributor to leadership development among nurses. This study reinforces the need for further exploration of this relationship to inform and guide developmental interventions and allocation of resources.
ACKNOWLEDGEMENTS

No one completes an undertaking such as this without the support and assistance of many individuals. First and foremost, I would like to acknowledge and thank my supervisor, Dr. Linda McGillis Hall. Linda’s wise counsel through every phase of this endeavour, her careful review and critique of numerous versions of my thesis, and her belief in my abilities even when I was doubtful, have been fundamental to my success. I would also like to thank the members of my thesis committee. I am grateful to Dr. Souraya Sidani for her expert guidance in the study design and data analysis, and for her generosity in sharing her time and ideas with me. I also wish to thank Dr. Diane Doran for sharing her expertise and insights, and for enabling me to understand the implications of this research in the Ontario health care context. I am also grateful to my external examiners Dr. Dorothy Pringle and Dr. Donna McNeese-Smith for their thoughtful review of my thesis, and stimulating and challenging critique.

I would like to thank my study participants, the 100 nurses who completed questionnaires over four points in time, for their generous contribution of time and effort to the study of mentorship in nursing. I am especially grateful to Beverley Simpson, Judith Skelton-Green, Julia Scott and Sue Munro at the Dorothy Wylie Nursing Leadership Institute for their assistance and support with data collection.

Special thanks go to my fellow doctoral students at the Lawrence S. Bloomberg Faculty of Nursing. Your friendship and good humour turned achievements into celebrations and made the difficult moments bearable. I have learned so much from each of you about research, nursing, and colleagueship.

Finally, I must express my gratitude and love to my family. My children Marion and Anthony somehow managed to grow into intelligent, ethical, and compassionate young adults
while communicating in many ways their support for my scholarly pursuits. Lastly, my most heartfelt thanks goes to my husband Michael. Without your unwavering support, patience, understanding and wit I would not have had the courage or capacity to begin this journey, let alone complete it.

I am also grateful to the Nursing Leadership Network of Ontario for providing financial support through the Dorothy Wylie Nursing Fellowship.
TABLE OF CONTENTS

CHAPTER

INTRODUCTION AND PROBLEM STATEMENT ............................................ 1

1. 
Problem Statement .................................................................................. 5
Purpose of the Study ................................................................................. 6
Research Questions .................................................................................... 6

2. REVIEW OF THE LITERATURE .............................................................. 8

Review of Mentoring Literature ............................................................... 8
Definitions and Descriptions of Mentoring .............................................. 8
Mentoring as a Process of Adult Development ...................................... 9
Mentoring as a Career Advancement Tool ............................................ 12
Mentoring as an Educational Process .................................................. 15
Nursing Conceptualizations of Mentoring ........................................... 17

Mentoring Functions ................................................................................ 20

The Mentoring Relationship ................................................................. 23
Phases of the Mentoring Relationship .................................................. 23
Formal and Informal Mentoring Relationships ..................................... 25
Relative Positions of Mentor and Protégé ............................................. 29
Singularity ................................................................................................. 30

Protégé Outcomes of Mentoring ............................................................ 33
Objective Outcomes of Mentoring for Protégés .................................... 33
Subjective Outcome of Mentoring for Protégés ...................................... 35

Summary of Research on Protégé Outcomes of Mentoring ..................... 37

Leadership Self-efficacy ......................................................................... 38
Leadership Self-efficacy, Mentoring, and Leadership Training .............. 39
Self-efficacy and Leadership Performance ........................................... 42
Mentoring, Leadership Training, and Leadership Practices in Nursing .......... 44

Limitations of Mentoring Research ....................................................... 48

Summary of Mentorship, Leadership Training, and Leadership Self-efficacy Literature .................................................................................. 51

3. CONCEPTUAL FRAMEWORK .............................................................. 56
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentoring Functions</td>
<td>56</td>
</tr>
<tr>
<td>Leadership Self-efficacy</td>
<td>62</td>
</tr>
<tr>
<td>Mentoring Functions and Leadership Self-efficacy</td>
<td>67</td>
</tr>
<tr>
<td>Career Mentoring Functions and Leadership Self-efficacy</td>
<td>67</td>
</tr>
<tr>
<td>Psychosocial Mentoring Functions and Leadership Self-efficacy</td>
<td>70</td>
</tr>
<tr>
<td>Leadership Training, Professional Education, Administrative Experience, and Leadership Self-efficacy</td>
<td>73</td>
</tr>
<tr>
<td>4 RESEARCH DESIGN AND METHODOLOGY</td>
<td>75</td>
</tr>
<tr>
<td>Research Design</td>
<td>75</td>
</tr>
<tr>
<td>Setting and Sample</td>
<td>76</td>
</tr>
<tr>
<td>Inclusion/Exclusion Criteria</td>
<td>79</td>
</tr>
<tr>
<td>Estimated Sample Size</td>
<td>80</td>
</tr>
<tr>
<td>Measures</td>
<td>80</td>
</tr>
<tr>
<td>Mentoring Functions</td>
<td>80</td>
</tr>
<tr>
<td>Leadership Self-efficacy</td>
<td>83</td>
</tr>
<tr>
<td>Characteristics of Participants</td>
<td>87</td>
</tr>
<tr>
<td>Confounding Variables</td>
<td>87</td>
</tr>
<tr>
<td>Ethical Considerations and Safeguards</td>
<td>88</td>
</tr>
<tr>
<td>Pilot Study</td>
<td>90</td>
</tr>
<tr>
<td>Data Collection Procedures</td>
<td>91</td>
</tr>
<tr>
<td>Time 1 Data Collection</td>
<td>91</td>
</tr>
<tr>
<td>Time 2 Data Collection</td>
<td>92</td>
</tr>
<tr>
<td>Time 3 Data Collection</td>
<td>92</td>
</tr>
<tr>
<td>Time 4 Data Collection</td>
<td>93</td>
</tr>
<tr>
<td>Data Preparation and Management</td>
<td>94</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>95</td>
</tr>
<tr>
<td>5. RESULTS</td>
<td>97</td>
</tr>
<tr>
<td>Pilot Study</td>
<td>97</td>
</tr>
<tr>
<td>Response and Attrition Rates</td>
<td>98</td>
</tr>
<tr>
<td>Description of the Sample</td>
<td>100</td>
</tr>
<tr>
<td>Reliability of Measures</td>
<td>106</td>
</tr>
<tr>
<td>Leadership Self-efficacy</td>
<td>108</td>
</tr>
<tr>
<td>Comparability of Institute Groups</td>
<td>110</td>
</tr>
</tbody>
</table>
LIST OF APPENDICES

Appendix A. Invitation to Participate in the Pilot Study ........................................... 174
Appendix B. Explanation for Pilot Study Participants (script) .................................. 176
Appendix C. Consent Form for the Pilot Study .......................................................... 178
Appendix D. Participant Background Questionnaire ................................................. 179
Appendix E. Leadership Self-efficacy Questionnaire ................................................. 182
Appendix F. Nurse Mentoring Survey ...................................................................... 183
Appendix G. Invitation to Participate in the Study (script) .......................................... 187
Appendix H. Participant Contact Information Sheet .................................................. 190
Appendix I. Explanatory Letter to Accompany Mentoring Questionnaire ................. 191
Appendix J. Reminder Letter Re. Mailed Questionnaire ............................................ 192
Appendix K. Final Reminder Letter Re. Mailed Questionnaire ................................... 193
Appendix L. Participant Information Update .............................................................. 194
Appendix M. Letter to Accompany Mailed Leadership Self-efficacy Questionnaire (Time 4) .................................................................................................................. 195
Appendix N. Reminder Letter Re. Mailed Leadership Self-efficacy Questionnaire .... 196
Appendix O. Final Reminder Telephone Call (script) ............................................... 197

LIST OF FIGURES

Figure 1. Conceptual Framework Depicting the Relationship Among Mentoring, Leadership Training, Professional Education, Administrative Experience, and Leadership Self-efficacy .................................................. 57

LIST OF TABLES

Table 1 Response and Attrition Rates ................................................................. 99
Table 2 Participant Sex, Education, Registration, and Employment Data ............. 102
Table 3 Participant Age, Tenure in Current and Previous Position, and Years in a Formal Leadership Position .......................................................... 106
Table 4 Cronbach’s Alpha Reliability Coefficients for Leadership Self-efficacy and Mentoring Functions Subscales ......................................................... 107
Table 5 Leadership Self-efficacy Scores .............................................................. 109
Table 6 Analysis of Variance for Leadership Self-efficacy (LSE) Scores at Times 1, 2, and 4 by Institute Attended .......................................................... 111
Table 7 Protégé Relationship with Mentor ............................................................ 113
Table 8 Career and Psychosocial Mentoring Functions Scores and Length of Mentoring Relationship ................................................................. 114
Table 9 Differences in Mentored Participants’ Leadership Self-Efficacy (LSE) Across Time ................................................................. 116
Table 10  Relationship Between Control and Mentoring Variables, and Leadership Self-efficacy (LSE) Following Mentoring Period (Time 4) .......... 119
Table 11  Comparison of Regression Models Predicting Final Leadership Self-efficacy (LSE) Scores ...................................................... 123
Table 12  Comparability of Mentored and Non-mentored Groups on Job and Administrative Experience and Leadership Self-efficacy at Time 1 ...... 129
Table 13  Comparability of Mentored and Non-mentored Groups by Current and Previous Position, Employer, and Education Level .................... 130
Table 14  Comparison of Leadership Self-efficacy Scores at Times 2 and 4 for Mentored and non-mentored Groups .................................... 132
CHAPTER 1: INTRODUCTION AND PROBLEM STATEMENT

Over the past twenty-five years, a growing interest in mentoring as a potentially powerful
process to enhance career success has emerged in nursing (Joel, 1997; Sharkey, 2001; Z.R.Wolf,
1982) and in the business and training literature (Burke, 1984; Catalyst, 1993; Geiger-DuMond & Boyle, 1995; Lanser, 2000; Sherman, 1995). The business literature has emphasized the
career benefits of mentoring such as compensation, promotion, job satisfaction, and career
satisfaction (T.D. Allen, Eby, Poteet, Lentz, & Lima, 2004). The nursing literature reflects a
belief that mentoring offers similar career benefits to nurses (American Organization of Nurse
Executives, 2005; Gordon, 2000; Kinsey, 1990; Taylor, 1992; Washington, Erickson, &
Ditomassi, 2004). However, application of mentoring to a wider range of uses and situations is
also evident in nursing. Mentoring is seen as a process that can benefit student learning
(Andrews & Wallis, 1999; Gray & Smith, 2000; Kilcullen, 2007), professional socialization
(Campbell-Heider, 1986; Joel, 1997; Ryan & Brewer, 1997), and development of clinical
expertise and role competence (Kilty, 2006; Prestholdt, 1990; Richard, 1999; Sharkey, 2001).
Mentoring has also been suggested as an important factor in the development of nurse leaders
(Boyle & Jones, 1990; Davidhizar, 1988; Gordon, 2000; Jeans, 2006; McKey, 2002;
Washington, Erickson, & Ditomassi, 2004; Young, 1991). The current practice of including a
mentoring component in structured nursing leadership development programs (Cunningham &
Kitson, 2000; DeSimone, 1999; Lindstrom & Tracy, 2001; Simpson, Skelton-Green, Scott, &
O’Brien-Pallas, 2002) underscores this belief in the benefits of mentoring for leadership
development in nursing.

There is preliminary empirical support for an association between mentoring and
development of leadership practices in nursing. Studies of nurse leaders show that many attribute
their success in leadership roles, in part, to the actions of influential others (George et al., 2002a; Rawl, 1989; Vance, 1977). The supportive and assistive behaviours provided by others that have been identified by successful nurse leaders as enhancing their ability to perform in leadership roles (Moran et al., 2002; Vance, 1977; 1982) are similar to the functions described in the organizational behaviour literature as characteristic of the mentoring relationship (Kram, 1983; 1985). In addition, many successful leadership training programs have incorporated a mentoring component (Cunningham & Kitson, 2000; George et al.; Tourangeau, Luba, Lemoide, Sidani, & Dakers, 2004).

Further investigation of the relationship between mentoring and leadership development is warranted in light of the significant challenges currently facing the profession and the resulting need for effective leadership in nursing. The hospital restructuring begun in the 1990’s has been accompanied by decreased job satisfaction (Aiken, et al., 2001; Bowen, Lyons, & Young, 2000) and ill health (Shamian, O’Brien-Pallas, Thomson, Alksnis, & Kerr, 2003) among nurses. As a result, continuing shortages of nursing personnel are predicted (Advisory Committee Health Delivery and Human Resources, 2003; Registered Nurses Association of Ontario [RNAO], 2000, 2001), leading to concerns regarding burnout, further job dissatisfaction, and negative patient outcomes (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002). Burke (2003) has referred to the present situation in nursing in Canada as a crisis, and has called on organizational and nursing leaders to work together to “revitalize a battered and bruised nursing staff” (p. 5).

Research has demonstrated the impact of leadership on these nursing outcomes, suggesting a possible response to Burke’s (2003) call. Empirical evidence suggests that the practices of nurse leaders can have a positive impact on nurses’ job satisfaction (Cummings, Hayduk, & Estabrooks, 2005; McNeese-Smith, 1997; Morrison, Jones, & Fuller, 1997;
Upenieks, 2003), emotional and physical well-being (Cummings et al; Laschinger, Wong, McMahon, & Kaufman, 1999), organizational commitment (McNeese-Smith), and ability to provide quality patient care (Cummings et al; Clarke, et al., 2005; Manojlovich, 2005), as well as a positive organizational culture (Casida & Pinto-Zipp, 2008).

The literature also reflects significant challenges for the nursing profession in responding to the need for leadership. These include: the leadership demands inherent in the changing nature and context of nursing work (Corser, 1998; Heath, Johanson, & Blake, 2004; Porter-O’Grady, 2003); the supply of leaders to address the profession’s challenges (Morin & Kirschling, 2004; Nursing Task Force, 1999; Sherman, Eggenberger, Bishop, & Karden, 2007; G. Wolf, Bradle, & Nelson, 2005; Woodring, 2004); the need to develop leadership abilities among nurses (Chompre & Villalobos, 1995; Koivula, & Paunonen-Ilmonen, 2001); determination of the preferred leadership style and behaviours for nurse leaders (Dunham & Fisher, 1990; Dunham & Klafehn, 1990; Dunham-Taylor, 2000; Gaughan, 2001; George, Farrell, & Brukwitzki, 2002b; Murray et al., 1998; Porter-O’Grady, 1997; Sofarelli & Brown, 1998; Upenieks, 2002; Ward, 2002); the appropriate educational preparation for nurse leaders (Bowen et al., 2000; Edwards & Roemer, 1996; Manfredi, 1994; Seivwright, 1988); and specific strategies to support leadership development among nurses (D.W. Allen, 1998; Lindstrom & Tracy, 2001).

It is important to determine the most effective approaches for meeting the nursing profession’s need for leadership. However, while the impact of leadership practices in nursing, and the need to develop the next generation of nursing leaders have been emphasized, there is less clarity regarding the developmental processes necessary to support the profession’s aspiring leaders, and in particular the role that mentoring may play in this development. Advanced education is perceived to be insufficient in providing nurses with the requisite skills to assume
formal leadership roles (Corning, 2002; Edwards & Roemer, 1996). In contrast, studies have found that nurses perceive that mentoring contributes to success in leadership roles (D.W. Allen, 1998; George, et al., 2002a; Harms, 1988; Moran et al., 2002; Rawl, 1989; Vance, 1977). Furthermore, anecdotal reports of interventions that provided opportunities for mentoring within the context of a focused leadership development program suggest that this strategy was effective in promoting leadership practices in nurses (Cunningham & Kitson, 2000; DeSimone, 1999; Logan & Franzan, 2001; Tourangeau, Lemonde, Luba, Dakers, & Alksnins, 2003). However, these studies have not explicitly examined the contribution of mentoring to participant outcomes.

Over a decade ago, a review of the literature on nursing leadership research by Altieri and Elgin (1994) found that there had been little research on the effectiveness of leadership development interventions. The authors advocated for more research on mentorship and networking in leadership development. In particular, Altieri and Elgin emphasized the need for longitudinal studies that could examine the relationship between mentor-protégé relationships and leadership development. To date, these relationships remain largely unexplored.

One possible explanation for the effect of mentoring on leadership development is that mentoring may affect leadership self-efficacy. Popper and Lipshitz (1993) have emphasized that leadership development programs must focus on development of leadership self-efficacy in order to be effective. Furthermore, self-efficacy has been identified as an important factor in fostering leadership practices in nursing (D.W. Allen, 1998; Harms, 1988). Studies have also demonstrated a link between mentoring and development of self-efficacy in professional nursing roles (Fagen & Fagen, 1983; Hayes, 1997; Kilty, 2006). However, the relationship of mentoring to leadership self-efficacy is in the early stages of investigation.
Problem Statement

The nursing profession has identified a need to prepare nurses to perform in leadership roles, and mentoring is frequently promoted as an effective strategy in meeting this need. The mentoring literature demonstrates a relationship between the active investment and involvement of a mentor, and protégé career achievements, including attainment of formal leadership positions. In addition, studies of leadership development in nursing suggest that successful nurse leaders have been the recipients of mentoring, and that they attribute their success in part to the influence and actions of their mentors. Leadership training has also been shown to increase leadership practices, and some leadership training interventions have attempted to incorporate mentoring. However, our understanding of how mentoring affects leadership development within the context of leadership training is limited.

It has been demonstrated that leadership self-efficacy is associated with increased leadership practices, and that leadership training programs that encourage or facilitate mentoring have resulted in increased leadership practices among participants. However the amount of mentoring provided to training participants, and the changes in leadership self-efficacy that program participants undergo, are unknown. The assumed effect of mentoring on leadership self-efficacy, and the incremental contribution of mentoring to leadership self-efficacy when combined with leadership training, remain largely untested.

It is important to investigate these relationships in order to plan, implement, and evaluate nursing leadership development initiatives; to gain organizational support for mentorship; and to ensure that resources targeting the development of nurse leaders are appropriately directed. Explication of the relationship between mentoring and leadership self-efficacy will inform
decisions regarding leadership development interventions for nurses. This relationship was the focus of the present study.

Purpose of the Study

The purpose of this study was to examine the effect of mentoring on nurses’ leadership self-efficacy when provided within the context of a leadership training initiative. The research questions that guided the current study are articulated in the following section.

Research Questions

The purpose of this study was to examine the effect of mentoring on nurses’ leadership self-efficacy. It was identified that leadership training, professional education, and experience in formal leadership roles might also affect leadership self-efficacy. These factors were explicitly conceptualized in the guiding framework and the research questions. The following research questions guided the study:

1. Does exposure to career mentoring functions increase leadership self-efficacy in nurses, beyond that accounted for by leadership training, professional education, and tenure in leadership roles?

2. Does exposure to psychosocial mentoring functions increase leadership self-efficacy in nurses, beyond that accounted for by leadership training, professional education, and tenure in leadership roles?

A detailed review of the literature related to mentoring, leadership self-efficacy, and nursing leadership training initiatives is presented in Chapter 2. This review highlights the current state of knowledge about the outcomes of mentoring and leadership training with respect to leadership self-efficacy, and demonstrates the gap in our understanding of how mentoring,
when provided within the context of a leadership training initiative, can enhance leadership self-efficacy among nurses.
CHAPTER 2: REVIEW OF THE LITERATURE

In this chapter, the theoretical and empirical literature related to conceptualizations of mentoring, mentoring functions, the mentoring relationship, and outcomes of mentoring is reviewed. Following that, empirical literature related to leadership self-efficacy and nursing leadership training initiatives is examined. Finally, literature supporting the relationships among these concepts is reviewed.

Review of Mentoring Literature

Definitions and Descriptions of Mentoring

There are multiple definitions and descriptions of mentoring in the nursing, organizational behaviour, and business literature. While there has been some confusion between mentoring and other developmental relationships such as preceptorship (N. Ritchie & Connolly, 1993; Walsh, Borkowski, & Reuben, 1999), clinical teaching and supervision (Suen & Chow, 2001; Valaquez & Lund, 1993; Woodrow, 1994) and coaching (Heinrich & Scherr, 1994; Lanser, 2000), distinct conceptualizations of mentoring have emerged.

Mentorship has been variously conceptualized as a human developmental relationship (Kram, 1985; Levinson, Darrow, Klein, Levinson, & McKee, 1978), a career-enhancement tool (Hunt & Michael, 1983; Zey, 1984), and an educational strategy (R. Hale, 2000; Mumford, 1995). Common to all of these descriptions is the concept of an assistive relationship between individuals. However, the perspectives differ with respect to the purpose for the mentoring relationship, participants’ reasons or motivation for participation, the criteria that differentiate mentors and protégés, and the factors that characterize the relationship between mentors and protégés. These various conceptualizations of mentoring are now discussed.
Mentoring as a Process of Adult Development

Levinson et al. (1978) identified the mentoring relationship as “one of the most complex, and developmentally important, a man can have in early adulthood” (p. 97). From their descriptive study of 40 men in middle adulthood, defined by the researchers as age 35 to 45 years, they concluded that mentoring is a form of “love relationship” (p. 100) wherein a more experienced senior male, the mentor, supports and facilitates the transition of a younger man from early to middle adulthood. In their study, developing, sustaining, and terminating mentoring relationships emerged as an important developmental task of early adulthood for men. Similarly, acting as a mentor to a younger man was seen as a way of enriching middle adulthood by creating a legacy.

In Levinson et al.’s (1978) study, the mentoring relationship was frequently centred in the work environment, with mentors being in a formal teaching or supervisory role, and typically eight to 15 years older than their protégés. Although they also found mentoring relationships outside of the work setting, between men closer and more distant in age, and varying in intensity and form, these relationships were all characterized by some degree of emotional attachment and a connection to the developmental tasks of early and middle adulthood experienced by the participants.

Building on the work of Levinson et al. (1978), Kram (1985) also conceptualized mentoring as fundamentally a process of adult development. However, she explicitly focused on mentoring in the work setting, and considered mentors and protégés in the context of their organizational relationship. Based on in-depth interviews with 18 management protégés and their mentors in a large public utility in the northeastern United States, Kram concluded that mentoring is an interpersonal relationship in which an older, more experienced organizational
member provides support and guidance to a younger employee as he or she accomplishes developmental tasks associated with learning to function effectively in the adult world of work. In particular, Kram emphasized the reciprocal benefits of mentoring, with both participants addressing work-oriented developmental tasks related to career and personal growth. For protégés, these tasks included development of a sense of work and organizational competence, occupational identity, and perspectives related to work-family balance, while mentors experienced a redefinition of their career perspective and goals, and an outlet for creative energy at work.

Other mentoring models consistent with the human development perspective have also been proposed. Johnson, Geroy, and Griego (1999) developed a model that drew heavily from human development theory and focused on the interpersonal nature of the mentoring relationship. They emphasized the influence of three interactive dimensions or forces on the mentor-protégé relationship: socialization, work and family task development, and lifespan development. Johnson et al. suggested that both the mentor’s and the protégé’s stages of socialization within various groups, skill development related to work and family tasks, and lifespan development influence the way in which the mentor and protégé interact.

In Johnson et al.’s (1999) model, the mentor-protégé relationship was dynamic and evolved based on the unique combination of the socialization, task, and lifespan development needs of the mentor and protégé. The interaction between mentor and protégé resulted in the attainment of skills for adapting to the environment, dealing with work or family tasks, and transitioning through various work and family stages. This model of mentoring extended the focus beyond career and the work environment into aspects of personal life and development as well.
Samier (2000) developed a conceptualization of mentorship based on the origin of the term in Greek mythology. According to Samier, the mentor has three fundamental roles, all of which must be present in order to characterize the relationship as mentoring. These are: a guardian, who provides protection; a guide, who provides advice; and a counselor, providing caring. In turn, mentors affect protégés in political, epistemological, and affective ways, respectively. Politically, the mentor’s significant organizational power and status enables him or her to protect and promote the protégé within the organization. As professional or technical experts, mentors impact protégés’ professional learning, helping them develop a deeper understanding of subtle aspects of the organization or practice field. The affective dimension of the mentoring role involves the mentor’s concern about the personal welfare of the protégé, and responsiveness to the protégé’s emotional needs.

In summary, descriptions of mentoring that emerge from a human development approach emphasize a relationship between individuals at different life stages, who engage in an interpersonal relationship of some intensity that is oriented toward the achievement of personal or professional developmental tasks. Because of the central role of work in the developmental stages of adulthood, mentoring relationships that develop in the work setting and that are directed toward facilitating protégé mastery of the world of work are emphasized in this mentoring literature. However, some models extend the influence of the mentoring relationship into aspects of personal and family life as well. Mentoring models that emerge from the human development paradigm also highlight benefits for the mentor related to transitioning to middle and late career.
Mentoring as a Career Advancement Tool

In contrast to the growth and development focus of the human development perspective, the career advancement perspective has emphasized the instrumental aspect of mentoring in promoting the protégé’s upward mobility in the organization. In particular, this perspective has viewed mentoring as a strategy to overcome barriers to career advancement, such as gender (M. Hale, 1995; Noe, 1988; Ragins & Cotton, 1993; Ragins, Cotton, & Miller, 2000; Shapiro, Haseltine, & Rowe, 1978; Zey, 1984) or sociocultural background (Whiteley, Dougherty, & Dreher, 1991).

Zey (1984) developed a model of mentoring based on his interviews with managers in organizations regarding their experiences with mentoring. He concluded that mentoring is an organizational activity in which a more senior person oversees the career of the protégé, providing teaching, counseling, intervention on the protégé’s behalf, and sponsorship. This provides protégés with a competitive advantage over other qualified individuals, as they strive for upward mobility in the organization. In turn, the protégé assists the mentor to accomplish work and “build his empire” (p. 11). While he acknowledged that personal characteristics may influence the selection of the particular mentor or protégé, Zey was clear that the motivation for entering into a mentoring relationship, for both mentor and protégé, was the achievement of personal career success. Rather than emphasizing a close interpersonal relationship between mentor and protégé, Zey suggested that compatibility of career needs and goals, and the ability to work together to achieve them, characterized mentoring relationships.

Whiteley et al. (1991) also viewed mentoring as a strategy directed toward career advancement, and advocated shorter, less intense, and less inclusive mentoring relationships than those described by Kram (1985) and Levinson et al. (1978). These “secondary mentoring” (p.
relationships are oriented toward external career achievements such as promotions and financial compensation, rather than internal growth and achievement of developmental tasks. Whiteley et al. suggested that secondary mentoring relationships are more likely to benefit protégés’ career advancement because they are more accessible than classical mentoring relationships, and because they allow protégés to obtain career guidance and support from multiple sources. They maintained that workplace trends such as intense competition for jobs and promotions, increasing skill requirements, and technological advances made it necessary for employees seeking career advancement to access a range of developmental relationships, each of which is oriented to a focused aspect of career progress.

Other descriptions of mentoring consistent with the career advancement perspective have acknowledged the emotional intensity of the relationship, while maintaining a focus on career advancement as the goal of mentoring. Shapiro, Haseltine, and Rowe (1978) saw mentors as part of a continuum of advisory persons that they termed the “patron system” (p. 55). Mentors and peer pals were identified as the extremes of this continuum with sponsors and guides as intermediate levels of assistive roles. The degree of emotional intensity of the relationship and the level of power and influence of the patron determined the advisor’s position on the continuum. “Peer pals” (p. 55) were the least influential level of advisors, followed by guides and sponsors. Mentors, by virtue of their power position within the organization, were seen as having the greatest potential to actively promote the career advancement of the protégé. Shapiro et al. described mentoring as an exclusive, emotionally intense, parental relationship. Because of this, they saw mentoring as relatively inaccessible, limiting its effectiveness as a career advancement activity for many professionals.
Eby (1997) advanced a particularly broad interpretation of mentoring as a career advancement tool. She suggested that alternatives to traditional hierarchical mentoring relationships are necessary because of changing organizational structures such as downsizing, flattened management structures, and increased use of teams. However, she extended the interpretation of mentoring relationships to include virtually any provision of work-related advice, information, feedback, or support. Eby proposed a structure for classifying mentoring relationships based on two dimensions: the form of the relationship, whether lateral or hierarchical; and the type of skills developed through the relationship, that is job-related or career-related abilities. Eby defined job-related skills as those that are relevant to the protégé’s organization and that will support the protégé’s advancement within the organization, while career-related skills are those that are transferable to other work settings and support the protégé’s advancement in the broader marketplace.

Review of these career advancement-oriented descriptions of mentoring reveals a conceptualization of mentoring as a strategic relationship that provides protégés with an advantage as they attempt to advance in their careers. Thus, mentors are individuals who are in a position to assist protégés to advance, and mentors and protégés are differentiated by their organizational positions and power, rather than their life stages, as is the case in the human development literature. Complementarity of career needs and goals, rather than interpersonal intimacy, is emphasized. While some career advancement-oriented descriptions of mentoring refer to the intensity of the interpersonal relationship, this is related to the mentor’s commitment to protégé upward mobility, rather than achievement of developmental tasks or interpersonal intimacy.
Mentoring as an Educational Process

A third perspective on the definition of mentoring frames the mentoring relationship as an educational one, with mentors conceptualized as teachers, and protégés as learners. This perspective is especially prominent in mentoring literature and research originating in the United Kingdom.

For example, Gibb and Megginson (1993) found that mentoring programs in the United Kingdom were less focused on career advancement and succession planning than was the case in the United States, in a survey of mentoring programs in 30 organizations. Instead they found that mentoring in the United Kingdom encompassed a variety of roles, all of which were oriented toward protégé learning and development: performance improvement, career development, counseling, and sharing knowledge. Gibb and Megginson also identified two distinct approaches to mentoring programs in UK organizations. “Mainstream” (p. 44) programs used more traditional mentoring approaches, such as involvement of senior organizational members in facilitating the integration of novice employees. However, an alternative approach to mentoring, which they termed “learning support mentoring” (p. 44) was equally common. Learning support mentoring was oriented toward protégé achievement of more specific learning goals, such as professional or vocational qualifications, and employed managers or external tutors for these specialized learning projects. In a subsequent theoretical work, Gibb (1999) conceptualized mentoring as a type of training intervention, and mentoring relationships as “learning partnerships” (p. 1058) established between senior, experienced organizational members, and inexperienced individuals.

Other British authors and researchers have similarly conceptualized mentoring as fundamentally an educational intervention. Mumford (1995; 1998) focused on workplace
learning as an outcome of mentoring. Mumford (1998) advocated matching training and development activities to the nature and context of the learning task, suggesting that mentoring was especially appropriate for developing learner insight into work-related issues and problems. This learning was facilitated when mentors and learners used a learning cycle approach and together reviewed and reflected on workplace experiences and planned future actions (Mumford, 1995). Guided by the work of Mumford on mentoring and the learning process, R. Hale (2000) also examined mentoring from an individual and organizational learning perspective. Hale focused on mentoring as a process to achieve knowledge, skills, and insights for both mentor and protégé, and the impact of mentor and protégé learning styles on the effectiveness of mentoring as a learning intervention.

In summary, educational conceptualizations of mentoring stress development of protégé knowledge and skills. Mentoring is seen as a training strategy that can be employed to support protégé learning, as an alternative or a complement to other training interventions. Thus, expertise differentiates mentors and protégés. Concepts from educational theory, such as the teaching and learning style of mentor and protégé respectively, and congruence between mentoring and the nature of the learning task, are emphasized. In contrast, human development approaches focus on achievement of developmental tasks and the respective developmental stages of the participants, while career advancement approaches address upward mobility and the power differential between mentor and protégé.

Elements of the human development, career advancement, and educational perspectives are evident in nursing conceptualizations of mentoring. This literature is reviewed in the following section.
Nursing Conceptualizations of Mentoring

Research suggests that mentoring exists in nursing, across many career stages and practice domains, including staff nurses (Carey & Campbell, 1994; Ecklund, 1998; Fagen & Fagen, 1983), nurse administrators (Madison, 1994; Rawl, 1989; Vance, 1977), nursing organization presidents (Harms, 1988), and nurse academics (Taylor, 1992).

Conceptualizations of mentorship in nursing reflect elements of each of the three theoretical approaches. The results of two concept analyses, carried out six years apart, suggested that the concept of mentoring is being applied increasingly broadly, to different populations and contexts. Yoder (1990) concluded that mentoring was an interpersonal career development relationship that occurred between two individuals who had personal knowledge of each other, and that was directed toward the role development of the protégé. It incorporated a degree of emotional commitment, persisted over an extended period of time that was typically three to 10 years, and resulted in an increase in self-confidence, technical skills, and organizational savvy for the protégé, and in mentor empowerment. This interpretation of the concept of mentoring drew from both the human development and career advancement perspectives. Yoder viewed mentorship as fundamentally a career development activity that promoted mentor empowerment and protégé development of technical skills and organizational savvy, which is consistent with the career advancement focus (Zey, 1984). However, her emphasis on the interpersonal relationship between mentor and protégé, the duration of the relationship over several years, and protégé professional role development and self-confidence is consistent with the human development perspective (Kram, 1985; Levinson et al., 1978).

A subsequent analysis by Stewart and Kreuger (1996) noted increased application of mentoring in the context of doctoral education in nursing. This was reflected in a shift away from
viewing mentoring solely as a career-oriented intervention, and an increased emphasis on mentoring as a teaching-learning process, the goal of which was learning and socialization of doctoral students as scholars and scientists, and proliferation of a body of professional nursing knowledge. Six defining attributes of mentoring were identified: a teaching-learning process; a reciprocal role; a career development relationship; a knowledge or competence differential between participants; duration of several years; and a resonating phenomenon. Like Yoder (1990), Stewart and Kreuger concluded that mentoring was a dyadic relationship. The attributes of career development, differential expertise, and relationship duration of several years are also similar to Yoder’s conclusions, and consistent with conceptualizations from the business and human development literature. In addition, both Yoder and Stewart and Kreuger acknowledged that mentor and protégé each benefit from the relationship, and that mentors are distinguished from protégés on the basis of expertise, professional status or organizational seniority. However, Stewart and Kreuger identified mentoring as primarily a teaching-learning process. Thus, they emphasized scholarly stimulation and development, creativity, and shared values as the reciprocal benefits of mentoring, and knowledge and competence as the basis for the distinction between mentors and protégés. In addition, Stewart and Kreuger noted that mentoring in nursing was self-perpetuating or “resonating” (p. 315), with former protégés mentoring others.

The addition of a teaching-learning process as an attribute of mentoring is the most notable difference between these two concept analyses and suggests that the concept is evolving in nursing beyond a career-oriented activity, with transmission of knowledge becoming more prominent. This view is consistent with the educational perspective advanced by Gibb and Megginson (1993) and Mumford (1995; 1998) in the British organizational behaviour literature. In Stewart and Kreuger’s (1996) analysis, the teaching-learning attribute of mentoring was
located within academe, with transmission of knowledge as the goal. Transmission of knowledge was related to the development of protégé research competencies, and to development of knowledge within the nursing profession.

Review of the definitions of mentoring in nursing mentorship research also reveals that nursing conceptualizations of the mentoring relationship are similar to those described in the business and organizational behaviour literature. A strong interpersonal relationship is considered a defining characteristic of mentoring in most nursing descriptions (Carey & Campbell, 1994; Fagan & Fagan, 1993; Hayes, 1997; Madison, 1994). Those studies that examined the duration of mentoring relationships reported that these relationships continued over several years. Madison found that over three-quarters of the 367 nurse administrators in her descriptive survey study reported a mentoring relationship of at least two years’ duration, while Rawl (1989) reported that mentoring relationships of 290 nursing education administrators averaged over 8 years in length. This is consistent with descriptions of mentoring emerging from the human development perspective (Kram, 1985; Levinson et al., 1978). However, the contribution of mentoring to career advancement is also emphasized in nursing mentoring research (Carey & Campbell; Rawl; Vance, 1977). Finally, the focus in nursing on transmission of knowledge and expertise (Ecklund, 1998; Stewart & Kreuger, 1996) reflects the educational perspective, which frames mentors and protégés as teachers and learners, respectively.

In summary, the literature suggests that mentoring occurs in nursing, and that there are many similarities between nurses’ experiences of mentoring and those reported in the business and organizational behaviour literature. While human development, career advancement, and educational perspectives are evident in nursing descriptions of mentoring, nursing
conceptualizations of mentoring appear to be evolving, with an increasing emphasis on the teaching and learning aspects of the relationship.

Consistent with the different conceptualizations of the essence and purpose of mentoring, the activities or functions that constitute the mentoring process have also been variously described. Descriptions of mentoring functions are now reviewed.

*Mentoring Functions*

Descriptions of mentoring functions reflect the underlying conceptualization of the nature of the relationship. Those emerging from both the human development and career advancement perspectives acknowledge the existence of two types of functions: career oriented and psychosocial support functions. Kram (1985) provided a comprehensive description of nine mentoring activities, which she categorized as either career functions or psychosocial functions. Career functions help protégés learn to navigate the organization’s systems and politics, and enable them to advance in the organization, while psychosocial functions support the development of a sense of competence, identity, and effectiveness in a professional role. Career functions include sponsorship, exposure-and-visibility, coaching, protection, and provision of challenging assignments. Psychosocial functions are role modeling, acceptance-and-confirmation, counseling, and friendship. The developmental tasks of the mentor and protégé, their interpersonal skills, and the organizational context all influence which functions are provided, and to what degree. However, both instrumental activities that promote career success and more intimate, interpersonal activities that foster subjective changes in the protégé are considered essential to the relationship and beneficial to protégés.

In contrast to Kram’s (1985) human development perspective, Zey’s (1984) career advancement description of mentoring functions proposed a hierarchy of functions, based on the
degree to which the activity is effective in advancing the protégé’s career (Zey). Zey suggested that mentoring functions consisted of sponsorship, intervening within the organization on behalf of the protégé, psychosocial support, and teaching. The teaching and support functions are similar to the psychosocial functions described by Kram, although the emphasis is on developing organizational skills, provision of privileged information, and management of personal problems to optimize career success. The intervening and sponsorship functions are comparable to the career functions described by Kram. According to Zey, protégés can receive one or more mentoring functions, based on their career stage and individual needs and circumstances. However in contrast to Kram’s (1985) assertion that the developmental needs of each individual determine which mentoring functions are most relevant in a specific relationship, Zey concluded that the functions formed a hierarchy in terms of their impact on the protégé’s career advancement. Teaching had the least impact and sponsorship the greatest impact on the protégé’s success.

The differentiation of career and psychosocial functions is supported by results of factor analysis. Noe (1988) conducted an exploratory factor analysis of 139 protégés’ responses to 29 items on a mentoring functions scale that was derived largely from Kram’s (1985) and Zey’s (1984) work. Two factors emerged that corresponded to the career and psychosocial functions described by Kram and Zey, and accounted for 82% of the variance in the responses to items.

In contrast to both the human development and career advancement conceptualizations of mentoring, educational descriptions do not address specific functions or activities that constitute the mentoring process. Instead, facilitation of learning is considered the primary function of the mentor. The cognitive processes that the protégé/learner undertakes, and the mentor’s role in facilitating these processes, are emphasized (R. Hale, 2000; Mumford, 1995). Emotional support
functions and career advancement strategies other than teaching and coaching, are not addressed in educational conceptualizations of mentoring.

Mumford (1995) described a four-stage learning cycle that involved the protégé having an experience, reflecting on the experience, drawing conclusions, and planning future actions. He proposed that the mentor’s role was to optimize protégé insight by ensuring the protégé followed the complete cycle. However, he suggested that the functions through which the mentor achieved this were dependent on the protégé’s and the mentor’s learning styles.

The existence of career advancing and psychosocial support functions is reflected in nursing conceptualizations of mentoring, with provision of both types of functions defining the relationship (Yoder, 1990). Nurses’ reports of mentoring activities have included career advice and strategizing (Carey & Campbell, 1994; Vance, 1977), discussing strategies for handling professional situations and interpersonal relationships (Carey & Campbell; Fagan & Fagan, 1983; Taylor, 1992), providing developmental opportunities and contacts (Carey & Campbell; Rawl, 1989; Taylor), pushing the protégé to produce (Rawl), providing an opportunity for discussion and critique of ideas and performance (Carey & Campbell; Fagan & Fagan; Madison, 1994; Rawl), teaching and coaching (Carey & Campbell; Fagan & Fagan; Taylor; Vance), role modeling (Campbell & Carey; Fagan & Fagan; Rawl; Taylor; Vance), stimulating creativity (Carey & Campbell; Fagan & Fagan; Rawl; Vance), fostering self-confidence (Carey & Campbell; Fagan & Fagan; Madison; Rawl), and providing encouragement and emotional support (Campbell & Carey; Fagan & Fagan; Vance). These activities are consistent with the career and psychosocial mentoring functions emerging from the human development (Kram, 1985) and career advancement (Zey, 1984) perspectives. Provision of teaching and coaching activities also reflects the educational perspective (Mumford, 1995).
In summary, descriptions of mentoring emerging from the human development and career advancement perspectives acknowledge the existence of distinct career oriented and psychosocial support functions, as do nursing conceptualizations. While human development perspectives consider both categories of functions to be fundamental to the mentoring relationship, approaches that emphasize upward mobility as the goal of mentoring view career functions as more important activities than psychosocial functions. Educational conceptualizations do not specify mentoring functions, emphasizing instead the teaching and learning responsibilities of the participants. Nursing descriptions consider both career-advancing and psychosocial support functions to be essential components of a mentoring relationship.

In addition to studies of the nature and functions of mentoring, there is a considerable research base examining aspects of the mentoring relationship. This literature is now reviewed.

The Mentoring Relationship

Several aspects of the mentoring relationship have been studied. These include the phases of the mentoring relationship, the relative positions of the mentor and protégé within the group or organization, the singularity of the relationship, and the formality or informality of the relationship. Research addressing these aspects of the mentoring relationship is reviewed in the following sections.

Phases of the Mentoring Relationship

Kram (1983) described mentoring relationships as developing spontaneously, in phases, beginning with an initiation phase in which the two parties notice one another and develop fantasies about the possibilities of a relationship. Each partner then begins a process of confirming these fantasies through concrete actions such as a request for assistance on the part of the protégé, or the mentor’s provision of a developmental opportunity. The initiation phase
typically lasts 6 to 12 months, and then moves into the cultivation phase, in which provision of career and psychosocial functions is at its highest. During this phase, which continues for 2 to 5 years, receipt of mentoring functions contributes to an increasing sense of competence, while mentors experience satisfaction from contributing to their protégés’ development.

The cultivation phase is followed by a separation phase, in which the nature and amount of mentoring support provided diminishes. This phase is stimulated by increasing independence on the part of the protégé and, in Kram’s (1983) study, was frequently accompanied by a structural change as one or both partners moved into a new role in the organization. Separation is typically accompanied by a degree of emotional turmoil, as the dynamics of the interpersonal relationship change. The separation phase concludes when both partners recognize that they no longer require the relationship in its previous form. The relationship then moves through the redefinition phase, and most frequently evolves into a friendship. Kram found that in the redefined relationship, few mentoring functions were provided, although a limited amount of sponsorship, coaching, and counseling continued in some relationships. Kram also found that when the separation phase occurred too early in the relationship, or when one of the partners attempted to maintain the relationship when it had outlived its usefulness, feelings of bitterness and resentment developed. In these situations, the partners were unable to resolve the separation phase and create a new relationship.

While Kram (1983) described the evolution of spontaneously occurring mentoring relationships, other researchers have suggested that mentor-protégé relationships can be initiated through an intentional matching or assignment process. The question of whether mentoring relationships must emerge naturally and spontaneously, or whether they can be structured, has received considerable attention in the literature. Spontaneously occurring mentoring relationships
are variously called primary relationships (Noe, 1988), traditional relationships (Kram, 1985), or informal relationships (Ragins, et al., 2000), while structured relationships are usually referred to as formal (Ragins, et al.), or assigned (Noe). Research on formal and informal mentoring relationships is reviewed in the following section.

*Formal and Informal Mentoring Relationships*

Most early descriptions of mentoring were of naturally arising relationships (Burke, 1984; Kram, 1983; Levinson et al., 1978). As organizations began to recognize the potential benefits of mentoring, they attempted to formalize or structure these relationships (Noe, 1988). While some studies subsequently focused on the similarities and differences between formal and informal mentoring relationships (Chao, Walz, & Gardner, 1992; Ragins, et al., 2000; Tepper, 1995), others limited their focus to one or the other type of relationship (R. Hale, 2000; Noe; Ragins & Scandura, 1999). Still other studies have not distinguished between formally and informally structured relationships (Chao, 1997; Fagenson, 1989; Sosik & Godshalk, 2000).

Studies that examined formal mentoring have produced inconsistent results with respect to provision of mentoring functions and protégé outcomes. Chao et al. (1992) found that formal protégés received less career functions than their counterparts in informal mentoring relationships, while Noe (1988) found that protégés of formal mentors reported receiving psychosocial mentoring functions but little career mentoring. In contrast, Fagenson-Eland, Marks and Amendola (1997) found that formal protégés reported less psychosocial support, but comparable levels of career functions when compared with informal protégés, and Ragins and Cotton (1999) found that informal protégés reported higher levels of most mentoring functions than did formal protégés, including all of the career development functions and four of six psychosocial functions.
Differences in the duration of the relationships and the amount and frequency of communication between mentor and protégé may account for these differences. In Noe’s (1988) study, protégés cited time limitations and physical distance as barriers to accessing mentoring, and reported spending relatively little time interacting with their assigned mentors. In contrast, Fagenson-Eland et al. found that protégés of formal mentors did not report less frequent communication with their mentors than did protégés of informal mentors. Thus, frequent interaction between mentors and protégés may be necessary for provision of career-enhancing mentoring, while psychosocial support may be attainable with less frequent contact. Chao et al. did not measure frequency of communication, but noted that informal relationships were almost twice as long as formal relationships. Length of relationship was a significant predictor of the amount of mentoring functions provided in their study.

Evidence also suggests that informal mentoring relationships may provide greater protégé outcomes than do formal relationships. Ragins and Cotton (1999) found that informal protégés reported higher levels of satisfaction with the mentoring relationship, and higher financial compensation than formal protégés. Conversely, Chao et al. (1992) found no difference in protégé socialization, job satisfaction, or salary outcomes between formal and informal protégés, when the length of the mentoring relationship was included as a covariate. However, informal relationships were considerably longer than formal ones in this study. Thus, although the analysis did not reveal a difference in outcomes between formal and informal protégés, it may be that relationships that emerge spontaneously do in fact yield higher protégé outcomes. Their longer duration could either contribute to, or result from, their success. That is, longer relationships may allow for a greater impact on the protégé’s career. It is also possible that
naturally developing relationships are inherently more satisfying to the participants, and the mentor and protégé are more motivated to maintain the relationship over time.

These results suggest that informal relationships may provide some advantages over formal arrangements, in terms of mentoring functions and protégé outcomes. However, the possible impact of unmeasured mentor, protégé, and organizational factors on protégé outcomes must also be acknowledged. It is possible that protégés in informal relationships are selected for mentoring because they are better performers, which could account for their superior career outcomes and satisfaction. In contrast, formal protégés are assigned to, rather than chosen by a mentor. Similarly, both mentors and protégés in informal relationships choose to engage in the relationship. Thus, they may be more motivated to participate in the relationship than those who are assigned. In contrast, assigned relationships are likely to include a wider range of performance and motivational attributes of both mentors and protégés, including less talented protégés, and less motivated individuals in both mentor and protégé categories. These possible differences between formal and informal mentoring participants could account for the superior outcomes of informal protégés.

Comparison of protégés in formal relationships with non-mentored individuals suggests that formal mentoring does provide some benefits. Chao et al. (1992) found that protégés in formal relationships experienced higher levels of organizational socialization on subscales measuring organizational politics, interpersonal relationships, and goals, than non-mentored individuals. More recently, studies have found that formal mentoring programs can have a positive effect on intent to remain in the organization (Kilty, 2005; Smith & Ingersoll, 2004) and the profession (Smith & Ingersoll). However, formal mentorship has not been associated with
higher compensation or promotion levels, when compared to non-mentored individuals (Chao et al.; Ragins & Cotton, 1999).

Ragins, et al. (2000) showed that the type of mentor (formal or informal) had less influence on protégé job attitudes than did the quality of the relationship, as measured by protégé satisfaction with, and perceived effectiveness of the relationship. In a complex analysis that integrated relationship type and satisfaction, they found that protégés in dissatisfying or marginally satisfying informal mentoring relationships did not experience more positive job attitudes than non-mentored respondents. Similarly, formal protégés differed from non-protégés on fewer than half of the job attitudes studied, and again these differences only occurred in highly satisfying mentoring relationships. Ragins et al. concluded that marginally satisfying or dissatisfying mentoring relationships were not related to job attitudes. Further, they found that satisfaction with the relationship was the key variable in predicting these protégé outcomes, with satisfying formal relationships associated with significantly greater outcomes than marginally satisfying informal ones. Also, contrary to their hypothesis, Ragins et al. found that formal programs that attempted to mimic aspects of informal relationships were not related to greater protégé satisfaction, with the exception of program purpose. Formal programs that were oriented toward protégé career advancement rather than general orientation were associated with greater perceived opportunities for promotion, and with procedural justice, by protégé respondents.

Analysis of these studies suggests that mentoring relationships that arise naturally have been associated with greater levels of psychosocial functions (Fagenson-Eland et al., 1997; Noe, 1988; Ragins & Cotton, 1999) and career functions (Chao et al., 1992; Ragins & Cotton), as well as more frequent mentor-protégé communication (Fagenson-Eland et al., Noe) and longer lasting relationships (Chao et al.). However, it also appears that it is the participants’ perception of the
quality of the relationship that is most important (Ragins, et al., 2000), so that satisfying formal relationships are more beneficial than unsatisfying informal ones.

Less attention has been focused on comparing formal and informal mentoring relationships in nursing, with the majority of studies addressing informal mentoring relationships (Ecklund, 1998; Madison, 1994; Vance, 1977). Studies that included both informal and formal mentoring relationships reported that less than 25% of the relationships studied involved formal assignment of mentors and protégés (Rawl, 1989; Taylor, 1992). While several authors have advocated investigation of formal mentoring programs (Fagan & Fagan, 1983; Vance), others have asserted that informal relationships, wherein mentor and protégé choose each other, are preferable (Madison, 1994; Stachura & Hoff, 1990).

Another aspect of the mentoring relationship that has generated debate concerns the relative positions of mentor and protégé. Literature related to this issue is now reviewed.

**Relative Positions of Mentor and Protégé**

Most descriptions of mentoring relationships differentiate mentors and protégés on the basis of a hierarchical criterion such as developmental stage (Kram, 1985; Levinson et al., 1978), organizational seniority (Noe, 1988; Ragins & Scandura, 1999; Shapiro, Haseltine, & Rowe, 1978), or knowledge, skills, and insight (Gibb, 1999; Mumford, 1995). These criteria reflect the human development, career advancement, and educational perspectives, respectively. However, they are not entirely discrete, as organizational seniority on the part of the mentor is frequently associated both with the developmental stage of middle adulthood, and with advanced knowledge and experience. Non-hierarchical relationships with peers have also been discussed as sources of developmental support (Eby, 1997; Kram & Isabella, 1985; Shapiro et al., 1978). Eby considered these relationships to be an alternate form of mentoring. However peer relationships
are more commonly viewed as alternatives to mentoring that provide a different type of developmental support through mutual sharing of information and career-strategizing (Kram & Isabella; Shapiro et al.)

In nursing descriptions of mentoring, position, knowledge, expertise, or professional status differentiated mentors and protégés. More experienced peers (Carey & Campbell, 1994; Fagen & Fagen, 1983; Rawl, 1989; Vance, 1977), supervisors (Carey & Campbell; Fagen & Fagen; Rawl; Vance), or teachers (Vance) were most frequently cited as mentors.

In summary, most conceptualizations of mentorship relationships specify that mentors are senior to protégés in some way. Life stage, organizational rank, or expertise may be the basis for distinguishing the mentor’s seniority. Thus, while peer developmental relationships are considered by some to be mentoring (Eby, 1997), these are most frequently seen as an alternative type of developmental relationship, which is distinct from mentorship (Kram & Isabella, 1985; Shapiro et al., 1978).

In addition to consideration of the relative positions of mentor and protégé, the mentoring literature also reflects interest in the degree to which the relationship is characterized by singularity and exclusivity. This literature is reviewed in the following section.

Singularity

Singularity is the extent to which the mentoring relationship is a one to one pairing of mentor and protégé. Traditional descriptions of mentoring are of a dyadic relationship that is perceived by the participants and other observers to be in some sense exclusive or privileged, with protégés having one mentor at a time (Kram, 1985; Levinson et al., 1978; Zey, 1984). However, it is not uncommon to have more than one mentor over the course of a career (Kram, 1985). These multiple mentoring relationships may occur in sequence, with a new mentoring
relationship developing as the protégé’s needs change (Kram, Zey), or simultaneously (Higgins & Kram, 2001), with protégés maintaining a network of developmental support persons.

Evidence suggests that protégés can benefit from participating in multiple mentoring relationships. Protégés of multiple mentors report greater satisfaction with work (Higgins & Thomas, 2001) and career (Seibert, Kraimer, & Liden, 2001), higher salaries (Seibert et al.), more promotions (Seibert et al.), and greater intention to remain with the firm (Higgins & Thomas) than those with a single mentor.

Group mentoring models have also been proposed, in which the protégé receives mentoring functions through interaction with a group (Dansky, 1996; A. Ritchie & Genoni, 2002). However in these studies it was unclear whether the groups themselves, or individuals within the groups, were the source of mentoring functions, and group mentoring was not conceptually distinct from constellations of singular relationships.

Eby (1997) suggested that protégés can receive mentoring from a variety of sources. These can include peers, those at higher organizational levels, individuals internal or external to the organization, and teams. With respect to team mentoring, she noted that teams often obtain advice, guidance, information and feedback from other teams, a function that she deemed similar to peer mentoring. She went on to suggest that teams may be mentored by other teams within an organization. Eby’s interpretation of inter-team information sharing and feedback as mentoring suggests that teams, in addition to individuals, can both provide and receive career mentoring. Eby noted however, that it is less clear whether inter-team mentoring can fulfill psychosocial mentoring functions. Eby’s extension of the mentoring relationship to include inter-team mentoring was a significant departure from the conceptualization of mentoring as a relationship between individuals (Kram, 1985; Levinson et al., 1978).
In their study of nurses, Fagen and Fagen (1983) classified both dyadic relationships and guidance from a number of veteran nurses as mentoring, similar to the developmental network approach described by Higgins and Kram (2001). However, most descriptions of mentoring in nursing are of dyadic relationships, with many nurses reporting more than one mentoring relationship over the course of their careers (Carey & Campbell, 1994; Madison, 1994; Rawl, 1989; Taylor, 1992; Vance, 1977).

In summary, it appears that protégés can benefit from participating in multiple mentoring relationships, drawing different types of support from each. In general, these multiple relationships are characterized by singularity and, to a lesser degree, exclusivity. That is, each is a one-to-one relationship between protégé and mentor, and each is identified as significant for the participants, and distinct from other types of relationships. While group mentoring models have been proposed, in which the protégé receives mentoring functions through interaction with a group, research in this area is limited. Similarly, mentoring in nursing is most frequently considered a singular and special relationship between mentor and protégé, irrespective of the number of such relationships in which either partner participates.

Review of the literature on mentoring relationships suggests that they may occur spontaneously, in phases, or be formally structured within organizations. They are one-to-one relationships that are recognized by the participants as unique and special, although each partner may engage in more than one relationship, either sequentially or simultaneously. Mentors are senior to protégés in terms of developmental stage, organizational position, or expertise, which enables them to provide career and psychosocial mentoring functions to support protégé development. Both objective career outcomes and subjective attitudinal outcomes of mentoring for protégés have been studied. This research is now reviewed.
Protégé Outcomes of Mentoring

Objective Outcomes of Mentoring for Protégés

Mentoring in organizational settings has been associated with protégé outcomes of career success and advancement. These include career progress (Burke, 1984), career mobility (Fagenson, 1989), promotion rate (Dreher & Ash, 1990; Fagenson; Ragins & Cotton, 1999; Scandura, 1992; Whitely et al., 1991), and income (Chao, 1997; Chao et al., 1992; Dreher & Ash; Ragins & Cotton; Scandura; Whitely et al.). A meta-analysis of 43 studies conducted by T.D. Allen et al. (2004) also showed that compensation and number of promotions were higher for mentored than non-mentored individuals, and that career mentoring functions had a stronger relationship with objective outcomes than did psychosocial functions. However, Day and Allen (2004) were unable to demonstrate a relationship between mentoring and either salary or number of promotions, in a study of municipal employees.

Two studies examined the connection between mentoring and protégé work performance. In a study of middle managers in a manufacturing company, Scandura (1992) found that none of the mentoring functions measured were associated with protégé performance, as assessed by supervisors. In contrast, Day and Allen (2004) found a positive relationship between mentoring and protégé perceptions of their performance effectiveness in a sample of municipal employees. In Day and Allen’s study career motivation, a construct composed of career resilience, career insight, and career identity, completely mediated the relationship between mentoring and perceived performance effectiveness, while marginal support was found for a mediating role of career self-efficacy between mentoring and performance. One explanation for the conflicting results related to protégé performance is that mentoring enhances protégés’ beliefs regarding their performance ability and potential, by affecting career motivation and career self-efficacy.
Thus in Day and Allen’s study, protégés may have been rating their performance potential, while the supervisors in Scandura’s study based their assessments on the protégé’s past role performance.

Nursing research examining relationships between mentoring and objective career outcomes indicates results similar to those described in the business and organizational behaviour fields. Rawl (1989) examined the mentoring experience of 427 nurse education administrators, their level of career development, and their perceptions of the impact of mentoring on their careers. Level of career development was determined by number of publications, number of grants received, years in a leadership post, organizational rank, and professional income. Protégés had a significantly greater level of career development than non-protégés. In addition, 85% of those who had been mentored believed the relationship to be very useful for their career development.

Similarly, Madison (1994) found that almost all of a sample of 367 senior nurse administrators attributed changes in their professional or personal lives to a mentoring relationship. Objective career outcomes reported by this group included increased management skills, development of research expertise, and improved performance as a manager.

It has also been noted that a variety of factors may affect the relationship between mentoring and objective outcomes. Whitely et al. (1991) found that socioeconomic status moderated the relationship between mentoring and promotions, such that mentoring was predictive of promotion rate only for protégés from upper and upper-middle class groups. In Scandura’s (1992) study, mentoring functions explained only 2% of salary variance and 4% of promotion variance. Control variables of age, company training, staff or line position, and organizational tenure were more strongly predictive of salary and promotion rate. Similarly,
Rawl (1989) found that having a mentor was less predictive of career development for nurse education administrators than was early doctoral education, type of work experience, degree of work commitment, or difficulty of scholarly program attended. Nevertheless, the consistency of association across many studies between protégé receipt of mentoring functions and objective career outcomes is clear. Comparisons with non-protégés (Chao, 1997; Chao et al.; 1992; Fagenson, 1989) highlight protégés’ perceptions of superior outcomes with respect to income, promotion rate, and career mobility opportunities. Similar patterns are evident with respect to subjective protégé outcomes. This research is reviewed in the next section.

**Subjective Outcomes of Mentoring for Protégés**

Several proposed subjective or attitudinal outcomes of mentoring have been investigated. Positive associations have been demonstrated between mentoring and career aspirations (Burke, 1984), career direction and planning (Burke; Chao, 1997), career involvement (Chao), career commitment (Ragins, et al., 2000), job satisfaction (Chao; Chao et al., 1992; Fagenson; Ragins et al.; Seibert, 1999), satisfaction with pay and benefits (Dreher & Ash, 1990), satisfaction with promotion opportunities (Ragins et al.), perceived procedural justice (Ragins et al.), socialization to the organization (Chao; Chao et al.), organizational commitment (Ragins et al.; Seibert), and work-related self-esteem (Ragins et al.; Seibert). The meta-analysis conducted by T.D. Allen et al. (2004) demonstrated that subjective outcomes of career satisfaction, expectations for career advancement, and career commitment were higher for protégés than for non-protégés. Both career and psychosocial mentoring functions were associated with subjective outcomes.

Conflicting results have been found with respect to mentoring and job stress. Sosik and Goshalk (2000) found a negative relationship between mentoring and job stress. Similarly,
Seibert (1999) found a negative relationship between psychosocial mentoring and work-role stress, but found that career mentoring functions were associated with higher levels of work-related stress. Differences in the study samples may account for these inconsistencies. Seibert’s respondents, who were novice employees, could be expected to experience a degree of work-role stress as they entered the workforce, and therefore to seek out career assistance from their assigned mentor as their stress increased. In contrast, Sosik and Godshalk’s participants were more experienced organizational members whose mentoring relationships were more established. This may have enabled them to achieve a reduction in job-related stress with mentoring, based on previous positive outcomes over time. Also, Seibert found that psychosocial functions did have a negative correlation with work-role stress, consistent with Sosik and Godshalk’s results. Only career mentoring was positively correlated with work stress.

Several nursing studies have examined the relationship between having a mentor and job or work satisfaction, with conflicting results. Fagen and Fagen (1983) surveyed a group of 87 registered nurses at one hospital in Kentucky regarding their mentoring experiences and work satisfaction, and compared their responses to those of a group composed of 70 police officers, and 107 public school teachers. Across all groups, individuals with an identifiable mentor experienced significantly more job satisfaction than those who did not have a specific mentor.

Carey and Campbell (1994) examined the relationship between mentoring and professional need satisfaction in a sample of 143 staff nurses in two hospitals in the southern U.S. Mentoring was not significantly associated with professional need satisfaction. However, the overall level of satisfaction was relatively high in this sample, suggesting that the influence of a mentor was not required to achieve satisfaction in the staff nurse role. Ecklund (1998) surveyed members of a critical care nursing organization regarding their mentoring experiences
in their first six months of practice. Mentored respondents reported higher job satisfaction than their non-mentored counterparts, but the difference in mean scores did not achieve statistical significance.

These results suggest that the relationship between mentoring and job or work satisfaction in nursing may not be as direct as that described in the organizational behaviour literature. Nurses in both mentored and unmentored categories in Carey and Campbell’s (1994) and Eckund’s (1998) studies reported a high level of satisfaction. This resulted in little variation in job satisfaction between groups, limiting the opportunity to detect significant relationship between mentoring and the outcome.

In summary, favorable objective and subjective outcomes of mentoring have been reported. Research on protégé outcomes of mentoring is summarized in the following section.

*Summary of Research on Protégé Outcomes of Mentoring*

Individuals who have been mentored report a variety of beneficial outcomes including higher promotion rates, salary, job and career satisfaction, organizational socialization, and organizational commitment, and lower job stress than their non-mentored counterparts. Both career and psychosocial mentoring functions are associated with protégé career benefits, although results vary across mentoring functions and outcomes. In addition, the structure of the mentoring relationship appears to influence outcomes, with informal relationships generally being associated with more positive outcomes. Research on outcomes of mentoring in nursing suggests that nurses enjoy career and psychosocial benefits of mentoring, similar to those reported in the business and organizational behaviour literature, although the opportunity for mentoring to contribute to job satisfaction in nursing may be less than in other fields.
Relationships between mentoring and other outcomes have also been studied in nursing. In particular, several studies have suggested a relationship between mentoring and leadership self-efficacy. Leadership self-efficacy has also been associated with leadership training. The literature addressing leadership self-efficacy and its relationship with mentoring and with leadership training is reviewed in the following section.

Leadership Self-efficacy

Self-efficacy is defined as a perception about one’s competence in a certain domain: it is a “judgment of one’s ability to organize and execute given types of performances” (Bandura, 1997, p. 21). Thus, confidence in one’s ability to organize and execute leadership practices in order to master leadership situations constitutes leadership self-efficacy.

Kouzes and Posner (2002b; Posner & Kouzes, 1988; 1993) conducted extensive case study analyses of over 1100 managers from a variety of organizations in the United States who were attending management development seminars. Participants in Kouzes and Posner’s study completed written responses to a 37-item open-ended questionnaire in which they described their personal best leadership experiences. In addition the researchers conducted 38 in-depth interviews with managers from a variety of public and private sector organizations. Through analysis of these questionnaires and interviews Kouzes and Posner identified five categories of behaviours or practices that characterize exemplary leadership. These are: challenging the process; inspiring a shared vision; enabling others to act; modeling the way; and encouraging the heart.

The leadership practices described by Kouzes and Posner (2002a) are consistent with a new paradigm in the study of leadership that appeared in the late 1970’s and 1980’s. Theories emerging from this paradigm were oriented toward the leader’s impact on followers’ emotions
(Bass, 1990; House, 1977; Kouzes and Posner) and were described as transformational because they emphasized the leader’s charisma or ability to inspire followers in order to bring about change (Bass; Gaughan, 2001).

Enactment of the five leadership practices described by Kouzes and Posner has been associated with positive outcomes for nurses and health care organizations. These include: increased staff nurse productivity, job satisfaction, and organizational commitment (McNeese-Smith, 1997); higher perceived quality of patient care (Cardin, 1995); enhanced recruitment and retention of staff (Cardin); and greater access to workplace empowerment by nurse executives (McKey, 2002).

Leadership self-efficacy then is the degree of certainty one has that she or he can successfully engage in leadership practices to achieve desired outcomes. Two activities that have been associated with increased leadership self-efficacy are mentoring and leadership training. The empirical literature examining these relationships is now reviewed.

*Leadership Self-efficacy, Mentoring, and Leadership Training*

Nurses in leadership roles have reported that mentoring enhanced their confidence as leaders. D.W. Allen (1998) conducted semi-structured interviews with 12 nurses in formal leadership roles in healthcare organizations in the United States to elicit respondents’ perceptions of the factors that had influenced development of their leadership characteristics, skills, and expertise. D.W. Allen identified 5 factors that nurse leaders believed had influenced their leadership development. These were: self-confidence; innate leader qualities or tendencies; progression of experiences and successes; influence of significant people; and other personal life factors such as family demands and the need to avoid shift-work.
In D.W. Allen’s (1998) study, self-confidence emerged as a key factor in development as a leader. Study participants reported that self-confidence was influenced by early and continued successes, which in turn generated new opportunities for risk-taking and success. Mentors and other significant people fostered self-confidence through encouragement, feedback, and facilitation of opportunities for success.

Similarly, in a descriptive exploratory survey of the characteristics and benefits of mentoring for 367 senior nurse administrators in California, Madison (1994) found that 97% of respondents attributed changes in their personal or professional lives to a mentoring relationship, while 74% attributed a change in self-confidence. In a study of 427 nursing education administrators Rawl (1989) reported that two-thirds of the respondents reported having received mentoring support. Respondents indicated that the most important functions provided by these mentors were encouraging intellectual development; positive role modeling; encouraging independent thinking and self-confidence; engaging in an exchange of ideas; and pushing their productivity.

In non-nursing studies, mentoring has also been associated with increased levels of leadership self-efficacy. Koesler (1995) assess the leadership self-efficacy of 231 outdoor education leader trainees in the before and after an outdoor wilderness leadership program in Wyoming. In Koesler’s study, participants had significantly higher levels of leadership self-efficacy following the training program; mentoring, provided as part of the program, was a significant predictor of post-program leadership self-efficacy for these respondents. Schott (2004) also found that mentoring was associated with increased leadership self-efficacy. In her descriptive correlational study of 257 female senior student affairs officers Schott found that mentored respondents reported higher levels of leadership self-efficacy than those who had not
been mentored. Specifically, Schott found that the mentoring behaviours of assistance with upward career mobility and encouragement to take risks were predictive of higher leadership self-efficacy scores.

Evidence also suggests that leadership self-efficacy may be affected by participation in leadership training. George and colleagues (2002a) conducted semi-structured interviews with 24 staff registered nurses who were randomly selected from a group of participants in a nursing leadership development training program in a regional healthcare system in the United States. Participants in this study reported an increase in confidence in their leadership abilities following the program. Studies with non-nursing populations have also reported a relationship between leadership training and leadership self-efficacy. Bloom & Sheerer (1992) conducted a repeated measures evaluation of the effectiveness of a leadership training program for early childhood education administrators in the United States in which 31 trainees participated. Surveys of participants’ perceived leadership competence demonstrated significant increases over the course of the 16-month training program. In addition, the researchers undertook an in-depth case study analysis of one participant’s experience in a leadership. Through analysis of data from interviews, observations, and the participant’s journal, the researchers identified growth in the respondent’s confidence with respect to her ability to manage leadership situations. Respondents in Bloom’s and Sheerer’s study also indicated that feedback, validation and personal attention provided by the program instructors contributed to their leadership self-efficacy. These activities are similar to the mentoring functions of coaching, acceptance-and-confirmation, and friendship respectively described by Kram (1985). Respondents in Koesler’s (1995) study also reported increased confidence in their ability to engage in leadership practices following their participation in leadership training.
Review of this research suggests that both mentoring and leadership training programs can impact leadership self-efficacy, although the distinct contribution of each intervention has not been evaluated. Thus mentoring may then add incrementally to changes in leadership self-efficacy when provided within the context of leadership training programs.

Evidence suggests that leadership self-efficacy can contribute to leadership performance. Theoretical and empirical support for a relationship between leadership self-efficacy and leadership practices is reviewed in the following section.

Self-efficacy and Leadership Performance

Bandura (1986) asserted that achievement of successful performance requires that individuals develop and test out various behaviours and strategies over time, and that those individuals who are higher in self-efficacy are more likely to persist in this endeavour, while those who lack belief in their ability to be successful will abandon the challenge quickly. In support of this, Wood and Bandura (1989b) found that stronger self-efficacy beliefs led to more systematic approaches to problem-solving, and greater persistence in attempts to formulate decision rules that guided effective performance. In a laboratory study with 24 graduate students in a business program, Wood and Bandura demonstrated that when self-efficacy beliefs were manipulated in a management simulation exercise, self-efficacy affected the selection of goals and the challenges undertaken, the amount of effort invested in meeting situational demands, and the degree to which participants persevered when faced with difficult situations.

With respect to leadership self-efficacy, Kouzes and Posner (2002a) have suggested that belief in one’s ability to learn to lead and overcoming fears and doubts about engaging in leadership practices is essential to successful leadership performance. Nurses in leadership roles have indicated they believe that a sense of confidence in their ability to perform as leaders, or
leadership self-efficacy, is essential to their success in these roles. In D.W. Allen’s (1998) study, respondents identified self-confidence as a leader was key to success in leadership roles. Similarly, Harms (1988) found that self-confidence as a leader was one of the most identified leadership characteristics in her descriptive study of 207 presidents of American nursing organizations, while Huff found that leaders had significantly higher levels of leadership self-efficacy than non-leaders in a survey of 136 minority nurse members of a professional organization. In a profile of 69 influential nurse leaders in the United States, Vance (1977) found that self-confidence was identified by respondents as one of the most important traits for future nursing leaders.

Managers’ leadership self-efficacy has been associated with subordinate assessment of managers’ leadership behaviours (Paglis & Green, 2002) and with work group performance (Hoyt, Halverson, Murphy, & Watson, 2003).

The relationship between leadership self-efficacy and leadership practices suggests that increasing nurses’ leadership self-efficacy will support leadership development among nurses. An increase in leadership self-efficacy will be reflected in increased enactment of leadership practices following training. Nurses who receive mentoring and leadership training could be expected to report increased leadership self-efficacy, which would be reflected in increases in leadership practices. Furthermore, mentoring may account for variability in the changes in leadership practices of nurses following their participation in leadership training. In order to better understand the impact on leadership practices of the mentoring-leadership self-efficacy relationship within the context of leadership training, the literature examining the relationship of mentoring and leadership training to leadership practices is now reviewed.
Studies of nurses in leadership roles point to the influence of mentors on their leadership practices. Surveys of established nurse leaders suggest that the majority have had at least one mentor or more experienced nurse leader who provided assistance and guidance to them (D.W. Allen, 1998; Harms, 1988; Moran et al., 2002; Vance, 1977). These assistive relationships were perceived by respondents as important to their success in leadership roles. The activities provided by these influential others included providing positive feedback (Allen; Moran et al.), expressing confidence (Allen; Harms; Moran et al.), providing inspiration and stimulation (Harms; Vance), role modeling (Allen; Moran et al.; Vance), providing career advice (Harms; Vance), teaching and coaching (Allen; Harms; Moran et al.), assisting with networking (Harms), and creating opportunities for participants to achieve success (Allen; Moran et al.). These activities are consistent with the psychosocial and career mentoring functions described by Kram (1985).

Results of research on leadership development needs among nurses also support a role for mentoring in increasing leadership practices. Studies of nurse managers (Edwards & Roemer, 1996; Moran et al., 2002) and senior nurse executives (Corning, 2002) have suggested that nurses do not perceive advanced academic preparation alone to be adequate in developing competence in leadership practices. Corning’s participants, who were 20 senior nurse executives, explicitly advanced a belief that mentoring would be helpful in supporting leadership development among aspiring leaders. Similarly, Moran et al.’s participants attributed their development of leadership expertise to the guidance of more experienced managers.

Mentoring has also been combined with nursing leadership training interventions, with positive results (Cunningham & Kitson, 2000a; 2000b; DeSimone, 1999; George et al., 2002a;
Hill, 2003; Tourangeau et al., 2003). In Cunningham’s and Kitson’s intervention, the program facilitator provided mentoring to four senior nurse participants, who in turn were expected to mentor ward sister participants from their respective institutions. In George et al.’s training program, staff nurse participants had access to mentoring from other nurse leaders in their work environment, while DeSimone’s and Hill’s participants were assigned a mentor from their organization. In Tourangeau et al.’s study, participants attended a leadership training institute in dyads composed of an established and an emergent nurse leader, with the belief that mentoring would occur within these dyads.

Participation in leadership training that included a mentoring component has been shown to increase participants’ leadership behaviours or practices. Cunningham & Kitson (2000) implemented a leadership development intervention that included leadership theory, personal development planning, and mentorship for 24 ward sisters in the United Kingdom. Participants in their study demonstrated a significant increase in transformational leadership behaviours following the intervention, as assessed by participants and their colleagues using the Multifactor Leadership Questionnaire. Similarly, DeSimone (1999) demonstrated a significant increase in leadership behaviours as assessed by participants’ mentors, following implementation of a leadership program that included education in leadership theory and mentoring support, in a sample of 7 new graduate nurses. Participants also demonstrated increased knowledge of leadership theories and implementation strategies, as measured by a written examination.

George et al. (2002a) and Tourangeau et al. (2003) also demonstrated significant increases in leadership practices following participation in leadership development programs that included leadership training and mentoring support. In George et al.’s study, both participants and observers reported increased participant leadership practices, while Tourangeau et al.
reported increases for observer-assessed leadership practices only. Hill (2003) reported decreased vacancy rates, which were interpreted as evidence of increased leadership behaviours following implementation of a leadership development program that included leadership training and assignment of an advisor to participants.

Results of these studies suggest that the combination of leadership training and mentoring may be effective in increasing leadership practices. However, the contribution of mentoring to the outcomes is difficult to assess. Mentoring was not measured in any of these studies, and only DeSimone’s (1999) and Tourangeau et al.’s (2003) interventions provided structured opportunities for mentor-protégé interaction. In Tourangeau et al.’s intervention, this provision was limited to the week spent together at the training institute, with the hope that dyad partners would continue to work together, and that mentoring would be provided when the partners returned to their workplace. Participants in Hill’s (2003) study noted that lack of contact with their assigned mentors was a barrier to achieving their leadership development goals.

There was also some degree of within group variability in these studies. Tourangeau et al. (2003) obtained mean post-test scores for self-assessments by aspiring nurse leaders of 45.71 to 47.29 with standard deviations ranging from 6.62 to 7.12 on subscales with a 60-point maximum score; observer assessments of the same nurses yielded mean post-test scores of 48.22 to 51.61, with standard deviations between 4.35 and 7.38. George et al. (2002a) reported post-test means of 21.83 to 24.73 for self-reported leadership practices on subscales with a 30-point maximum score, with standard deviations of 2.66 to 4.00; observer scores ranged from 22.94 to 25.49 with standard deviations of 3.84 to 3.97. Since the amount of mentoring provided to participants was not measured, it is possible that differences in receipt of mentoring functions may have contributed to the variation in results.
Other leadership training interventions that have not included a mentoring component have also resulted in increased leadership practices (Aroian et al., 1996) and knowledge of leadership theories and implementation strategies (Neubauer, 1995). These programs did not explicitly encourage or facilitate mentoring for participants. However, participants may have accessed mentoring support independent of the leadership training program. The absence of information about participants’ mentoring experiences in these studies leaves open the possibility that mentoring had an effect on their leadership practices. Indeed, Lobas (2004) found that physician leaders attributed their development of leadership skills to the formal and informal mentoring they had received outside of their leadership training programs.

In summary, review of the literature suggests that both mentoring and leadership training can contribute to an increase in nurses’ leadership self-efficacy. Nurse protégés consistently report the development of confidence in their ability to perform in leadership roles as a key outcome of mentoring. Studies of nurse leaders suggest that this increase in self-confidence is critical to their success in leadership roles, with established nurse leaders reporting a high incidence of mentoring, and attributing their success in part to the influence of their mentors. Participants in leadership training programs have also reported an increase in leadership self-efficacy following training. However the extent to which the training participants were exposed to mentoring functions during or following training is unknown, leaving open the possibility that their increased leadership self-efficacy resulted from mentoring.

In turn, leadership self-efficacy is associated with increased leadership practices in both nursing and non-nursing groups. Some leadership development programs have combined leadership training with opportunities for mentorship in the program design, while others have not explicitly facilitated mentoring. The lack of information on mentoring obtained either as part
of these training programs or outside of them, together with nurse leaders’ professed belief in the contribution of mentoring to leadership self-efficacy and leadership practices, suggests that mentoring may account for some of the variation in results of leadership training interventions, through its impact on leadership self-efficacy.

Studies examining mentoring and protégé outcomes have led scholars to suggest a relationship between mentoring and career outcomes, including leadership self-efficacy and leadership practices. However, conclusions regarding the effect of mentoring on protégé outcomes are limited due to the research methodology employed in many investigations. Limitations of the research on mentoring are discussed in the following section.

Limitations of Mentoring Research

Significant limitations of studies of mentoring include the use of cross-sectional designs (Burke, 1984; Carey & Campbell, 1994; Chao, 1997; Chao et al., 1992; Day & Allen, 2004; Dreher & Ash, 1990; Ecklund, 1998; Fagenson, 1989; Madison, 1994; Ragins, et al., 2000; Rawl, 1989; Scandura, 1992; Sosik & Godshalk, 2000; Whitely, et al., 1991), single survey measurement of mentoring experience and outcomes (Carey & Campbell; Chao; Chao et al.; Day & Allen; Dreher & Ash; Ecklund; Fagenson; Madison; Ragins & Cotton, 1999; Ragins et al.; Rawl; Vance, 1977; Whitely, et al), retrospective attributions by participants of outcomes to mentoring (D.W. Allen, 1998; Harms, 1988; Lobas, 2004; Vance), and small size of samples (Ecklund; Fagan & Fagan, 1983) and subgroups (Chao et al.). In addition, the absence of data related to mentoring functions in leadership development evaluation studies (Bloom & Sheerer, 1992; Cunningham & Kitson, 2000; DeSimone, 1999; George et al., 2002a; Hill, 2003; Tourangeau et al., 2003), while appropriate for the study purposes, precludes conclusions regarding the effect of mentoring separate from the training component. These design features
limit conclusions regarding the relationship between mentoring and protégé outcomes for several reasons.

Cross-sectional studies collect both predictor and outcome information at a single point in time. This precludes determination of the sequence in which mentoring and career or behavioural outcomes occurred. It is possible that protégés in mentoring studies experienced better outcomes because they were better performers, and that their superior performance attracted the attention and commitment of their mentors, indicating a reverse direction of influence from that generally hypothesized.

In addition, studies that have employed a single survey design have relied on protégé self-report of both mentoring experiences and career outcomes. This design feature can result in a type of bias known as common method variance, which is variance attributable to the measurement method rather than the constructs being measured (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003). The potential for common method variance occurs when measures of predictor and criterion variables are elicited from the same respondent, especially when these data are collected at the same time and under the same circumstances. This can artificially influence the correlation between mentoring and protégé outcomes. Three sources of common method variance are relevant to the research on mentoring outcomes: consistency motif, implicit theories of correlations, and transient mood states. Consistency motif refers to the tendency of respondents to maintain consistency in their responses to questions, especially when they are asked to recall previous experiences, attitudes, and behaviours. It is possible therefore that protégés’ perceptions and recollections regarding their mentoring experiences may have been influenced by their responses concerning career outcomes. Similarly, respondents could have held implicit theories about relationships between mentoring and career outcomes, which could
have been reflected in their responses. In addition, respondents’ moods at the time of survey completion may have systematically influenced their responses to both predictor and criterion items. Thus, results of studies on protégé outcomes may reflect method variance as well as true relationships, resulting in an inflated correlation between mentoring and protégé outcomes. Temporal separation of the measurement of mentoring and outcomes could have reduced the effect of method variance in these studies.

Studies that have reported a relationship between mentoring and development of leadership practices have relied on respondents’ retrospective attributions of success as leaders to their receipt of mentoring. Nisbett and Wilson (1977) have asserted that individuals are unable to accurately report on the cognitive processes underlying their evaluations, judgments, choices and behaviours. Rather, attributions of causality are based on theories held by the respondents about relationships between stimuli and cognitive or behavioural responses. Thus, respondents who attributed their confidence and leadership behaviours to the influence of mentors may have done so based on a theorized relationship between the variables, but believed that they were accurately reporting on the cause of their behaviours or attitudes.

Studies with small sample sizes may have failed to detect significant relationships between mentoring and protégé outcomes, due to low statistical power. This may account for the failure to demonstrate an association of mentoring with rank (Fagan & Fagan, 1983) and job satisfaction (Ecklund, 1998) in nursing studies. Similarly, the small number of formal protégés in Chao et al.’s (1992) study may account for the inability to detect a difference in outcomes between formal and informal protégés.

Some studies have used a prospective design to examine the impact of a leadership development program that included a mentoring component (Bloom & Sheerer, 1992;
Cunningham & Kitson, 2000a; 2000b; DeSimone, 1999; George, et al., 2002a; Hill, 2003; Tourangeau et al., 2004). However, only two of the interventions (DeSimone; Tourangeau et al.) provided structured time for mentor-protégé interaction, and none of the studies measured participants’ exposure to mentoring functions, or evaluated the unique contribution of mentoring separate from the educational components of the programs. Thus, while the impact of the intervention as a whole can be inferred from these studies, the contribution of mentoring, separate from the other program components, cannot be determined.

Review of the research suggests that our knowledge regarding outcomes of mentoring is limited, and that mentoring warrants further investigation with respect to its effects on nurses. The phenomenon of mentoring has been the focus of investigation for nearly three decades, resulting in a deep understanding of the nature of this developmental relationship. However our knowledge of the outcomes of mentoring and the mechanisms through which these are achieved is limited. In particular, the effect of mentoring on leadership self-efficacy within the context of leadership training interventions is an area in which further research is needed. In the following section, the theoretical and empirical literature reviewed in this chapter is summarized.

Summary of Mentorship, Leadership Training, and Leadership Self-efficacy Literature

Mentorship has been the subject of considerable research over the past two decades, with descriptions of mentoring variously emphasizing a human development, career advancement, or educational focus. Based on this empirical evidence, a comprehensive depiction of mentoring can be described. It is clear that mentoring is an interpersonal relationship between two individuals at different levels of expertise or organizational seniority, for the purpose of supporting the professional development, career success, or work-related learning of the protégé, and facilitating life or career transitions. The mentoring relationship is characterized by provision
of both career and psychosocial functions, by a degree of emotional intimacy, and by the greater power position of the mentor who can use this position to advance the protégé’s career or professional development. Descriptions of mentoring emerging from nursing research are consistent with this portrayal. Mentorship is described by nurses as a close interpersonal relationship between a senior and a junior nurse, in which both career and psychosocial mentoring functions are provided and with benefits for both parties. Theoretical perspectives from human development, career advancement, and educational orientations are evident in nursing conceptualizations of mentoring, with role identity and effectiveness, career advancement, and knowledge development and transfer outcomes reflected in the nursing literature.

Individuals may have several mentors over the course of a career, and may engage in multiple mentoring relationships simultaneously. Mentoring is distinct from other developmental relationships that individuals may access in the workplace. Thus, while peer relationships can be effective in providing professional development support, they are not true mentorships. While traditionally viewed as arising informally, mentorships that are formally structured within organizations are becoming more common. Relationships that develop spontaneously have been associated with higher levels of mentoring and more positive protégé outcomes. However, it is unclear whether the formal or informal nature of the mentoring relationship determines this difference in outcomes, or whether informal mentorships are available only to higher performing individuals.

There is also a body of research evidence related to outcomes of mentoring. Both objective and subjective protégé outcomes of mentoring have been studied. Objective outcomes associated with mentoring are primarily related to career success and career advancement, while
subjective outcomes have included a variety of attitudes related to work, career, and the protégé’s relationship with the organization. Mentored individuals have consistently demonstrated subjective and objective advantages over those who are not mentored. However, knowledge of the impact of mentoring on career and work-related outcomes is limited, as the majority of studies of mentorship have employed cross-sectional, single-survey designs. While associations between mentoring and various outcomes have been demonstrated, it is unclear whether these outcomes are a consequence of mentoring, or whether more talented individuals are better able to attract the attention of mentors and access mentoring. In addition, the reliance in many studies on protégé self-report data collected through surveys has led to concerns regarding common method variance, and accuracy of results.

Nursing research has shown that nurses experience subjective and objective outcomes associated with mentoring similar to those experienced by other groups. However, self-efficacy outcomes have also been investigated through nursing research. In addition, nurses have suggested a role for mentoring in supporting leadership development. Nurse leaders profess a belief that mentoring had a positive impact on their ability to perform successfully in leadership situations, and that mentoring experiences enhanced their self-efficacy in enacting leadership practices, although these relationships have not been evaluated prospectively. Several nursing studies have demonstrated the effectiveness of leadership training interventions that included a mentoring component. However, the contribution of mentoring to achievement of leadership outcomes for nurses has not been evaluated independent of the didactic elements of the leadership training programs. Moreover, mechanisms through which mentoring may affect protégés’ leadership practices have not been explicitly studied in nursing.
Preliminary research suggests that leadership self-efficacy may be one mechanism through which mentoring affects leadership practices. Theoretical and empirical evidence supports a relationship between mentoring and leadership self-efficacy, and between leadership self-efficacy and leadership practices. Increases in leadership self-efficacy and leadership practices have also emerged as outcomes of leadership training interventions. The role of mentoring in conjunction with leadership training in promoting leadership self-efficacy has not been evaluated.

Several limitations of the research on mentoring have been noted. Use of cross-sectional designs, reliance on self-report measures, and retrospective attribution of outcomes by participants have limited conclusions regarding the relationships between mentoring and outcomes. Further, interventions that combine mentoring and leadership training have not evaluated the unique contribution of mentoring to leadership outcomes.

The implications of mentoring for nursing leadership development warrant further investigation. The ability of nurses in formal leadership positions to enact leadership practices has been linked to benefits for nurses, organizations, and patient care. However, advanced education alone is perceived to be inadequate in preparing nurses for leadership roles. Development of self-efficacy has been identified as a key factor in nurses’ success in leadership roles, with preliminary evidence suggesting a link between mentoring and leadership self-efficacy. Further investigation of the relationship between mentoring and leadership self-efficacy is indicated.

The purpose of this study was to examine the effect of mentoring on nurses’ leadership self-efficacy. The conceptual framework that guided this study is outlined in the next chapter.
Following a description of the framework, the research questions that guided the study are articulated.
CHAPTER 3: CONCEPTUAL FRAMEWORK

The purpose of this study was to examine the effect of mentoring on leadership self-efficacy in nurses. The conceptual framework guiding the study proposed that mentoring results in an increase in leadership self-efficacy in nurses. (Figure 1).

The concepts that comprised the framework were Kram’s (1985) mentoring functions and leadership self-efficacy, which was derived from Bandura’s (1997) concept of self-efficacy and Kouzes and Posner’s (2002a) five leadership practices. In the framework, it was proposed that protégé exposure to mentoring functions would lead to an increase in protégés’ judgments about their ability to perform in leadership situations; that is, leadership self-efficacy. The possible effect of protégé leadership training, education, and experience in an administrative role on leadership self-efficacy were also accounted for in the model. The theoretical basis and rationale for selection of these elements and the relationships among them is now discussed.

Mentoring Functions

Mentoring has been associated with an increase in self-efficacy in clinical nursing roles (Fagen & Fagen, 1983; Hayes, 1997), and with development of leadership practices among nurses (D.W. Allen, 1998; Harms, 1988; Moran et al. 2002; Vance, 1977). Mentoring in this study was conceptualized from the perspective of the protégé’s experience of mentorship, consistent with the focus on changes in protégé leadership self-efficacy, and was based on Kram’s (1985) description of mentoring.

According to Kram, mentoring occurs when the protégé receives support and guidance from a more senior individual to advance and grow in the profession or occupation world. The focus may include the protégé’s professional development, career success, and/or work-related
Figure 1. Conceptual framework depicting the relationship among mentoring functions, leadership training, professional education, experience in an administrative role, and leadership self-efficacy.
learning. Mentoring is characterized by the protégé’s exposure to both career advancement and psychosocial support, by a degree of emotional intimacy between the protégé and the mentor, and by the greater power position of the mentor. Mentors provide support through nine career and psychosocial functions. Thus, protégé exposure to mentoring functions constitutes mentoring. The nine career and psychosocial mentoring functions described by Kram are detailed below.

Career functions are those that support protégés’ advancement up the professional or organizational hierarchy, and are possible because of the mentor’s experience, position, and influence. Career functions include: sponsorship, exposure-and-visibility, protection, coaching, and provision of challenging assignments.

Sponsorship is the active nomination and public support of the protégé for advancement in the organization through lateral transfers and promotions. Mentors may provide sponsorship through formal recommendations, informal discussions with other influential organizational members, and tacitly by public association with the protégé. The ability of mentors to provide sponsorship is contingent on their level of influence within the organization or group.

Similarly, the exposure-and-visibility function involves the mentor’s deliberate creation of opportunities for the protégé to develop relationships with other influential organizational members. This can expand the protégé’s network of organizational supporters, enhance the protégé’s reputation across the organization, expose the protégé to other career opportunities, and provide critical learning experiences. As with sponsorship, it is the mentor’s position of influence that enables her or him to provide exposure-and-visibility for the protégé.
In contrast, the protection function serves to shield the protégé from potentially harmful exposure that could unnecessarily damage a protégé’s reputation. The protection function can involve the mentor taking responsibility for controversial outcomes, limiting protégé contact with other organizational members until the protégé has gained the requisite knowledge and skills, or intervening directly in situations that are beyond the protégé’s ability to manage successfully. However, the protection function must be used judiciously so as to allow protégé exposure-and-visibility, which is essential for growth and the establishment of a professional reputation.

Through the coaching function, the mentor clarifies protégé role expectations, suggests strategies for achieving work objectives and career advancement, shares ideas to enhance protégé role success, and provides feedback regarding the protégé’s performance. Coaching also involves the provision of privileged political information that is not otherwise available to the protégé. These activities enhance the protégé’s knowledge and understanding of the professional world through access to the mentor’s expertise and insight.

Finally, provision of challenging assignments is the career function through which the mentor assists the protégé to develop specific competencies as well as a sense of accomplishment in the professional role. It involves the assignment by the mentor of work of increasing complexity and challenge, and the provision of technical training and performance feedback that enable the protégé to be successful in the assigned tasks. Provision of challenging assignments supports the work-related learning that is essential in order for the protégé to take advantage of the opportunities provided through sponsorship, exposure-and-visibility, protection, and coaching.
In contrast to the career mentoring functions, which depend on the mentor’s ability to exert formal or informal power, psychosocial functions are possible because of the development of an intimate and trusting interpersonal relationship between mentor and protégé. Psychosocial functions include: role modeling, counseling, acceptance-and-confirmation, and friendship. Receipt of psychosocial functions assists protégés to develop a sense of professional identity, competence, and confidence with respect to their professional roles.

Role modeling is the psychosocial function most frequently reported by protégés. It involves the mentor setting a desired example and the protégé identifying with and emulating this example. Protégés see in their mentors aspects of both their current and idealized selves, and take on their mentors’ approaches, attitudes, and values. Over time, the modeling process results in a clearer professional identity for protégés, as they take on some aspects of their mentors’ style, and differentiate themselves in other aspects. While some aspects of the role modeling process are unconscious, Kram (1985) suggests that through dialogue with protégés, mentors consciously exert influence over protégés’ attitudes, beliefs, values, and approaches to work.

Counseling is the process through which the mentor acts as a confidante, allowing the protégé to express anxieties and self-doubts about issues such as career progress and decisions, ethical dilemmas, relationships with colleagues, and work-life balance. In their counseling role, mentors facilitate protégés’ self-exploration, share their own experiences, and provide alternative perspectives from which to view protégé concerns. Counseling by the mentor can assist the protégé to address conflicts that would otherwise interfere with career progress and professional identity.

Acceptance-and-confirmation results from the mentor’s communication of positive regard and respect for the protégé. When the mentor provides positive feedback and indicates a
liking for the protégé, trust in the relationship is increased. This enables the protégé to take risks and try new ways of engaging with the work world, without fearing rejection by the mentor if these actions are unsuccessful.

Like acceptance-and-confirmation, mentor provision of friendship through informal social interactions at work results in the protégé feeling liked and valued as a colleague by the mentor. Over time, the mentor’s friendship enables the protégé to feel more like a peer, which in turn makes interactions with other senior organizational members more comfortable.

In summary, mentoring was defined in this study as protégé exposure to career and psychosocial functions that supported leadership growth and advancement, through an interpersonal relationship with an individual who was senior to her or him in expertise or organizational level. The focus of this support could be the protégé’s professional development, career success, and/or work-related learning. Both relationships that arose informally and those that were formally structured were considered mentoring relationships.

Kram’s (1985) mentoring functions were selected as the conceptualization of mentoring in this framework for several reasons. First, they provide a comprehensive description of both the career and psychosocial aspects of mentoring, which is consistent with descriptions of mentoring emerging from both the human development (Kram; Levinson et al., 1978) and career advancement (Zey, 1984) perspectives and from the nursing literature (Stewart & Krueger, 1996; Yoder, 1990). Nursing conceptualizations of mentoring reflect elements of the human development, career advancement, and educational perspectives, and place value on both career and psychosocial functions. While Kram’s conceptualization of mentoring is rooted in human
developmental psychology, the functions she describes are sufficiently broad to cover the range of conceptualizations, including career advancement activities and facilitation of work-related learning. This description of mentoring as comprising career and psychosocial functions is also supported by factor analyses (Noe, 1988; Scandura, 1992).

Second, provision of these functions has been associated with subjective (T.D. Allen et al., 2004; Chao, 1997; Chao et al., 1992; Seibert, 1999; Sosik & Godshalk, 2000) and objective (Allen et al.; Chao; Chao et al.; Ragins & Cotton, 1999; Scandura, 1992) outcomes for protégés. Finally, career and psychosocial mentoring functions support protégés in increasing work-related learning, developing a sense of competence and confidence, and enhancing success in role performance. Thus, it is logical that provision of career and psychosocial functions can enhance protégé self-efficacy in professional roles, including leadership roles. The following section describes the theoretical basis of the concept of leadership self-efficacy. Following that, the theoretical links between career and psychosocial mentoring functions and increases in leadership self-efficacy are discussed.

Leadership Self-Efficacy

Leadership self-efficacy was identified in this framework as an outcome of mentoring. Leadership self-efficacy was conceptualized as individuals’ beliefs in their ability to perform behaviours characteristic of the five leadership practices described by Kouzes and Posner (2002a), to meet the demands of leadership situations.

Self-efficacy is a key concept in Bandura’s (1986) social cognitive theory. According to social cognitive theory, behaviour, cognitions and other personal factors, and the environment interact multi-directionally, each affecting the other two components, in a model of psychosocial functioning described by Bandura as “triadic reciprocal determinism” (p. 23). In this model,
behaviour can be influenced by environmental events and characteristics, and by individuals’ competencies, motivations, and cognitions. Similarly, aspects of the environment can be affected by individuals’ behaviours, and also by their personal characteristics. In turn, individuals’ thought patterns are affected both by the environment and by their own behaviours. The relative influence of each of these three factors on the other two varies with different circumstances, individuals, and activities. The reciprocal effects often develop over time, and are iterative rather than simultaneous.

Competence, self-efficacy, and motivation are key personal factors operating in this causal model. Of these, self-efficacy beliefs are central to individuals’ self-regulation of motivation and behaviour (Wood & Bandura, 1989a). Individuals’ reflections on their behaviour, and on the impact of their behaviour on the environment, influence their cognitive assessment of their ability to bring about outcomes in different situations. In turn, individuals’ beliefs about their ability to undertake courses of action and achieve outcomes that are important to them affect their choice of actions, motivation level, analytical thinking, and knowledge acquisition activities (Bandura, 1997). Thus, efficacy beliefs activate the cognitive, motivational, and affective processes that are required to translate knowledge and ability into effective performance in different situations.

Self-efficacy is defined as a perception about the self and one’s competence in a certain domain: it is a “judgment of one’s ability to organize and execute given types of performances” (Bandura, 1997, p. 21). Bandura (1986) asserts that self-efficacy is domain-specific. That is, an individual may experience high levels of self-efficacy with respect to some performance domains, and low self-efficacy in other areas. Thus, leadership self-efficacy is a belief in one’s
ability to organize and execute leadership practices in order to achieve desired outcomes in leadership situations.

Kouzes and Posner’s (2002a) leadership theory was used to identify the domains of leadership self-efficacy in this framework. Kouzes and Posner’s theory is based on their research with managers and non-managers and emphasizes the leader’s role in bringing about fundamental changes in organizations and systems by inspiring and mobilizing followers to accomplish “extraordinary things” (Posner & Kouzes, 1988, p. 484). Their theory describes a transformational type of leadership that motivates followers to move beyond their personal concerns, to accomplish the leader’s mission. A transformational leadership style has been identified as beneficial in nursing situations and environments (Cummings et al., 2005; McNeese-Smith, 1997; Morrison et al., 1997; Stordeur, Vandenberghe, & D’hoore, 2000).

Kouzes and Posner (2002a) identified five leadership practices that characterized exemplary leadership. They asserted that the five leadership practices are skills or behaviours that can be learned. This supports a theoretical link to self-efficacy, in that self-efficacy is a key determinant of behaviour in a particular domain (Bandura, 1986).

The five leadership practices are: challenging the process; inspiring a shared vision; enabling others to act; modeling the way; and encouraging the heart. Leadership self-efficacy is a belief in one’s ability to enact these five practices, to meet the demands of leadership situations. A brief description of the five practices follows.

Challenging the process emphasizes the need for leaders to take risks and work to change the status quo. Successful leaders seek out opportunities to innovate, grow, and improve, and are able to learn from their mistakes as well as their successes.
Inspiring a shared vision means stimulating in others a commitment to the leader’s cause. In order to inspire a common vision, leaders must understand their followers’ dreams and goals, and communicate their vision enthusiastically and vividly to their followers. This is accomplished through articulating a vision of a desirable future state, and appealing to the aspirations of followers that are congruent with the vision.

Enabling others to act involves fostering trust and collaboration among followers, and between the leader and the followers. This requires engaging followers in discussion and decisions, developing goals that are shared by the group, and sharing power by allowing followers to exercise authority and discretion in decisions.

Modeling the way involves articulating one’s beliefs and values, and behaving in accordance with them. Effective leaders set an example for followers by taking the initiative to act on behalf of an espoused cause or principle, thus demonstrating their commitment to it.

Encouraging the heart means creating a culture in which successes are celebrated and followers’ contributions are recognized. Leaders explicitly link followers’ performance with rewards.

Thus leadership self-efficacy was defined in this study as individuals’ perceptions about their ability to enact leadership behaviours in order to meet the demands of leadership situations. This definition was based on Bandura’s (1986) description of self-efficacy as a perception of one’s ability to organize and execute courses of action within a domain of performance, to achieve desired effects. Leadership behaviours were those that were consistent with the five leadership practices described by Kouzes and Posner (2002a).

According to Bandura (1986), information from personal, behavioural, and environmental sources is integrated into assessments of personal efficacy through self-reflective
processes. Bandura (1997) suggested four sources through which self-efficacy beliefs in a particular behavioural domain can be increased. These are: enactive mastery experience, vicarious experience, verbal persuasion, and physiological and affective states. By attending to, reflecting on, evaluating, weighing, and integrating information from these sources individuals develop and refine judgments about their ability to mobilize the required cognitive, motivational, and behavioural resources to meet the demands of particular situations. Consistent with this theoretical perspective, Popper and Lipshitz (1993) have suggested that activities that provide opportunities for performance of leadership behaviours, enhance the success of those performance attempts, and generate feedback related to successful performance can enhance leadership self-efficacy and encourage individuals’ further engagement in leadership practices.

Enactive mastery occurs when an individual experiences successful performance in a domain. Mastery experiences are the most influential source of efficacy information, and are especially important with early performance attempts (Bandura, 1986). By achieving success in successively more challenging performance situations, individuals increase their self-efficacy. However, repeated success with only easy performance goals can impede development of the resilience necessary to persevere in the face of performance obstacles. Thus, early successes combined with experience in overcoming performance obstacles, are important sources of self-efficacy.

Vicarious experience or modeling involves observation of others being successful in undertaking behaviours and managing situations. Through modeling, observers gain insight into ways of enacting behaviours, and the effectiveness of those behaviours in various situations. To the extent that the model is perceived as similar to oneself in terms of ability, modeling can influence judgments about one’s own efficacy regarding similar behaviours and situations.
Verbal persuasion is the expression by significant others that one is capable of mastering situations and performance challenges. Verbal persuasion alone is unlikely to reverse individuals’ convictions that they lack the ability to be successful. However it can enhance realistic and positive efficacy beliefs and motivate individuals to initiate and sustain performance phenomenon, depending on how it is processed cognitively. Individuals can enhance their self-efficacy by reducing their physiological and affective arousal in response to stressful situations, or by altering their interpretations of the information.

Analysis of the sources of self-efficacy suggests links between the mentoring functions and increases in leadership self-efficacy. Possible relationships between mentoring functions and leadership self-efficacy are examined in the following section.

Mentoring Functions and Leadership Self-efficacy

Preliminary evidence suggests a positive relationship between mentorship and increased self-efficacy in nursing (D.W. Allen, 1998; Hayes, 1997) and non-nursing (T.D. Allen & Day, 2004) groups. Thus, mentorship may be an effective strategy for enhancing self-efficacy related to performance of leadership behaviours. Both career and psychosocial mentoring functions can contribute to increases in protégés’ leadership self-efficacy through the four sources of self-efficacy beliefs. The theorized relationships between mentoring functions and the sources of leadership self-efficacy are described in the following sections.

Career Mentoring Functions and Leadership Self-efficacy

Career mentoring functions provide opportunities for protégés to engage in leadership behaviours, guidance that contributes to successful attempts at leadership behaviours, and feedback that encourages perseverance through challenging leadership situations. The
contribution of each of the career mentoring functions to leadership self-efficacy is discussed below.

Sponsorship assists protégés gain access to positions and roles that can provide opportunities to enact leadership behaviours in challenging situations (Kram, 1985). Success in these leadership situations then constitutes a mastery experience, and provides feedback to the protégé on his or her effectiveness as a leader, thus reinforcing leadership practices and enhancing the protégé’s belief that he or she will perform well in future leadership situations. In addition, the public support of the mentor is a form of verbal persuasion for the protégé. Sponsorship for leadership roles would seem to be an important contributor to leadership self-efficacy, since it provides opportunities to successfully perform leadership behaviours, and validation that one is likely to succeed.

Exposure-and-visibility involves the creation by the mentor of structured opportunities for the protégé to develop relationships with others in the organization (Kram, 1985). In turn, these contacts can provide learning encounters that are critical to future success as a leader, visibility to others who can provide leadership experiences, and exposure to opportunities for successful performance which might otherwise be unavailable. Like sponsorship, the exposure-and-visibility function has the potential to impact protégé self-efficacy as a leader by providing opportunities for mastery experiences that she or he could not otherwise access.

The protection function involves the mentor taking responsibility for outcomes in controversial situations, and intervening in situations that are beyond the protégé’s ability to manage (Kram, 1985). The protection function can serve to shield the protégé from the unsuccessful outcomes of their attempts at leadership behaviours or limit attempts that are likely to be unsuccessful. The protection function may be especially important for protégés in the early
stages of leadership competence development, as performance failures that occur before efficacy beliefs are well established can impede development of these beliefs (Bandura, 1997). However, the protection function must be exercised judiciously by mentors, as it can limit protégé attempts to perform in higher risk situations, where they can experience overcoming obstacles through perseverance. Success in overcoming obstacles to performance supports resilience, which is necessary to the development of self-efficacy (D.W. Allen, 1998; Wood & Bandura, 1989a). Thus, prudent exercise of the protection function can contribute to mastery experiences.

Coaching is the process through which mentors provide advice, information, and perspectives on the organization and the protégé’s work role performance (Kram, 1985). Mentors share information about performance expectations, suggest strategies to enhance performance success, and offer an informed perspective on how the protégé’s actions will be received by others in the organization. For aspiring leaders, the suggestions and performance feedback provided by a coach contribute directly to the success of their attempts at leadership practices. In turn, successful enactment of leadership practices allows protégés to experience mastery of leadership situations, which enhances leadership self-efficacy. Through feedback, the mentor also provides verbal persuasion that enhances the protégé’s belief in their ability to be successful in leadership situations.

Provision of challenging assignments involves designing work opportunities that allow the protégé to develop expertise in specific work-related tasks of increasing complexity, while receiving technical training and ongoing performance feedback from the mentor (Kram, 1985). Challenging work assignments provide mastery experiences directly as protégés achieve success in situations of increasing complexity. The training and feedback protégés receive from mentors also support the protégé’s success as they access the developmental opportunities provided
through mentor sponsorship and exposure-and-visibility. Provision of challenging assignments is critical to the development of leadership self-efficacy because it provides specialized knowledge regarding successful performance as a leader, opportunity to apply this knowledge, and direct feedback on the success of the protégé’s attempts at leadership practices.

In summary, career mentoring functions can contribute to increases in leadership self-efficacy through enactive mastery experiences and verbal persuasion. Sponsorship, exposure-and-visibility, protection, coaching, and provision of challenging assignments create opportunities for successful performance, provide teaching and direction to enhance the likelihood of success, validate the protégé’s potential to be successful when attempting leadership behaviours, and enhance the protégé’s experience of success through feedback from the mentor, from others in the organization, and from the leadership situation. Psychosocial mentoring functions can also contribute to leadership self-efficacy. Theoretical connections between psychosocial mentoring functions and leadership self-efficacy are now discussed.

**Psychosocial Mentoring Functions and Leadership Self-efficacy**

Psychosocial mentoring functions foster self-identity as a leader, validate that the protégé is worthy of the attention and friendship of established leaders, and provide encouragement and emotional support as the protégé engages in new leadership practices. The contribution of each of the psychosocial mentoring functions to leadership self-efficacy is discussed below.

Role modeling is the process through which the protégé identifies with the attitudes, values, and behaviours of the mentor, and integrates these into an idealized self-image (Kram, 1985). As the protégé’s identification with the mentor strengthens, he or she is able to imagine behaving in a similar manner and achieving similar success in the leadership role. As role models, mentors provide protégés with vicarious experiences of leadership success. Vicarious
modeling experiences can provide comparative information to support self-efficacy beliefs when protégés have little direct information about their ability to manage specific leadership situations, and instructive information that will contribute to protégé mastery experiences (Bandura, 1986).

Through the mentor’s counseling activities, the protégé can explore personal concerns that can interfere with the development of a positive sense of self in the organization (Kram, 1985). Mentors provide a safe forum for protégés to express self-doubt about their leadership ability, share their own experience, and provide feedback to assist protégés to address concerns about their leadership competence. By providing realistic feedback that validates protégé capabilities, mentors contribute to self-efficacy through verbal persuasion (Bandura, 1986), while sharing their own experiences provides vicarious efficacy information. Mentors can also assist protégés to decrease or re-frame physiological and affective information that can otherwise suggest vulnerability to failure in leadership situations. Through counseling, mentors remove potential barriers to protégé development of leadership self-efficacy, and support protégés to continue to pursue leadership goals despite periodic lapses in self-confidence or success.

Mentor acceptance-and-confirmation provides validation for protégés regarding their competence and performance (Kram, 1985). The mutual respect and liking between mentor and protégé create a sense of trust that encourages the protégé to take risks, and try new ways of behaving in the leadership role. Protégés who experience acceptance-and-confirmation are more willing to risk disagreeing with the mentor, which is essential to the development of an identity as a leader, separate from that of the mentor. Acceptance and respect from the mentor can be interpreted by the protégé as a statement of the mentor’s belief in the protégé’s ability to be successful in the leadership role, thus constituting a form of verbal persuasion.
Similarly when a mentor befriends a protégé, the protégé begins to feel like a colleague and peer, worthy of the attention and friendship of an established leader. Friendship between mentor and protégé is characterized by informal social interactions that are enjoyed by both partners and that enhance mutual liking (Kram, 1985). This inspires confidence in the protégé in interactions with other senior organizational members, and supports self-identity and self-confidence as a leader. Thus friendship also provides information to support self-efficacy beliefs by providing persuasive information about the mentor’s belief in the protégé’s leadership capabilities.

In summary, psychosocial mentoring functions contribute to leadership self-efficacy through vicarious modeling, verbal persuasion, and interpretation of physiological and affective information. Role-modeling, counseling, acceptance-and-confirmation, and friendship provide vicarious experiences of success, reinforce the mentor’s belief in the protégé’s leadership capabilities, and minimize the negative effects of somatic and emotional reactions to challenging leadership situations.

Analysis of career and psychosocial mentoring functions suggest that they may be an effective means through which protégé leadership self-efficacy can be increased. Receipt of mentoring functions provides protégés with efficacy information through enactive mastery, vicarious modeling, verbal persuasion, and interpretation of physiological and emotional stimuli.

Individual characteristics may also affect self-efficacy beliefs (Bandura, 1986). Protégé leadership training, advanced education, and experience in leadership roles may enhance leadership self-efficacy. The possible impact of these factors on leadership self-efficacy is discussed in the following section.
Leadership Training, Professional Education, Administrative Experience, and Leadership Self-efficacy

Bandura (1997) suggests that self-efficacy beliefs are not “devoid of any underlying capabilities” (p. 61), but rather that possession of some measure of the skills necessary to successful performance is essential to sustaining self-efficacy beliefs. In particular, individuals’ beliefs about their ability to master work-related knowledge and skills can affect self-efficacy related to occupational roles (Bandura). Participation in leadership training can support an increased repertoire of leadership skills, as well as insight into how to enact leadership behaviours to achieve desired outcomes. Thus, participation in leadership training, with the concomitant acquisition of leadership skills, increases the potential for individuals to successfully enact leadership behaviours and experience performance mastery. Furthermore, participation in leadership training activities may itself provide opportunities for enactive mastery through simulated leadership performance exercises, and persuasive verbal messages in the form of positive feedback regarding trainees’ leadership skills and potential for successfully enacting leadership behaviours.

Individuals’ level of professional education may also impact leadership self-efficacy beliefs. Bandura (1997) suggests that efficacy beliefs, while domain-specific, may generalize somewhat to similar performance domains. Thus, individuals’ success in achieving advanced educational credentials may provide enactive mastery experiences related to knowledge and skill development in general. In turn, this could support efficacy beliefs about one’s ability to develop leadership knowledge and skills.

It is also likely that individuals’ tenure in formal leadership roles will contribute to their perceptions of their ability to perform in leadership situations. Attainment of a leadership
position can be construed as positive feedback about one’s leadership abilities, thus constituting a persuasive message. In addition, experience in leadership roles can provide opportunities to enact leadership practices. Successful performance of leadership behaviours in diverse contexts and under varying degrees of difficulty can provide enactive mastery experiences. Furthermore, experience in a leadership role may provide opportunities for incumbents to observe like others exhibiting effective leadership performances, which can constitute efficacy information through vicarious modeling. Finally, experience in a leadership role may provide opportunities for incumbents to receive positive persuasive messages from credible sources regarding their leadership performance.

In summary, the conceptual model presented in this chapter depicts mentoring functions as promoting leadership self-efficacy. The impact of other factors including leadership training, professional education, and experience in a leadership role are also depicted as contributors.
CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY

Research Design

The purpose of this study was to examine the effect of mentoring on nurses’ leadership self-efficacy (LSE). The study was undertaken within the context of a comprehensive leadership development intervention that provided leadership training and encouraged and facilitated mentoring. In order to demonstrate the effect of mentoring on LSE over time, a prospective, repeated measures design was used. Protégé LSE was measured at three points: at the beginning of a leadership training intervention; at the conclusion of leadership training; and at three to four months following training.

Previous research has demonstrated increases in leadership self-efficacy immediately following leadership training interventions (Bloom & Sheerer, 1992; Koesler, 1994) and at one year following leadership training (Koesler). Although no studies were located that measured a change in leadership self-efficacy at three months, that is within the timeframe of the current study, observer-reported increases in leadership behaviour have been demonstrated at two months (Aroian et al., 1996) and at three months (Tourangeau et al., 2003) following leadership training. Changes in behaviour have been shown to be a consequence of changes in self-efficacy (Wood & Bandura, 1989b). Given that changes in leadership behaviour have occurred within a three-month timeframe, it was reasonable to consider that changes in leadership self-efficacy could be observable over this interval. Data regarding the mentoring functions to which participants were exposed over a three to four month interval following training were collected in the final weeks of that interval, prior to the third collection of leadership self-efficacy data.

A prospective design was selected in order to demonstrate the development of leadership self-efficacy that occurred during the period in which participants were exposed to mentoring
functions. By measuring LSE at the beginning (Time 1) and conclusion (Time 2) of the training program, the effect of training on LSE could be determined, and controlled statistically. A third measurement of LSE three to four months later (Time 4) provided a measure of the level of leadership self-efficacy that was achieved in the three to four months following training. Measurement of the mentoring functions to which participants were exposed throughout the same three to four month interval allowed investigation of the effect of these mentoring functions on LSE. Mentoring was measured at approximately six weeks prior to the final LSE measurement (Time 3).

Setting and Sample

This study was undertaken within the context of a comprehensive nursing leadership development intervention. The sample was comprised of nurses who were attending the Dorothy M. Wylie Nursing Leadership Institute (DMWNLI) (Simpson, et al., 2002) and the Health Leaders Institute (HLI) (Health Leaders Institute, 2006). The DMWNLI is a nursing leadership development program aimed at fostering leadership in both established and aspiring nurse leaders. The HLI is a comparable leadership program developed and led by the creators of the DMWNLI that is marketed to a broader audience of leaders in the healthcare industry, and that is attended by nurses as well as other healthcare professionals. The programs are based on similar conceptual models and follow the same curriculum, with the exception that the focus in the HLI is on an interdisciplinary, rather than a nursing leadership context. The program provided at both institutes consists of an interactive five-day residential learning experience, with a follow-up weekend three to four months later. The goals of the institutes are to foster the development and application of a core set of leadership competencies relevant to the current context for nurse or healthcare leaders, and to support participants to begin a customized process for their ongoing
development. The program includes education in leadership theory, guided self-assessment and creation of an individualized plan for leadership development, structured opportunities for networking, and application of learning to a home-based change project.

The decision to recruit participants from the DMWNLI and HLI was based on several factors. First, the DMWNLI and the HLI were marketed to nurses and other health professionals who wished to enhance their leadership practices (Dorothy M. Wylie Nursing Leadership Institute, 2006; Health Leaders Institute, 2006). Therefore nursing participants were representative of the population of interest, that is nurses who were seeking to increase their leadership practices. Thus, these leadership institutes would provide a pool of potential study participants from which to recruit.

Second, the organizers of the DMWNLI and the HLI actively promote mentoring to support increased leadership behaviours (Simpson et al., 2002). During the institute, they explicitly communicate to participants their belief in the importance of mentoring to support leadership development. They also structure opportunities for networking among participants (Simpson et al.) and facilitate the development and maintenance of supportive relationships among participants through various alumnae activities including an annual reunion, periodic electronic mail communications, and web-based opportunities to share information about progress on home-based projects (Dorothy M. Wylie Nursing Leadership Institute, 2006; Health Leaders Institute, 2006). Sponsoring organizations are required to send at least two participants to the DMWNLI and the HLI. While participants were encouraged to attend in pairs composed of an established and an aspiring leader, communication with the institute organizers revealed that participants also attend in groups of three or more and are frequently peers rather than senior-junior partners. Thus it was not an expectation that participants would obtain mentoring
from the individual with whom they attended the institute or that only one partner would be the recipient of mentoring. Rather it was anticipated that many participants would receive mentorship support following the institute, since all attendees were engaging in leadership development activities.

Third, participants in the DMWNLI and HLI were likely to experience variability in both exposure to mentoring functions and changes in leadership self-efficacy, which was necessary in order to answer the research questions. DMWNLI participants have demonstrated variability in their leadership practices following participation (Tourangeau et al., 2003), which suggested that there might be variability in their levels of leadership self-efficacy as well. Variability in exposure to mentoring functions over the study period was also expected. Some participants were likely to attend with a designated mentor with whom they would continue to work during the three to four-month interval, while others might not develop a mentoring relationship with their dyad partner. Still others might attend in peer dyads or groups of three or more nurses from an organization. These participants might seek out mentoring from other sources, or might be exposed to little or no mentoring following the institute.

Fourth, the description of leadership presented at the institutes was based on Kouzes and Posner’s (2002a) five leadership practices. These five leadership practices formed the basis for the conceptualization of leadership self-efficacy in the model that guided this study.

Finally, the structure of the institutes, with a 5-day educational program and a follow-up session at three to four months, provided a consistent timeframe over which to measure participants’ achievement of leadership self-efficacy.

The DMWNLI is offered twice yearly, in a state-of-the-art learning facility in Toronto, Canada. The HLI is offered once per year in the same venue. A maximum of 96 participants
attend each offering of the institutes, and sessions are usually fully subscribed (Dorothy M. Wylie Nursing Leadership Institute). The conceptual framework that guides the DWNLI integrates the four domains of competence that the organizers assert are essential for nurse leaders: nursing practice; the business of healthcare; leadership practices; and use of self. Competence in the leadership domain is described according to Kouzes and Posner’s (2002a) five leadership practices. The program uses a variety of developmental strategies including didactic presentations, small group work, guided self-reflection, and application of learning to a home-based project. Activities are structured to provide opportunities for personal assessment, networking with other participants, and coaching from the facilitators and guest faculty.

Inclusion/Exclusion Criteria

In order to be included in the study, participants had to have attended the 5-day leadership institute. Individuals who had attended either leadership institute prior to their current session were excluded. Participants also had to be Registered Nurses in a Canadian jurisdiction. Eligible participants included nurses in formal staff or line leadership positions, those who aspired to such positions, and nurses who were or wished to be informal leaders.

Because the leadership institutes took place in the same general geographic location as the researcher’s work and academic institutions, it was possible that some of the institute participants would be employees or work colleagues of the researcher. This would mean that the student was in a position to provide mentoring functions to some of the institute participants, or inadvertently to influence their beliefs about mentoring and leadership self-efficacy. Therefore, institute attendees who were from the same employing institution as the researcher or who had worked with her during the past five years, were excluded from the study.
Estimated Sample Size

Sample size for this study was determined based on a power calculation, following the method described by Cohen (1992). With a power level of .8 and a significance level of .05 and assuming a moderate effect size for the relationship between career and psychosocial mentoring functions and leadership self-efficacy, a sample size of 67 was required when two independent variables, that is career and psychosocial mentoring functions, were included in the analysis. Effect size was determined based on the study by Hayes (1997), in which mentoring functions correlated positively with self-efficacy among nurse practitioner students ($r = .37$). This result yielded an effect size of .16, a moderate effect for a multiple regression statistical analysis. Based on this sample size calculation, it was determined that 75 participants would be recruited for the study, to allow for attrition during the three month interval. Approximately 95 participants attend each session of the DMWNLI. Therefore participants were recruited from successive offerings of the institute until the required sample size was obtained.

The measures that were used in the study were selected based on the definitions of the concepts in the guiding framework. These measures are described below.

Measures

Mentoring Functions

Protégé exposure to mentoring functions was measured using Noe’s (1988) Mentoring Functions Questionnaire. This instrument contains two subscales: the first measures career functions and the second captures psychosocial functions. Respondents indicate the extent to which each item describes their mentoring relationship, using one of two response formats. For the 17 items assessing career mentoring functions, respondents indicate their perception of the extent to which their mentor has provided the mentoring function described in the item, using a
5-point Likert-type scale with 1 = “To a very slight extent” and 5 = “To a very large extent.” For the remaining 15 items, which measure psychosocial mentoring functions, respondents indicate their agreement with statements describing their interactions with their mentor, using a 5-point numeric scale with anchors 1 = “Strongly disagree” and 5 = “Strong agree”.

Noe’s (1988) instrument was developed for use with educators, and has also been used in various populations including engineers (Chao, 1997), healthcare professionals (Koberg, Boss, & Goodman, 1998), home healthcare managers (Dansky, 1996), municipal employees (T.D. Allen, 2004), business women (T.D. Allen & Eby, 2004), MBA students (Godshalk & Sosik, 2003), business school graduates (Dreher & Ash, 1990), and mixed occupational groups (Armstrong, Allinson & Hayes, 2002; Chao et al., 1992). Adaptations of the instrument have involved rewording of items that were specific to the education context to fit the research population (T.D. Allen & Eby), use of single subscales (Koberg et al.), shortened versions of the instrument (Armstrong et al.; Dreyer & Ash; Godshalk & Sosik), and adaptations of the response scale to measure mentoring functions provided by a group (Dansky) or to measure mentors’ perceptions of the mentoring functions they provided.

Although the instrument had not been used in an exclusively nursing context, participants in Dansky’s (1996) and Koberg et al.’s (1998) studies included nurses. Internal consistency reliability estimates for the subscales have ranged from .77 to .87 for the career functions subscale and .84 to .94 for the psychosocial functions subscale; reported reliabilities for the total scale have ranged from .87 to .95.

In developing the mentoring functions scale, several aspects of validity were addressed. The 32 original items for testing were derived from the literature, including Kram’s (1985) qualitative work with 18 mentor-protégé dyads. This provided some assurance of content
validity, in that a broad sampling of the domain of content was undertaken, and the items were
generated from previous empirical and theoretical work (Nunnally & Bernstein, 1994).

The scale was then tested with 139 educators who participated in a formal mentoring
program. Based on their responses, 3 items were eliminated because more than half of the
respondents indicated they did not know whether or not their mentor had provided these
functions. Two of the three items that were dropped addressed the sponsorship function, and one
was related to protection.

Noe (1988) conducted an exploratory factor analysis of protégés’ responses to the
remaining 29 items. He found that two factors emerged, represented by 21 items. Of the eight
items that were eliminated, five were dropped due to comparable, and relatively low (between
.31 and .45) loadings on both factors, and three were discarded because they failed to load on
either factor. The first factor corresponded to Kram’s (1985) psychosocial functions, and
included coaching, counseling, acceptance and confirmation, and role modeling. The second
factor represented the career functions of protection, exposure and visibility, sponsorship, and
challenging assignments. Together these two factors accounted for 82% of the variance in
responses.

Finally, Chao (1997) found that the frequency of mentoring functions varied as predicted
with the phases of the mentoring relationship, in a sample of university engineering alumni.
Protégés in the initiation phase of a mentoring relationship reported receiving significantly fewer
mentoring functions than did respondents in the cultivation, separation, and redefinition phases.
These results provided further support for construct validity.

The present study employed the 32 original scale items, to enable comprehensive
assessment of the nine mentoring functions. This also provided an opportunity to evaluate the
appropriateness of the instrument for measuring mentoring functions in a nursing population. Items in the questionnaire that referred explicitly to the educational population in which it was originally used were reworded to fit a nursing context. For example, the item “provided you with support and feedback regarding your performance as an educator” was re-worded to read “provided you with support and feedback regarding your performance as a nurse”. A pilot test of the revised questionnaire was conducted.

**Leadership Self-efficacy**

Leadership self-efficacy (LSE) was measured using an adaptation of Kouzes and Posner’s (2002b) self-assessed Leadership Practices Inventory (LPI-Self). The LPI-self is a 30-item instrument comprised of 5 subscales corresponding to the 5 leadership practices. Each subscale consists of 6 items. Respondents indicate the frequency with which they believe they engage in the behaviour described in each item, using a 10-point numeric rating scale with 1 = “Almost never do what is described in the statement” and 10 = “Almost always do what is described in the statement”. The instrument was adapted for the current study to capture respondents’ confidence in their ability to enact the behaviour to achieve desired outcomes.

The LPI-Self has been employed with many populations (Posner & Kouzes, 1988), including several studies with nurses (Bowles & Bowles, 2000; George et al., 2002a; McKey, 2002; Tourangeau et al., 2004). Kouzes & Posner (2002b) reported Cronbach’s alpha reliability coefficients ranging from .75 for enabling and modeling to .87 for inspiring. Test-retest reliability was .94 for an earlier version of the instrument that used a 5-point response scale (Posner and Kouzes).

Tourangeau et al. (2003) obtained somewhat lower reliability estimates in their nursing sample, in a pre-intervention self-assessment of leadership practices: modeling the way yielded
an alpha coefficient of only .46, while enabling others to act resulted in an alpha of .67. Post-intervention reliability estimates ranged from .74 to .89. In reviewing these results, Tourangeau and McGilton (2004) suggested that the homogeneity of the sample, which was comprised almost entirely of female Canadian nurses, may have accounted for the low reliability estimates. McKey (2002) demonstrated test-retest reliability in a pilot study sample of six Chief Nursing Officers in Ontario, Canada. She found significant positive correlations at the subscale and individual item level between respondents’ initial self-rating and their rating three weeks later, for each of the five leadership practices subscales, and the majority of individual items. Correlations between scores on tests administered two weeks apart ranged from .80 to .97 for leadership practices subscales. T-tests comparing scores on the two tests found no significant differences between scores on any of the subscales. Neither Bowles and Bowles (2000) nor George et al. (2002a) reported reliability data from their studies.

Factors analysis of combined self- and observer-assessed leadership practices using the LPI was conducted with a sample of over 2800 managers and executives and their subordinates from a variety of public- and private-sector organizations (Posner & Kouzes, 1988), using orthogonal rotation. Analysis of the data obtained from the entire sample and from several subsamples supported the five-factor solution as originally proposed by the authors, with 60% of the variance accounted for by the five factors. This provides evidence of construct validity. Predictive validity can also be inferred from Posner and Kouzes study of leadership practices and leadership effectiveness, involving 514 subordinates and colleagues of leaders. The observer-assessed leadership practices explained over half of the variance in leadership effectiveness. The LPI-Observer also effectively differentiated between high- and low-performing managers in over 90% of the cases.
Tourangeau and McGilton (2004) performed principal components factor analysis with orthogonal rotation of 337 responses to the LPI-Observer and 67 LPI-Self responses in a nursing sample. Their analysis yielded a three-factor solution that explained 65% of the variance in LPI-Observer responses. The three factors were conceptualized by the authors as cognitive leadership activities which was comprised of 10 items from the original inspiring and challenging practices, behavioural leadership activities consisting of 11 items from the enabling and modeling subscales, and supportive leadership activities, which were identical to Kouzes and Posner’s (2002b) encouraging practices. Analysis of the LPI-Self yielded a six-factor solution, with factors 1 and 3 demonstrating similar results to the LPI-Observer analysis; that, is cognitive and supportive practices, respectively. These two factors accounted for 19 items. The remaining 11 items loaded across the other four factors. Tourangeau and McGilton also imposed a 5-factor structure on the LPI-Observer data. While this structure explained 66% of the variance in responses, the resulting factors were not congruent with Kouzes and Posner’s (2002b) dimensions. Reliability and validity of the new subscales were demonstrated for Tourangeau and McGilton’s sample. Reliability estimates for the 27 items and three subscales were .93 or higher for the LPI-Observer data. Reliability coefficients were not provided for the new self-report subscales. The new self-reported leadership activities were significantly related to self-reported personal accomplishment, emotional exhaustion, and depersonalization in six of nine possible correlations, and effectively discriminated between established and emergent leaders.

Tourangeau and McGilton (2004) concluded that a three-dimensional conceptualization of leadership may be more appropriate for research with nurses, in which samples are more homogeneous in terms of both sex and professional role. However, the relatively small sample size used in the analysis of self-reported leadership practices, and the emergence of a 6-factor
solution for the self-assessment, suggest that further research is needed before use of a three-subscale instrument for self-reported leadership practices in nursing samples can be justified.

For the current study, the five-dimensional LPI-Self was adapted to measure the strength of participants’ self-efficacy beliefs related to the five leadership practices. To achieve this, the instructions, items, and response scale were re-worded to reflect the respondent’s certainty of their ability to effectively enact the behaviour described in each item, rather than the frequency with which they engaged in it. Respondent instructions were revised to read “How certain are you that you can engage in the following behaviours?” The revised rating scale was a 10-point numeric scale with anchors 1 = “Cannot do this” and 10 = “Certain I can do this”. The wording and format of the response scale followed that recommended by Bandura (1997) for measuring the strength of self-efficacy beliefs. In addition, the use of a 10-point scale mirrors the response scale in the LPI-Self (Kouzes & Posner, 2002b). The wording of items was also revised to reflect participants’ belief in their ability to engage in the behaviour. For example, the item “I talk about future trends that will influence how our work gets done”, which was scored in the original instrument based on the frequency with which the respondent engaged in the behaviour, was revised to read “I can talk about future trends that will influence how our work gets done”, to assess participants’ confidence in their ability to perform the practice. The adapted questionnaire was pilot-tested prior to its use in the current study.

Laschinger and Shamian (1994) used a similar approach to self-efficacy questionnaire development. They developed a Managerial Self-Efficacy Questionnaire (MSEQ) based on managerial competencies described by Quinn (1988; cited in Laschinger & Shamian).
Characteristics of Participants

Descriptive information was collected through a participant background questionnaire that captured demographic characteristics and historical information regarding their professional background and experience. Information was collected related to age; sex; position; and category and general geographic location (province or territory) of employing agency. This information provided a profile of the participants with respect to their leadership careers, and the context in which they were undertaking leadership development activities. In addition, information related to changes in participants’ employment situation was captured through a participant information update questionnaire at the follow-up weekend.

Three screening questions were also included in the participant background questionnaire, to assess respondent eligibility for participation in the study. Participants were asked if they were a registered nurse, were currently seeking to enhance their leadership abilities, and had attended either leadership institute previously. Individuals who indicated they were not a registered nurse, were not seeking to enhance their leadership abilities, or had attended the DWNLI or HLI previously were advised that they did not have to complete the remaining questions.

Confounding Variables

Three possible confounding variables were measured, in order to control for their effects in the analysis. These were: participants’ previous experience in formal leadership roles, participants’ level of education, and participation in leadership training. Information on each was collected from participants. The effect of the leadership training institute on leadership self-efficacy was assessed based on participants’ responses to the LSE questionnaire before and immediately following training.
Past experience in formal leadership roles would have provided participants with opportunities to engage in leadership practices and to reflect on the effectiveness of their performance. Thus participants’ previous experience in formal leadership roles may have impacted their leadership self-efficacy. Nurses’ experience in leadership roles has also been shown to influence leadership practices (Tourangeau et al., 2003) and level of career development (Rawl, 1989). Therefore it was reasonable to consider that respondents’ years of experience in a leadership role may have influenced leadership self-efficacy. Similarly, advanced education and participation in leadership training were likely to increase nurses’ perceptions of the repertoire of knowledge and skills they brought to leadership situations, which could have positively affected their leadership self-efficacy. Advanced education has also been associated with level of career development (Rawl) and with confidence in one’s leadership abilities (D.W. Allen, 1998; Moran et al., 2002). Participation in leadership training has resulted in increased leadership practices among nurses (Cunningham & Kitson, 2000; DeSimone, 1999; George et al., 2002a; Hill, 2003; Tourangeau et al.). Therefore level of education and participation in leadership training were included as control variables.

The length of the mentoring relationship (Chao et al., 1992) and the frequency of interaction between mentor and protégé (Noe, 1988) have been shown to impact the provision of mentoring functions. Therefore information related to these factors was also collected in order to account for their effects on protégés’ mentoring experiences.

Ethical Considerations and Safeguards

Ethics approval was obtained from the Research Ethics Committee at the University of Toronto. Completed pilot and study questionnaires and consent forms were stored in a locked cabinet in the offices of the Faculty of Nursing at the University of Toronto throughout the study.
period. They will remain locked in the offices of the Faculty of Nursing for six years following completion of the study, after which time they will be destroyed.

Participants in the pilot study were not asked to provide any identifying information on the instruments, thus ensuring anonymity of their data. Pilot consent forms were collected and stored separately from the pilot instruments.

Completed background and self-efficacy questionnaires were collected by the student at the DMWNLI and HLI in a secure container. The container was transported unopened to the Faculty of Nursing offices by the researcher. Completed mentoring functions questionnaires and self-efficacy questionnaires completed by participants who do not attend the follow-up weekend were returned directly by mail to the researcher’s attention at the Faculty of Nursing offices.

Time 1 response envelopes from study participants were opened at the Faculty of Nursing offices and the contact information sheet immediately separated from the study questionnaires. Contact information sheets and completed questionnaires were stored separately, to ensure that survey responses could not be linked to individual participants.

Study questionnaires were coded numerically to protect respondent confidentiality while enabling comparison of Time 1, 2 and 4 self-efficacy scores and mentoring functions scores. A single list of participant names and numeric codes was maintained, to enable distribution of Time 2, 3, and 4 questionnaires and follow-up letters to participants. This list was kept in a locked cabinet in the offices of the Faculty of Nursing, University of Toronto, to which only members of the research team had access. Participants were identified in the computer database by numeric code only, and access to the database was protected by password available only to members of the research team.
Pilot Study

A pilot test of the demographic questionnaire, the mentoring functions questionnaire and the modified LPI-Self questionnaire were conducted with a sample of nurses who had previously attended the DMWNLI. These individuals were contacted through the DMWNLI alumnae listserve and invited to participate in the pilot study. An invitation (see Appendix A) was posted on the listserve by the listserve manager. The listserve is managed under contract by a third party who is not one of the institute organizers. Those who agreed to participate were invited to attend a two-hour session at the Faculty of Nursing, University of Toronto. Prospective participants were informed that light refreshments would be served at the pilot session.

At the pilot session, the researcher gave an oral overview of the main study and an explanation of the purpose and procedures for the pilot study (Appendix B). A gift certificate for a copy shop chain was distributed at this point, as an incentive for participants to participate in the pilot study. Following this, participants were provided with a pilot study package that contained two copies of the consent form for the pilot study (Appendix C) and a copy of the study questionnaires (Appendices D through F). The researcher then reviewed the consent form with pilot participants, and answered any questions. Those who consented to participate completed the consent form and returned one copy to the researcher.

Participants then completed each questionnaire in turn, marking any items that were unclear. Participants were also asked to comment on the ease or difficulty of questionnaire completion, and the overall clarity of the items and the response scale, on the instruments. The researcher noted the length of time required for participants to complete each questionnaire. Participants were then invited to report orally to the researcher any issues with clarity, ease of completion, or length of time required to complete each instrument, and to ask questions.
regarding the instruments and the main study. The researcher documented issues with questionnaire completion that arose during these discussions. Following completion of the pilot session, participants placed the completed questionnaires in a secure container provided by the researcher.

Data Collection Procedures

Permission was obtained from the organizers of the DMWNLI and the HLI to gain access to the institutes for this study. In exchange for their assistance with the study, the institute organizers will be provided with a summary copy of the final report.

Data were collected from participants at four times. LSE data were collected at times 1, 2, and 4. Mentoring data were collected at time 3.

Study packages for times 1, 2, and 4 were distributed in person by the researcher to attendees at the DMWNLI and the HLI, at the beginning and conclusion of the institute and during the follow-up weekend. The study package for time 3 was distributed via mail six weeks prior to the follow-up weekend. Study questionnaires were numerically coded to enable reconciliation of data from the four data collection times. Details regarding content, distribution and collection of study materials are described below.

Time 1 Data Collection

Time 1 data collection took place at the end of the first full day of the leadership institute. The researcher provided a verbal explanation of the study to institute participants, including purpose, eligibility criteria, data collection procedures, and safeguards for privacy and confidentiality. An opportunity was provided for participants to ask questions. Following the oral presentation, the researcher remained at the institute to answer additional questions, and to provide study package 1 to institute participants who expressed interest in joining the study.
Study package 1 contained a written copy of the information that the student had presented about the study, the background questionnaire, the leadership self-efficacy questionnaire, a participant contact information sheet, (Appendices G, D, E, and H), and a business size envelope. A gift certificate for a local coffee shop was also included in package 1, as an incentive.

The participants were instructed that if they agreed to participate in the study, they were to complete the background questionnaire, leadership self-efficacy questionnaire and contact information sheet by the next morning, place the completed documents in the business size envelope provided, seal it, and return it to the researcher the next morning. Participants were advised to retain the copy of the information explaining the study for their personal records. The researcher was present at the leadership institute the morning of the second day to collect the envelopes in a secure container. The researcher transported the returned participant packages to the Faculty of Nursing in the collection container.

**Time 2 Data Collection**

Time 2 data collection began on the final evening of the institute, and concluded the following morning. The student distributed study package 2, which contained the leadership self-efficacy questionnaire and a return envelope, to institute participants who had agreed to join the study. Study participants were requested to complete the questionnaire and return it the following morning, prior to their departure from the institute. Collection and transportation of the completed questionnaires was the same as at Time 1.

**Time 3 Data Collection**

Time 3 data collection began six weeks prior to the follow-up weekend for the leadership institutes. A modified Dillman (2000) method was used to optimize response rate. Participants were mailed study package 3, containing an explanatory letter (Appendix I), the mentoring
functions questionnaire (Appendix F), and a postage-paid return envelope addressed to the researcher at the Faculty of Nursing. They were asked to complete the questionnaire and return it to the researcher in the postage-paid envelope, prior to the follow-up weekend. Five weeks prior to the follow-up weekend, all study participants were mailed a postcard (Appendix J) thanking those who had already returned the mentoring functions questionnaire, and encouraging the others to complete and return the survey. Two weeks prior to the follow-up weekend, participants who had not yet returned the mentoring functions questionnaire were mailed a second study package containing a follow-up letter (Appendix K), a second copy of the mentoring functions questionnaire, and a postage-paid return envelope. They were reminded that it was important that they complete the mentoring questionnaire before returning for the follow-up weekend at the leadership institute.

*Time 4 Data Collection*

Time 4 data collection began on the first evening of the follow-up weekend and concluded the following morning. The student provided a brief oral review of the study, after which study package 4 was distributed to study participants. Package 4 contained the leadership self-efficacy questionnaire (Appendix F), the participant information update survey (Appendix L), and a return envelope. Collection and transportation of the completed questionnaires followed the same procedure as at Times 1 and 2.

Since some participants did not return for the follow-up weekend, additional procedures (Dillman, 2000) were employed to increase the response rate at Time 4. Respondents who did not return for the follow-up weekend were mailed a package containing an explanatory letter (Appendix M), the leadership self-efficacy and participant information update questionnaires, and a postage-paid return envelope. Two weeks following this mailing, non-respondents were
sent a follow-up letter (Appendix N) and a second survey. One week following the second mailing, non-respondents were contacted by telephone (see Appendix O). They were asked if they had any questions regarding survey completion, encouraged to complete and return the questionnaires, and advised that an additional copy of the questionnaire could be mailed to them if required.

Data Preparation and Management

Participant responses to screening questions at Time 1 were reviewed, and individuals who did not meet the inclusion criteria were excluded from the analysis. Screening criteria included being a Registered Nurse in a Canadian province or territory, currently seeking to enhance their leadership abilities, and not having attended either leadership institute previously. Four participants who completed study materials at Time 1 were excluded because they indicated they had attended one of the leadership institutes previously, and 1 participant was excluded because she/he was not a Registered Nurse.

Responses from all eligible participants were entered into SPSS for Windows Version 15.0 for data analysis. Nominal variables were assigned a numeric value. For the mentoring functions questionnaire the “don’t know” option was assigned a missing value code of 999. These responses were excluded from the analyses. For LSE or mentoring functions continuous variables that were reported as a range, the midpoint of the range was entered as the value. For example a response of “4 – 5”, was entered as 4.5.

Length of time in current and previous positions and experience in an administrative role were entered as number of years. Participant age was calculated by subtracting year of birth from the year when the initial survey was completed (i.e. 2006 or 2007). LSE subscale scores were calculated by summing the values from the individual subscale items, as outlined by Kouzes and
Posner (2000) for the original instrument. LSE change scores were calculated for each subscale for the interval between Time 1 and Time 2, by subtracting the Time 1 score from the Time 2 score. The change in LSE between Times 1 and 2 was used as an indicator of the effect of the leadership institute on LSE, which was a control variable.

Scores for the career and psychosocial mentoring functions subscales were calculated as the mean of the subscale item scores, as described by Noe (1988). Length of the mentoring relationship was determined based on participants’ reports of the month and year the mentoring relationship began and ended. For participants whose mentoring relationship was ongoing at the time of the completion of the mentoring questionnaire, the length of the mentoring relationship was measured from date of initiation to the time of survey completion. Length of mentoring relationship was measured in years.

A double data entry procedure using SPSS Data Entry for Windows Version 4.0 was conducted to ensure accuracy of data entry. Where inconsistent entries for an item were located, the original questionnaire was consulted and the correct response entered. Frequency counts for all variables were also reviewed to identify extreme values or entries that exceeded the response range or options on instrument scales. Where these were found, the entry was compared with the original questionnaire and the entry corrected as appropriate.

Data Analysis

Following completion of data collection and preparation, descriptive analysis of demographic, control, mentoring, and LSE variables was conducted. Hierarchical regression analysis was then performed on scores from the sample of mentored participants to examine the effect of control and mentoring variables on leadership self-efficacy. A secondary analysis was also performed to compare LSE scores of mentored and non-mentored participants across data
collection times. Results of these analyses and of the pilot test of the instruments are detailed in the following chapter.
CHAPTER 5: RESULTS

In this chapter results of data analysis are presented. Results of the pilot test of the study instruments are described first. Response and attrition rates for the study are reported next, followed by a description of the demographic characteristics of the sample. Internal consistency reliability coefficients for the leadership self-efficacy and mentoring subscales are outlined next. Means and standard deviations are then reported for leadership self-efficacy (LSE) measures for each of the five leadership practices at times 1, 2, and 4. Frequency distributions for nominal and ordinal data related to mentoring are presented next, followed by means and standard deviations for continuous mentoring variables measured at time 3. Finally, analysis of results directed toward the research questions is described.

Pilot Study

The demographic questionnaires, LSE instrument and mentoring functions questionnaire were pilot tested with a sample of three nurses who had previously attended the Dorothy Wylie Nursing Leadership Institute (DWNLI). Participants for the pilot study were recruited through the DWNLI listserv. Two DWNLI alumnae attended the pilot session in person, and one individual participated via electronic mail and facsimile communication. Pilot participants required between 10 and 15 minutes to complete the combined demographic questionnaire and LSE questionnaire, and 8 to 10 minutes to complete the mentoring functions questionnaire. Based on participant feedback, four items on the demographic questionnaire that referred to the respondent’s current or previous position were re-worded to state “position/job assignment”. Two items on the mentoring questionnaire related to the time of initiation and termination of the mentoring relationship were re-worded to ask specifically about the year and month the
relationship had begun and terminated. No changes were made to the items comprising the LSE or mentoring functions subscales.

Response and Attrition Rates

Study participants were recruited at three consecutive offerings of the Dorothy Wylie Nursing Leadership Institute (DWNLI), and the Health Leaders Institute (HLI) in Toronto, Canada in October and November 2006 and May 2007. Initial response rates were determined based on the percentage of institute attendees who returned completed Time 1 study materials.

As demonstrated in Table 1, slightly less than half of the institute participants at the three sessions completed surveys at Time 1, while just over one third completed questionnaires at all four data collection points. Because it was not possible to know which institute participants met the inclusion criteria of being a Registered Nurse and not having previously attended the leadership institute, initial response rates are expressed as a percentage of the total number of institute attendees at each session. Response rates varied considerably among the three sessions, with substantially fewer HLI than DWNLI attendees joining the study.
Table 1

Response and Attrition Rates

<table>
<thead>
<tr>
<th>Institute</th>
<th>No. of attendees</th>
<th>No. who attended</th>
<th>No. who completed T1 (% total attendees)</th>
<th>No. who completed T2</th>
<th>Attrition rate at T2 (%)</th>
<th>No. who completed T3</th>
<th>Attrition rate at T3 (%)</th>
<th>No. who completed T4</th>
<th>Attrition rate at T4 (%)</th>
<th>No. who completed data sets (% per total attendees)</th>
<th>No. lost to study through attrition (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DWNLI</td>
<td>96</td>
<td>69 (72%)</td>
<td>66</td>
<td>57</td>
<td>61</td>
<td>54/96 (57%)</td>
<td>15/69 (22%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oct. 2006</td>
<td></td>
<td></td>
<td>3/69 (4%)</td>
<td>12/69 (17%)</td>
<td>8/69 (12%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HLI</td>
<td>96</td>
<td>8 (8%)</td>
<td>8</td>
<td>8</td>
<td>7</td>
<td>7</td>
<td>1/8 (12%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nov. 2006</td>
<td></td>
<td></td>
<td>0/8 (0%)</td>
<td>0/8 (0%)</td>
<td>1/8 (12%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DWNLI</td>
<td>95</td>
<td>53 (56%)</td>
<td>51</td>
<td>42</td>
<td>46</td>
<td>39</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>May 2007</td>
<td></td>
<td></td>
<td>2/53 (4%)</td>
<td>11/53 (21%)</td>
<td>7/53 (13%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>287</td>
<td>130 (45%)</td>
<td>125</td>
<td>107</td>
<td>114</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5/130 (4%)</td>
<td>23/130 (18%)</td>
<td>16/130 (12%)</td>
<td>30/130 (23%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Attrition rates at Times 2, 3, and 4 were calculated based on the 130 institute participants who joined the study at Time 1 and met the inclusion criteria. The attrition rate was less than 25% both over the four data collection points and at each of times 2, 3, and 4, with the greatest loss of participants occurring at Time 3.

Eighteen participants did not return the mentorship questionnaires at Time 3; these were distributed by mail rather than in person. In addition, of the 10 participants who did not return for the follow-up weekend and who were mailed the Time 4 LSE questionnaire, only 4 returned completed questionnaires.

Participants who remained in the study over four data collection times were compared with those who dropped out, on the basis of their data related to the control variables of education and leadership experience, and their initial levels of self-efficacy for the five leadership practices. No differences were found between the 100 respondents who completed questionnaires at all four response times and those who did not, with the exception of the Time 1 LSE score for “encouraging the heart.” Nurses who left the study had a significantly higher level of “encouraging the heart” LSE at Time 1 \( (M = 49.90, SD = 6.46) \) than those who remained \( (M = 47.02, SD = 6.64) \), \( t(124) = -2.058, p < .05 \).

Description of the Sample

Demographic characteristics of sex, education, province or territory of registration, and employment for the participants who remained in the study over the four data collection points are summarized in Table 2. All 100 participants who were enrolled in the study were registered nurses who indicated they were actively seeking to enhance their leadership abilities. Slightly less than half of the participants \( (n = 44, 44\%) \) were baccalaureate prepared and 20% reported masters or doctoral level education. The majority were women \( (n = 97, 97\%) \), and were not
currently enrolled in a formal educational program (n = 59, 59%). Almost two-thirds were from Ontario, and close to two-thirds were employed in acute care hospitals, with over half holding first line or middle management (manager or director) positions. By comparison, Registered Nurses (RNs) in the general population in Canada are predominantly female (94%), employed in hospitals (63%), and working as staff nurses (78%) (Canadian Institute for Health Information [CIHI], 2007). Sixty-two percent of Canadian nurses are diploma educated (62%), with 36% reporting baccalaureate and 3% master’s or doctoral level preparation in nursing (CIHI). Overall 35% of RNs in Canada report Ontario as their province of registration (CIHI). Thus this study sample comprised a more highly educated group compared with the average for Canadian RNs, with over-representation from Ontario.
Table 2

*Participant Sex, Education, Registration, and Employment Data*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Response</th>
<th>N</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>Female</td>
<td>97</td>
<td>(97)</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>3</td>
<td>(3)</td>
</tr>
<tr>
<td>Highest Education Level</td>
<td>Baccalaureate</td>
<td>44</td>
<td>(44)</td>
</tr>
<tr>
<td>Level</td>
<td>Diploma</td>
<td>29</td>
<td>(29)</td>
</tr>
<tr>
<td></td>
<td>Master’s degree</td>
<td>18</td>
<td>(18)</td>
</tr>
<tr>
<td></td>
<td>Specialty certificate</td>
<td>7</td>
<td>(7)</td>
</tr>
<tr>
<td></td>
<td>PhD</td>
<td>2</td>
<td>(2)</td>
</tr>
<tr>
<td>Currently pursuing education</td>
<td>No</td>
<td>59</td>
<td>(59)</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>41</td>
<td>(41)</td>
</tr>
<tr>
<td>Province/Territory of Registration</td>
<td>Ontario</td>
<td>62</td>
<td>(62)</td>
</tr>
<tr>
<td></td>
<td>Manitoba</td>
<td>22</td>
<td>(22)</td>
</tr>
<tr>
<td></td>
<td>Alberta</td>
<td>7</td>
<td>(7)</td>
</tr>
<tr>
<td></td>
<td>Nova Scotia</td>
<td>5</td>
<td>(5)</td>
</tr>
<tr>
<td></td>
<td>New Brunswick</td>
<td>2</td>
<td>(2)</td>
</tr>
<tr>
<td></td>
<td>British Columbia</td>
<td>1</td>
<td>(1)</td>
</tr>
<tr>
<td></td>
<td>Missing</td>
<td>1</td>
<td>(1)</td>
</tr>
<tr>
<td>Current Employer</td>
<td>Acute care hospital</td>
<td>64</td>
<td>(64)</td>
</tr>
<tr>
<td></td>
<td>Longterm care facility</td>
<td>15</td>
<td>(15)</td>
</tr>
<tr>
<td></td>
<td>Educational institution</td>
<td>8</td>
<td>(8)</td>
</tr>
<tr>
<td></td>
<td>Community/public health agency</td>
<td>4</td>
<td>(4)</td>
</tr>
<tr>
<td>Current position</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>--------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (not specified)</td>
<td>4 (4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialty facility</td>
<td>3 (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government/Regional Health Authority</td>
<td>2 (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manager</td>
<td>44 (44)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Director/Assistant Director</td>
<td>16 (16)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff nurse</td>
<td>10 (10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (not specified)</td>
<td>10 (10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurse educator/clinical educator</td>
<td>8 (8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional Practice Leader</td>
<td>3 (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program/service/support service/shift coordinator</td>
<td>3 (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vice-president/Chief nurse</td>
<td>1 (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consultant</td>
<td>1 (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical leader/staff nurse leader</td>
<td>1 (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic chair/Education administrator</td>
<td>1 (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utilization manager/utilization nurse</td>
<td>1 (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Policy analyst</td>
<td>1 (1)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Previous position</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff Nurse</td>
<td>43 (43)</td>
</tr>
<tr>
<td>Nurse Educator/Clinical Educator</td>
<td>12 (12)</td>
</tr>
<tr>
<td>Manager</td>
<td>11 (11)</td>
</tr>
<tr>
<td>Director/Assistant Director</td>
<td>7 (7)</td>
</tr>
<tr>
<td>Other (not specified)</td>
<td>6 (6)</td>
</tr>
<tr>
<td>Program/Service Coordinator</td>
<td>4 (4)</td>
</tr>
<tr>
<td>Professional Practice Leader</td>
<td>3 (3)</td>
</tr>
</tbody>
</table>
Over 40% of participants reported their previous position as that of a staff nurse. All but 2 participants remained employed by the same organization throughout the study, and 6 participants changed positions between Time 2 and Time 4.

Demographic characteristics related to age, years in current and previous positions, and tenure in formal leadership positions are summarized in Table 3. The mean age of the sample was 45.6 years. Participants had been in their current positions for an average of four and one-half years, with a range of less than one to 28 years tenure in their current roles. They had an average of 6.7 years of experience in formal leadership roles, with 17 participants (17%) reporting less than one year total leadership experience, and 5 (5%) reporting 25 or more years. It is noteworthy that, although the majority of the sample reported some experience in formal
leadership positions, the participants were younger than the national mean age for nurses working in administration (49 years) or education (48 years) (CIHI, 2007). In contrast, the mean age of participants in this sample is closer to that of Registered Nurses in the general population in Canada which is 45.0 years.
Table 3

*Participant Age, Tenure in Current and Previous Position, and Years in Formal Leadership*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Minimum/Maximum</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>26 / 60</td>
<td>45.60</td>
<td>8.01</td>
<td>97</td>
</tr>
<tr>
<td>Years in current position</td>
<td>0 / 28</td>
<td>4.52</td>
<td>5.15</td>
<td>99</td>
</tr>
<tr>
<td>Years in previous position</td>
<td>0 / 29</td>
<td>7.69</td>
<td>6.94</td>
<td>96</td>
</tr>
<tr>
<td>Total years in leadership role</td>
<td>0 / 30</td>
<td>6.69</td>
<td>7.61</td>
<td>99</td>
</tr>
</tbody>
</table>

Reliability of Measures

Cronbach’s alpha coefficients were calculated for the leadership self-efficacy and mentoring functions subscales. As shown in Table 4, all subscales had acceptable reliability. All five LSE subscales yielded internal consistency coefficients greater than .70 at each of the three measurement points, while both mentoring subscales yielded alpha coefficients of .90.
Table 4

Cronbach’s Alpha Reliability Coefficients for Leadership Self-efficacy and Mentoring Functions

Subscales

<table>
<thead>
<tr>
<th>Subscale</th>
<th>No. of items</th>
<th>α value</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Challenge the Process</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1</td>
<td>6</td>
<td>.89</td>
<td>100</td>
</tr>
<tr>
<td>T2</td>
<td>6</td>
<td>.89</td>
<td>100</td>
</tr>
<tr>
<td>T4</td>
<td>6</td>
<td>.84</td>
<td>99</td>
</tr>
<tr>
<td>Inspire a Shared Vision</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1</td>
<td>6</td>
<td>.87</td>
<td>99</td>
</tr>
<tr>
<td>T2</td>
<td>6</td>
<td>.93</td>
<td>100</td>
</tr>
<tr>
<td>T4</td>
<td>6</td>
<td>.89</td>
<td>97</td>
</tr>
<tr>
<td>Enable Others to Act LSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1</td>
<td>6</td>
<td>.76</td>
<td>99</td>
</tr>
<tr>
<td>T2</td>
<td>6</td>
<td>.82</td>
<td>100</td>
</tr>
<tr>
<td>T4</td>
<td>6</td>
<td>.79</td>
<td>99</td>
</tr>
<tr>
<td>Model the Way</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1</td>
<td>6</td>
<td>.71</td>
<td>98</td>
</tr>
<tr>
<td>T2</td>
<td>6</td>
<td>.81</td>
<td>100</td>
</tr>
<tr>
<td>T4</td>
<td>6</td>
<td>.81</td>
<td>99</td>
</tr>
<tr>
<td>Encourage the Heart</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1</td>
<td>6</td>
<td>.86</td>
<td>97</td>
</tr>
<tr>
<td>T2</td>
<td>6</td>
<td>.92</td>
<td>100</td>
</tr>
</tbody>
</table>
Leadership Self-efficacy

Leadership self-efficacy (LSE) was measured at three points in time, using an adaptation of the Leadership Practices Inventory (Kouzes & Posner, 2002b). Descriptive statistics for each leadership self-efficacy (LSE) subscale were calculated, for times 1, 2, and 4 for the 100 participants who provided data at all four data collection points (see Table 5).
Table 5

*Leadership Self-Efficacy Scores Across Time*

<table>
<thead>
<tr>
<th>LSE Subscale</th>
<th>Range (Scale Min. 6/ Max. 60)</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Challenge the Process</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time 1</td>
<td>26 – 59</td>
<td>44.72</td>
<td>6.54</td>
<td>98</td>
</tr>
<tr>
<td>Time 2</td>
<td>30 – 60</td>
<td>47.75</td>
<td>6.62</td>
<td>100</td>
</tr>
<tr>
<td>Time 4</td>
<td>37 – 60</td>
<td>48.40</td>
<td>5.88</td>
<td>99</td>
</tr>
<tr>
<td><strong>Inspire a Shared Vision</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time 1</td>
<td>25 – 60</td>
<td>43.06</td>
<td>7.20</td>
<td>99</td>
</tr>
<tr>
<td>Time 2</td>
<td>19 – 60</td>
<td>46.77</td>
<td>7.13</td>
<td>100</td>
</tr>
<tr>
<td>Time 4</td>
<td>32 – 60</td>
<td>46.96</td>
<td>6.50</td>
<td>97</td>
</tr>
<tr>
<td><strong>Enable Others to Act</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time 1</td>
<td>35 – 60</td>
<td>48.67</td>
<td>5.07</td>
<td>99</td>
</tr>
<tr>
<td>Time 2</td>
<td>35 – 60</td>
<td>51.29</td>
<td>5.06</td>
<td>100</td>
</tr>
<tr>
<td>Time 4</td>
<td>37 – 60</td>
<td>51.11</td>
<td>4.60</td>
<td>99</td>
</tr>
<tr>
<td><strong>Model the Way</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time 1</td>
<td>33 – 58</td>
<td>47.29</td>
<td>4.94</td>
<td>98</td>
</tr>
<tr>
<td>Time 2</td>
<td>39 – 60</td>
<td>50.40</td>
<td>5.11</td>
<td>100</td>
</tr>
<tr>
<td>Time 4</td>
<td>34 – 60</td>
<td>49.85</td>
<td>5.06</td>
<td>99</td>
</tr>
<tr>
<td><strong>Encourage the Heart</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time 1</td>
<td>31 – 60</td>
<td>47.02</td>
<td>6.64</td>
<td>97</td>
</tr>
<tr>
<td>Time 2</td>
<td>30 – 60</td>
<td>50.01</td>
<td>6.77</td>
<td>100</td>
</tr>
</tbody>
</table>
Inspection of frequency distributions, skewness and kurtosis values, and normal probability plots revealed no significant departures from the assumption of normality. Overall participants reported a relatively high degree of self-efficacy for each of the LSE subscales over the four points of time in this study, with mean scores for each subscale greater than the midpoint at each data collection point. The highest mean self-efficacy scores over all three data collection periods were for the practice “enabling others to act”, while the lowest scores were for “inspiring a shared vision”.

Comparability of Institute Groups

Analysis of variance (ANOVA) was performed on LSE subscale scores to compare responses from the three institute groups, that is the October 2006 and May 2007 sessions of the DWNLI and the November 2006 session of the HLI (see Table 6). Levene’s test for homogeneity of variance among the groups was non-significant in each case, indicating that the assumption of homogeneity of variance was justified. There were no significant differences among the three institute groups with respect to LSE practices at Times 1, 2, or 4. Therefore, results from these three groups were combined for the remainder of the analyses.
Table 6

*Analysis of Variance for Leadership Self-efficacy (LSE) Scores at Times 1, 2, and 4 by Institute Attended*

<table>
<thead>
<tr>
<th>Time</th>
<th>Time 1 df</th>
<th>F</th>
<th>p</th>
<th>Time 2 df</th>
<th>F</th>
<th>p</th>
<th>Time 4 df</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSE-</td>
<td>2, 94</td>
<td>1.51</td>
<td>.69</td>
<td>2, 96</td>
<td>1.11</td>
<td>.33</td>
<td>2, 95</td>
<td>1.13</td>
<td>.33</td>
</tr>
<tr>
<td>Challenging</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSE-</td>
<td>2, 95</td>
<td>.41</td>
<td>.67</td>
<td>2, 96</td>
<td>1.79</td>
<td>.17</td>
<td>2, 93</td>
<td>.86</td>
<td>.43</td>
</tr>
<tr>
<td>Inspiring</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSE-</td>
<td>2, 95</td>
<td>.46</td>
<td>.63</td>
<td>2, 96</td>
<td>1.05</td>
<td>.35</td>
<td>2, 95</td>
<td>1.55</td>
<td>.22</td>
</tr>
<tr>
<td>Enabling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSE-</td>
<td>2, 94</td>
<td>.54</td>
<td>.58</td>
<td>2, 96</td>
<td>.39</td>
<td>.68</td>
<td>2, 95</td>
<td>1.06</td>
<td>.35</td>
</tr>
<tr>
<td>Modeling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSE-</td>
<td>2, 93</td>
<td>1.02</td>
<td>.36</td>
<td>2, 96</td>
<td>1.01</td>
<td>.38</td>
<td>2, 95</td>
<td>.71</td>
<td>.49</td>
</tr>
</tbody>
</table>

Mentoring Relationship and Mentoring Functions

Participant experience of mentoring functions was measured at Time 3, using Noe’s (1988) mentoring functions scale. Mentoring functions data were collected via mailed survey approximately six weeks prior to the follow-up weekend for each of the leadership institutes. Of the 100 nurses who completed questionnaires at all four data collection points, 61 participants (61%) indicated that they had a mentor during the data collection period.

Only those participants who had a mentor were able to complete the mentoring functions questionnaire. Therefore descriptive statistics regarding characteristics of the mentoring
relationship are expressed for the subgroup who reported having a mentor. Over 90% of respondents who had a mentor reported that their mentor was a nurse and worked in the same organization as the respondent (see Table 7). In most cases the mentor was not the person with whom the respondent attended the leadership institute. The majority of mentoring relationships developed naturally, and nearly half of the respondents reported meeting with their mentor at least once per week.
Table 7

**Protégé Relationship with Mentor**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Response</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method of assignment</td>
<td>Relationship developed naturally</td>
<td>52 (85.2)</td>
</tr>
<tr>
<td></td>
<td>Mentor was assigned</td>
<td>9 (14.8)</td>
</tr>
<tr>
<td>Mentor is a nurse</td>
<td>Yes</td>
<td>56 (91.8)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>5 (8.2)</td>
</tr>
<tr>
<td>Person is still mentor</td>
<td>Yes</td>
<td>61 (100)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Mentor works at same organization</td>
<td>Yes</td>
<td>58 (95.1)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>3 (4.9)</td>
</tr>
<tr>
<td></td>
<td>Missing</td>
<td>1 (1.5)</td>
</tr>
<tr>
<td>Mentor attended institute with participant</td>
<td>Yes</td>
<td>14 (23.0)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>47 (77.0)</td>
</tr>
<tr>
<td>Frequency met with mentor</td>
<td>At least once per week</td>
<td>30 (49.2)</td>
</tr>
<tr>
<td></td>
<td>Once or twice per month</td>
<td>20 (32.8)</td>
</tr>
<tr>
<td></td>
<td>Less than once per month</td>
<td>11 (18.0)</td>
</tr>
</tbody>
</table>

Descriptive statistics were also calculated for career and psychosocial mentoring functions, and for the length of the mentoring relationship (see Table 8). Career functions included sponsorship, exposure-and-visibility, coaching, protection, and provision of challenging assignments. Psychosocial mentoring functions included role modeling, acceptance-and-confirmation, counseling, and friendship.
Table 8

Career and Psychosocial Mentoring Functions Scores and Length of Mentoring Relationship

<table>
<thead>
<tr>
<th>Variable</th>
<th>Range</th>
<th>Mean (SD)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career Functions (Min.1/ Max. 5)</td>
<td>2.3 – 5.0</td>
<td>3.60 (.72)</td>
<td>43</td>
</tr>
<tr>
<td>Psychosocial Functions (Min.1/ Max. 5)</td>
<td>2.1 – 5.0</td>
<td>3.98 (.68)</td>
<td>51</td>
</tr>
<tr>
<td>Length of Mentoring Relationship (years)</td>
<td>0 – 25</td>
<td>3.32 (4.48)</td>
<td>60</td>
</tr>
</tbody>
</table>

The majority of participants who stated they had a mentor reported relatively high scores of both career and psychosocial mentoring functions, with means for both scores above the midpoint of the scales. Frequency of meeting with the mentor was associated with higher levels of career ($r = .39, p < .01$) and psychosocial ($r = .30, p < .05$) mentoring functions, and with fewer years of administrative experience ($r = -.28, p < .05$). Nearly half of the participants who had a mentor at the time of the study reported that their mentoring relationships had begun within the past year, while an additional one-third indicated their relationship was between one and five years old. Five participants reported a mentoring relationship of 10 years duration or longer.

Results Related to Research Questions

The focus of this study was on the effect of mentoring on nurses’ leadership self-efficacy. Therefore only responses from mentored participants ($n = 61$) were included in the main analysis.

Changes in Leadership Self-efficacy Across Time

Paired t-tests were conducted on LSE scores for mentored participants between Time 1 and Time 2, between Time 2 and Time 4, and between Time 1 and Time 4. Table 9 illustrates that differences in scores were significant for all five LSE subscales between Time 1 and Time 2; that
is between the beginning and the end of the 5-day leadership institute, and between Time 1 and Time 4. Changes in LSE between Time 2 and Time 4, that is for the period between the end of the leadership institute and the follow-up weekend during which participants’ exposure to mentoring functions was assessed, were considerable smaller. Leadership self-efficacy scores for three of the practices increased over this time period; however only “challenging the process” LSE demonstrated a statistically significant increase. Self-efficacy for two of the practices, “enabling others to act” and “modeling the way” decreased between Times 2 and 4, although these changes were not statistically significant.
Table 9

*Differences in Mentored Participants’ Leadership Self-Efficacy (LSE) Across Time*

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean LSE T1 (SD)</th>
<th>Mean LSE T2 (SD)</th>
<th>Mean Change (SD)</th>
<th>df</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Change Time 1 to Time 2 (training period)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSE -</td>
<td>43.18 (6.37)</td>
<td>46.68 (6.41)</td>
<td>3.51 (4.97)</td>
<td>56</td>
<td>5.33***</td>
</tr>
<tr>
<td>Challenging</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSE -</td>
<td>42.07 (7.01)</td>
<td>46.04 (6.88)</td>
<td>3.96 (5.46)</td>
<td>56</td>
<td>5.48***</td>
</tr>
<tr>
<td>Inspiring</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSE -</td>
<td>47.37 (5.06)</td>
<td>50.74 (5.25)</td>
<td>3.67 (4.41)</td>
<td>56</td>
<td>5.77***</td>
</tr>
<tr>
<td>Enabling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSE -</td>
<td>46.19 (4.56)</td>
<td>49.98 (4.92)</td>
<td>3.79 (4.32)</td>
<td>56</td>
<td>6.62***</td>
</tr>
<tr>
<td>Modeling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSE -</td>
<td>46.44 (6.95)</td>
<td>50.05 (6.94)</td>
<td>3.61 (4.39)</td>
<td>56</td>
<td>6.22***</td>
</tr>
<tr>
<td>Encouraging</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Change Time 2 to Time 4 (mentoring period)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSE -</td>
<td>47.03 (6.44)</td>
<td>48.30 (5.90)</td>
<td>1.27 (4.77)</td>
<td>59</td>
<td>2.06*</td>
</tr>
<tr>
<td>Challenging</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSE –</td>
<td>46.47 (6.98)</td>
<td>47.47 (6.36)</td>
<td>1.00 (4.93)</td>
<td>59</td>
<td>1.57</td>
</tr>
</tbody>
</table>

*Note: ***p < .001, **p < .01, *p < .05.*
### Change Time 1 to Time 4

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean LSE T1 (SD)</th>
<th>Mean LSE T4 (SD)</th>
<th>Mean Change (SD)</th>
<th>df</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LSE -</strong> Enabling</td>
<td><strong>50.98 (5.23)</strong></td>
<td><strong>50.85 (4.81)</strong></td>
<td><strong>-.13 (3.49)</strong></td>
<td><strong>59</strong></td>
<td><strong>.30</strong></td>
</tr>
<tr>
<td><strong>LSE -</strong> Modeling</td>
<td><strong>50.33 (5.06)</strong></td>
<td><strong>49.88 (4.87)</strong></td>
<td><strong>-.45 (3.82)</strong></td>
<td><strong>59</strong></td>
<td><strong>.91</strong></td>
</tr>
<tr>
<td><strong>LSE -</strong> Encouraging</td>
<td><strong>50.38 (6.96)</strong></td>
<td><strong>51.05 (5.69)</strong></td>
<td><strong>.67 (4.91)</strong></td>
<td><strong>59</strong></td>
<td><strong>1.05</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean LSE T1 (SD)</th>
<th>Mean LSE T4 (SD)</th>
<th>Mean Change (SD)</th>
<th>df</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LSE -</strong> Challenging</td>
<td><strong>43.18 (6.37)</strong></td>
<td><strong>48.04 (5.90)</strong></td>
<td><strong>4.86 (5.32)</strong></td>
<td><strong>56</strong></td>
<td><strong>6.90</strong>*</td>
</tr>
<tr>
<td><strong>LSE -</strong> Inspiring</td>
<td><strong>42.07 (7.01)</strong></td>
<td><strong>47.09 (6.25)</strong></td>
<td><strong>5.02 (5.39)</strong></td>
<td><strong>56</strong></td>
<td><strong>7.02</strong>*</td>
</tr>
<tr>
<td><strong>LSE -</strong> Enabling</td>
<td><strong>47.37 (5.06)</strong></td>
<td><strong>50.60 (4.79)</strong></td>
<td><strong>3.23 (4.66)</strong></td>
<td><strong>56</strong></td>
<td><strong>5.23</strong>*</td>
</tr>
<tr>
<td><strong>LSE -</strong> Modeling</td>
<td><strong>46.19 (4.56)</strong></td>
<td><strong>49.53 (4.73)</strong></td>
<td><strong>3.33 (4.52)</strong></td>
<td><strong>56</strong></td>
<td><strong>5.57</strong>*</td>
</tr>
<tr>
<td><strong>LSE -</strong> Encouraging</td>
<td><strong>46.44 (6.95)</strong></td>
<td><strong>50.74 (5.64)</strong></td>
<td><strong>4.30 (5.82)</strong></td>
<td><strong>56</strong></td>
<td><strong>5.57</strong>*</td>
</tr>
</tbody>
</table>

*Note: *p < .05; **p < .01; ***p < .001*
Relationship Between Mentoring and Control Variables, and Final Leadership Self-efficacy Scores

Correlation coefficients were computed between LSE scores for each leadership practice at Time 4, and the control and mentoring variables (see Table 10) for mentored participants who completed questionnaires at all four data collection points. The change in LSE from Time 1 to Time 2 was used as an indication of the effect of leadership training. Neither the mentoring variables nor education level was correlated with any of the Time 4 LSE scores. Years of administrative experience was positively correlated \((r = .28, p < .05)\) with self-efficacy in “modeling the way”. There was also a significant negative correlation \((r = -.28, p < .05)\) between administrative experience and frequency of interaction with the mentor.
Table 10

*Relationship Between Control and Mentoring Variables, and Leadership Self-efficacy (LSE) at Time 4*

<table>
<thead>
<tr>
<th></th>
<th>LSE – Challenge T1-2</th>
<th>LSE – Inspire T1-2</th>
<th>LSE – Enable T1-2</th>
<th>LSE – Model T1-2</th>
<th>LSE – Encourage T1-2</th>
<th>Years of Administrative Experience</th>
<th>Education</th>
<th>Length of Mentoring Relationship (yrs)</th>
<th>Frequency of Mentoring Functions</th>
<th>Career of Mentoring Functions</th>
<th>Psycho-social Mentoring Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSE – Challenge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.088</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>.210</td>
<td>.070</td>
</tr>
<tr>
<td>T4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.088</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>.210</td>
<td>.070</td>
</tr>
<tr>
<td>LSE – Inspire</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.003</td>
<td>---</td>
<td>.236</td>
<td>.037</td>
<td>-.006</td>
<td>-.132</td>
</tr>
<tr>
<td>T4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.236</td>
<td>.037</td>
<td>-.006</td>
<td>-.132</td>
<td>.082</td>
<td>-.013</td>
</tr>
<tr>
<td>LSE – Enable</td>
<td></td>
<td>.223</td>
<td></td>
<td></td>
<td></td>
<td>.064</td>
<td>-.110</td>
<td>.097</td>
<td>-.170</td>
<td>-.088</td>
<td>-.094</td>
</tr>
<tr>
<td>T4</td>
<td></td>
<td>.223</td>
<td></td>
<td></td>
<td></td>
<td>.064</td>
<td>-.110</td>
<td>.097</td>
<td>-.170</td>
<td>-.088</td>
<td>-.094</td>
</tr>
<tr>
<td>LSE – Model</td>
<td></td>
<td></td>
<td>.223</td>
<td></td>
<td></td>
<td>.064</td>
<td>-.110</td>
<td>.097</td>
<td>-.170</td>
<td>-.088</td>
<td>-.094</td>
</tr>
<tr>
<td>T4</td>
<td></td>
<td></td>
<td>.223</td>
<td></td>
<td></td>
<td>.064</td>
<td>-.110</td>
<td>.097</td>
<td>-.170</td>
<td>-.088</td>
<td>-.094</td>
</tr>
<tr>
<td>LSE – Encourage</td>
<td></td>
<td></td>
<td></td>
<td>.154</td>
<td></td>
<td>.277*</td>
<td>.031</td>
<td>.091</td>
<td>-.244</td>
<td>.011</td>
<td>-.003</td>
</tr>
<tr>
<td>T4</td>
<td></td>
<td></td>
<td></td>
<td>.154</td>
<td></td>
<td>.277*</td>
<td>.031</td>
<td>.091</td>
<td>-.244</td>
<td>.011</td>
<td>-.003</td>
</tr>
<tr>
<td></td>
<td>LSE –</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>.156</td>
<td>.002</td>
<td>-.05</td>
<td>.034</td>
<td>-.166</td>
<td>.134</td>
<td>.039</td>
</tr>
<tr>
<td>----------------</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td>------</td>
</tr>
</tbody>
</table>

Encourage

T4

* $p < .05$
Effect of Control and Mentoring Variables on Leadership Self-efficacy

Analysis of the effect of mentoring on LSE was conducted on the data from the sample of participants who indicated they had been mentored between leaving the leadership institute and returning for the follow-up weekend. Prior to conducting hierarchical regression analysis of the relationships between career and psychosocial mentoring functions and leadership self-efficacy, the data were displayed in a series of scatterplots in order to determine whether the relationship between the independent and dependent variables appeared to be linear or non-linear. Scatterplots depicting the relationship between each Time 4 LSE score and the predictor variables did not suggest non-linear relationships among these variables.

Hierarchical regression analysis was conducted to determine the effect of the control variables (education, administrative experience, and leadership training) and mentoring on LSE at Time 4. Separate analyses were performed for each of the five LSE Time 4 scores. In the first block, the control variables of highest education level and years of administrative experience were entered. Next the change score for LSE between Time 1 to Time 2 was entered, to control for the effect of leadership training. In the final block the mentoring variables were entered. These included career and psychosocial mentoring functions scores, length of the mentoring relationship, and frequency of interaction with the mentor.

Prior to evaluating the results of the regression analysis, the residuals were analyzed. Scatterplots of the standardized predicted values and residuals for each dependent variable supported the assumptions of normality, linearity, and heteroscedasticity as described by Tabachnick and Fidell (2007). Specifically, the plots displayed an overall rectangular shape with the points symmetrically distributed on either side of the fit line and no curvature evident in the distribution of points, suggesting that normality, linearity, and homoscedasticity are maintained.
Plots of observed and expected cumulative probabilities of standardized residuals were also consistent with these findings.

Residuals were also analyzed for outliers. Values that were more than three standard deviations from the predicted value were considered outliers. No values that deviated by more than three standard deviations from the regression line were found.

The three blocks were compared for incremental changes in variance (\(R^2\)) with the addition of each set of predictors. None of the predictors was significant at the .05 alpha level for any of the Time 4 LSE scores (see Table 11).
Table 11

*Comparison of Regression Models Predicting Final Leadership Self-efficacy (LSE) Scores*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Block 1</th>
<th>Block 2</th>
<th>Block 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>df1</td>
<td>df2</td>
<td>df1</td>
</tr>
<tr>
<td></td>
<td>R²</td>
<td>Adjusted R²</td>
<td>R² change</td>
</tr>
<tr>
<td>Challenging the Process LSE</td>
<td>.055</td>
<td>-.004</td>
<td>.939</td>
</tr>
<tr>
<td>Education</td>
<td>.794</td>
<td>.917</td>
<td>.154</td>
</tr>
<tr>
<td>Administrative experience</td>
<td>.147</td>
<td>.185</td>
<td>.142</td>
</tr>
<tr>
<td>Leadership training</td>
<td>.236</td>
<td>.198</td>
<td>.205</td>
</tr>
<tr>
<td>Career</td>
<td>1.044</td>
<td>1.994</td>
<td>.129</td>
</tr>
<tr>
<td>Psychosocial</td>
<td>.447</td>
<td>2.267</td>
<td>.051</td>
</tr>
<tr>
<td>Block 1</td>
<td>2</td>
<td>31</td>
<td>.050</td>
</tr>
<tr>
<td>---------</td>
<td>---</td>
<td>----</td>
<td>------</td>
</tr>
<tr>
<td>Education</td>
<td>.408</td>
<td>.898</td>
<td>.082</td>
</tr>
<tr>
<td>Administrative experience</td>
<td>.184</td>
<td>.178</td>
<td>.187</td>
</tr>
<tr>
<td>Block 2</td>
<td>3</td>
<td>30</td>
<td>.069</td>
</tr>
<tr>
<td>Education</td>
<td>.563</td>
<td>-.311</td>
<td>-.026</td>
</tr>
<tr>
<td>Administrative experience</td>
<td>.177</td>
<td>-.013</td>
<td>.246</td>
</tr>
<tr>
<td>Leadership training</td>
<td>.155</td>
<td>.184</td>
<td>-.004</td>
</tr>
<tr>
<td>Block 3</td>
<td>7</td>
<td>26</td>
<td>.233</td>
</tr>
<tr>
<td>Education</td>
<td>-.311</td>
<td>1.027</td>
<td>-.063</td>
</tr>
<tr>
<td>Administrative experience</td>
<td>-.013</td>
<td>.195</td>
<td>-.013</td>
</tr>
<tr>
<td>Leadership training</td>
<td>.121</td>
<td>.192</td>
<td>.112</td>
</tr>
<tr>
<td>Career</td>
<td>-.443</td>
<td>2.000</td>
<td>-.057</td>
</tr>
<tr>
<td>Psychosocial</td>
<td>2.154</td>
<td>2.238</td>
<td>.257</td>
</tr>
<tr>
<td>Duration</td>
<td>-.086</td>
<td>.191</td>
<td>-.083</td>
</tr>
<tr>
<td>Frequency met</td>
<td>-5.000</td>
<td>2.126</td>
<td>-.548</td>
</tr>
</tbody>
</table>
## Enabling Others to Act LSE

<table>
<thead>
<tr>
<th>Block 1</th>
<th>2</th>
<th>32</th>
<th>.017</th>
<th>-.044</th>
<th>.279</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-.519</td>
<td>.710</td>
<td>-.133</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.049</td>
<td>.143</td>
<td>.062</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Block 2</th>
<th>3</th>
<th>31</th>
<th>.049</th>
<th>.049</th>
<th>.166</th>
<th>4.130</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-.298</td>
<td>.686</td>
<td>-.076</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-.013</td>
<td>.140</td>
<td>-.017</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Block 3</th>
<th>7</th>
<th>27</th>
<th>.103</th>
<th>.103</th>
<th>.155</th>
<th>1.467</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-.508</td>
<td>.711</td>
<td>-.130</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-.117</td>
<td>.141</td>
<td>-.149</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Leadership training |   |     |      |      |      |       |
| Leadership training |   |     |      |      |      |       |
| .304 | .149 | .350 |

<table>
<thead>
<tr>
<th>Career</th>
<th>Psychosocial</th>
<th>Duration</th>
<th>Frequency met</th>
</tr>
</thead>
<tbody>
<tr>
<td>-.017</td>
<td>1.349</td>
<td>-.166</td>
<td></td>
</tr>
<tr>
<td>.179</td>
<td>1.438</td>
<td>.027</td>
<td></td>
</tr>
<tr>
<td>.405</td>
<td>.142</td>
<td>.054</td>
<td></td>
</tr>
<tr>
<td>-2.397</td>
<td>1.349</td>
<td>-357</td>
<td></td>
</tr>
</tbody>
</table>
### Modeling the Way LSE

<table>
<thead>
<tr>
<th>Block 1</th>
<th>2</th>
<th>32</th>
<th>.024</th>
<th>-.037</th>
<th>.080</th>
<th>.399</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative experience</td>
<td>-0.063</td>
<td>.745</td>
<td>-0.015</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative experience</td>
<td>.132</td>
<td>.150</td>
<td>.159</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leadership training</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block 2</td>
<td>3</td>
<td>31</td>
<td>.095</td>
<td>.008</td>
<td>.071</td>
<td>2.436</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative experience</td>
<td>.151</td>
<td>.742</td>
<td>.037</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leadership training</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block 3</td>
<td>7</td>
<td>27</td>
<td>.244</td>
<td>.048</td>
<td>.149</td>
<td>1.331</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative experience</td>
<td>-0.002</td>
<td>.155</td>
<td>-0.002</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leadership training</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Career</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychosocial</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency met</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>126</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
It was also noted that a number of respondents chose the “don’t know” option for at least one of the career mentoring items. This had the effect of reducing the sample size for the analyses to less than 40 respondents. Frequency counts of each response option for the mentoring scales were examined, and revealed that the items that most frequently elicited a “don’t know” response were “reduced unnecessary risk” (13 respondents) and “taken credit or blame” (10 respondents).
respondents). The analysis was re-run with these items omitted. However this had the effect of increasing the sample size only by 1, with no change in main results.

Comparison of Mentored and Non-mentored Groups

Because a number of participants completed the LSE surveys at Times 1, 2, and 4 but indicated they did not have a mentor, an additional analysis was conducted to compare mentored and non-mentored participants with respect to their LSE scores. Prior to this, characteristics of the two groups at Time 1 were assessed to determine whether the groups differed on any of the study variables at Time 1.

Comparability of Groups at Time 1

Independent samples t-tests assessed the comparability of mentored and non-mentored nurses at Time 1 on the basis of years of experience in current and previous position, years of administrative experience, age, and initial LSE scores (see Table 12). Nurses who reported being mentored had significantly fewer years of experience in formal administrative positions. They also reported significantly lower scores at Time 1 in LSE for the leadership practices “challenging the process” and “enabling others to act”.
Table 12

**Comparability of Mentored and Non-mentored Groups on Job and Administrative Experience and Leadership Self-efficacy (LSE) at Time 1**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean (SD)</th>
<th>df</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience in current position (yrs.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentored</td>
<td>4.10 (4.67)</td>
<td>97</td>
<td>-1.01</td>
</tr>
<tr>
<td>Not mentored</td>
<td>5.17 (5.80)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience in previous position (yrs.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentored</td>
<td>7.38 (7.19)</td>
<td>94</td>
<td>-.54</td>
</tr>
<tr>
<td>Not mentored</td>
<td>8.79 (6.59)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience in administrative role (yrs.)</td>
<td></td>
<td>62.9</td>
<td>-2.11*</td>
</tr>
<tr>
<td>Mentored</td>
<td>5.33 (6.35)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not mentored</td>
<td>8.50 (8.89)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (yrs)</td>
<td></td>
<td>95</td>
<td>-.64</td>
</tr>
<tr>
<td>Mentored</td>
<td>44.94 (7.60)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not mentored</td>
<td>46.12 (8.87)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSE - Challenging the process</td>
<td></td>
<td>96</td>
<td>-2.73**</td>
</tr>
<tr>
<td>Mentored</td>
<td>43.31 (6.36)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not mentored</td>
<td>46.87 (6.28)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSE - Inspiring a shared vision</td>
<td></td>
<td>97</td>
<td>1.19</td>
</tr>
<tr>
<td>Mentored</td>
<td>42.37 (7.33)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not mentored</td>
<td>44.13 (6.97)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSE - Enabling others to act</td>
<td></td>
<td>97</td>
<td>-2.63*</td>
</tr>
</tbody>
</table>

*Significant at p < 0.05; **Significant at p < 0.01.
Chi-square analysis was conducted to assess the comparability of the mentored and non-mentored groups at Time 1 on the basis of current and previous position, employer, and education level. As demonstrated in Table 13, there were no significant differences between the groups on any of these variables.

Table 13

Comparability of Mentored and Non-mentored Groups by Current and Previous Position, Employer, and Education Level

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>df</th>
<th>Pearson chi square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current position</td>
<td>100</td>
<td>15</td>
<td>8.91</td>
</tr>
<tr>
<td>Previous position</td>
<td>98</td>
<td>13</td>
<td>15.18</td>
</tr>
<tr>
<td>Employing organization</td>
<td>100</td>
<td>8</td>
<td>9.91</td>
</tr>
<tr>
<td>Highest education</td>
<td>100</td>
<td>4</td>
<td>4.08</td>
</tr>
</tbody>
</table>

*Note: *p < .05
Comparison of Mentored and Non-mentored Groups’ Leadership Self-efficacy Scores at Times 2 and 4

Although mentored participants reported significantly lower scores than their non-mentored colleagues at Time 1 on LSE for the practices “challenging the process” and “enabling others to act”, scores on all subscales at Times 2 and 4 were not significantly different between the mentored and unmentored groups (see Table 14).
Table 14

*Comparison of Leadership Self-efficacy Scores at Times 2 and 4 for Mentored and Non-mentored Groups*

<table>
<thead>
<tr>
<th>LSE subscale</th>
<th>Mean (SD)</th>
<th>df</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Challenging</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentored</td>
<td>46.95 (6.41)</td>
<td>98</td>
<td>-1.52</td>
</tr>
<tr>
<td>Non-mentored</td>
<td>49.00 (6.83)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inspiring</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentored</td>
<td>46.11 (7.44)</td>
<td>98</td>
<td>-1.10</td>
</tr>
<tr>
<td>Non-mentored</td>
<td>47.72 (6.60)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Enabling</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentored</td>
<td>50.92 (5.21)</td>
<td>98</td>
<td>-.92</td>
</tr>
<tr>
<td>Non-mentored</td>
<td>50.87 (4.81)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Modeling</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentored</td>
<td>50.23 (5.08)</td>
<td>98</td>
<td>-.42</td>
</tr>
<tr>
<td>Non-mentored</td>
<td>50.67 (5.21)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Encouraging</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentored</td>
<td>50.15 (7.14)</td>
<td>98</td>
<td>.25</td>
</tr>
<tr>
<td>Non-mentored</td>
<td>49.79 (6.24)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Time 4</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Challenge</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentored</td>
<td>48.34 (5.86)</td>
<td>97</td>
<td>-.13</td>
</tr>
</tbody>
</table>
### Summary of the Results

Results of this study did not support the proposition that mentoring contributes to the development of leadership self-efficacy in nurses when provided in conjunction with leadership training. Protégé exposure to mentoring functions did not predict leadership self-efficacy. Implications of these findings are discussed in the following chapter.
CHAPTER 6: DISCUSSION

For several years the nursing literature has reflected a belief that mentoring offers career benefits for nurses (Joel, 1997; Laschinger et al., 2008; Sharkey, 2001). In particular, previous research has provided preliminary support for a relationship between mentoring and development of leadership practices among nurses (D.W. Allen, 1998; George, 2002a; Harms, 1988; Moran, et al. 2002; Rawl, 1989; Vance, 1977). However theoretical support for this relationship was limited, and the mechanism through which mentoring could increase leadership practices among nurses had not been explored.

This study proposed that self-efficacy was the mechanism through which mentoring impacted leadership practices among nursing. Nursing leadership research has identified self-efficacy as an important factor in fostering leadership practices in nursing (D.W. Allen, 1998; Harms, 1988), while other studies have demonstrated a relationship between mentoring and self-efficacy in professional nursing roles (Fagen & Fagen, 1983; Hayes, 1997; Kilty, 2006).

The conceptual framework that guided this study integrated theoretical perspectives from mentoring theory (Kram, 1985), leadership theory (Kouzes and Posner, 2002a), and self-efficacy theory (Bandura, 1986; 1997). Leadership theory and self-efficacy theory provided the basis for the conceptualization of leadership self-efficacy. Support for a relationship between mentoring and leadership self-efficacy was hypothesized based on an analysis of mentoring functions (Kram) and the sources of self-efficacy information (Bandura). This study proposed that mentoring functions would enhance leadership self-efficacy by contributing to the sources of efficacy information.

In this chapter the study results are discussed in light of the framework and propositions that guided the study, and related research. Characteristics of the sample and descriptive findings
are discussed first, followed by discussion of the results related to the research questions. Finally, limitations of the study and implications for practice and future research are discussed.

Characteristics of the Sample

Response and Attrition Rates

Slightly less than half of the institute participants at the three sessions completed surveys at Time 1, while just over one third completed questionnaires at all four data collection points. A substantially larger percentage of DWNLI than HLI institute attendees participated in the study. Since the DWNLI is specifically targeted to nurses, while the HLI is a multidisciplinary program, it was expected that response rates from the two DWNLI sessions would be higher than those from the HLI, where the percentage of nurse attendees is smaller. The institute organizers were unable to provide the researcher with information about the professional designation of HLI attendees so the proportion of eligible individuals at this institute who responded to the study could not be determined. However the response rates from the three sessions were consistent with the expectation that fewer attendees from the HLI than from the DWNLI would be eligible to participate in the study.

The majority of participants who joined the study at Time 1 returned completed questionnaires at each of the subsequent three data collection points, with the highest attrition rate occurring at Time 3. This is not surprising given that survey instruments for Times 2 and 4 were administered and collected in person by the researcher at the leadership institutes, while data collection at Time 3 was conducted by mailed survey in order to assess participants’ experience of mentoring during the interval between their participation in the leadership institute and their attendance at the follow-up weekend. Tourangeau et al. (2003) reported a low attrition
rate (13%) when follow-up questionnaires were distributed in person, which is consistent with the current study in which rates were 4% and 12% for times 2 and 4 respectively.

Composition of the Sample

The sample characteristics were in general consistent with the target population, which was nurses seeking to enhance their leadership abilities: participants reported a higher education level than the general population of Canadian Registered Nurses, and a greater proportion were employed in non-staff nurse roles, with the majority holding first line or middle management positions. However the sample was also somewhat younger than the Canadian average for nurses in administrative or educational positions. Six Canadian provinces were represented in the sample, although consistent with the location in which the institute was held the sample comprised a higher proportion of Ontario residents than the Canadian population.

Descriptive Findings

Participant Mentorship Experience

Access to Mentoring

In this study almost two-thirds of respondents reported having a mentor. The mentored group had less leadership experience, suggesting that those who were more novice were more likely to be receiving mentoring support. This is consistent with the developmental nature of mentoring relationships as described by Kram (1985) and Levinson et al. (1978), which are characterized by a differential in the experience and expertise of the mentor and protégé. In these authors’ studies, mentorship was most active during the protégé’s early work life. Similarly, D.W. Allen (1998) reported that the confidence-building influence of significant others often occurred early in nurse leaders’ careers. Mentored participants also reported lower LSE scores for some subscales at the beginning of the leadership training institute, which is also consistent
with their more novice status. Nurses with fewer years in formal administrative roles may have had fewer opportunities to attempt leadership behaviours, receive feedback on their leadership attempts, and observe other nurse leaders’ successful performances, thus limiting their access to sources of leadership efficacy information.

Although many nurses reported receiving mentorship support, the absence of mentoring in over a third of the study participants is concerning. While non-mentored participants were more experienced in leadership roles, there was considerable variability in experience within this group, with nearly one quarter reporting less than two years administrative experience and some respondents reporting less than one year. Conversely a number of individuals who were currently being mentored reported having more than ten years of administrative experience. Thus, it cannot be assumed that non-mentored participants could not also have benefited from mentoring, or did not wish to access this support.

Other factors may have impacted these nurse leaders’ access to mentoring support. Research with mentors has shown that employees’ willingness to provide mentorship to junior colleagues is influenced by organizational rewards for developing others (T.D. Allen, 2004; Aryee, et al., 1996; Kram, 1985), previous experience with mentoring (T.D. Allen & Eby, 2004; Ragins & Scandura, 1999), the employee’s relationship with their own supervisor (T.D. Allen et al., 1997), and job-induced stress (Allen et al.). Characteristics of work design that create or impede opportunity for interaction between experienced and more novice organizational members have also been shown to impact willingness to mentor (Aryee et al.) and successful formation of mentoring relationships (Leslie et al., 2005; Noe, 1988). Indeed, the majority of participants in the current study who reported having a mentor indicated both that their mentor
worked at the same organization and that they met frequently with their mentor, underscoring the importance of opportunities for interaction in the creation of successful mentorships.

Finally, conflict between supervisory or evaluative responsibilities and mentoring roles of experienced professionals may have interfered with the formation of mentoring relationships. Le Maistres, Boudrea, and Pare (2006) found that clinical supervisors perceived tension between these two functions. Similarly, Leslie et al. (2005) found that an evaluative role was a barrier to formation of mentoring relationships, in a study of junior medical faculty.

In summary, the finding that almost two-thirds of the participants in this sample of nurses actively pursuing leadership development were engaged in mentoring relationships is encouraging. Participants in this study were supported by their organizations, at considerable expense, to attend a five-day residential leadership development institute, suggesting that their organizations were committed to investing in these nurses’ ongoing leadership development. The majority of these nurses were also receiving mentorship support, in most cases from another nurse within their organization. Nevertheless, over one-third of respondents did not have mentors. Mentoring has been associated with a number of positive outcomes for nurses including job satisfaction (Ecklund, 1998; Fagen & Fagen, 1983), enhanced professional performance (Madison, 1994), and career achievement (Rawl, 1989). Therefore organizations that employ nurses may benefit when their employees have access to this support. These organizations may wish to assess the facilitators and barriers to mentoring within their agencies and take action to support access to mentoring for all those who wish to engage in these developmental relationships.
Characteristics of Participants’ Mentoring Relationships

The two-thirds of respondents who had mentors indicated that these relationships were active and positive. Participants in this study met frequently with their mentors and reported receiving both career and psychosocial functions from them. In most cases, protégés were in the first five years of their mentoring relationship, with almost half of the relationships having been initiated within the previous year. These findings provide support for Kram’s (1983) conceptualization of mentoring relationship phases, with the most active period of mentoring, the cultivation phase, typically commencing within the first six to 12 months of the relationship and extending over two to five years. Mentored participants who reported less experience in administrative roles also reported meeting more frequently with their mentors suggesting that these more novice leaders had active mentoring relationships.

Findings from this study also support previous research related to informally structured mentorships. Most participants reported that their mentoring relationships had developed naturally, and also reported receiving high levels of mentoring support. Previous studies have found that relationships that form naturally are associated with higher levels of mentoring functions (Chao, et al., 1992; Fagenson-Eland, et al., 1997; Ragins & Cotton, 1999) than those that are formally assigned.

Participant Leadership Self-efficacy

Findings from this study suggest that nurses who are actively engaged in enhancing their leadership abilities have positive leadership self-efficacy beliefs. Participants’ reported self-efficacy exceeded the midpoint of the range for each of the LSE subscales over three points. This is consistent with Bandura’s (1997) assertion that efficacy beliefs related to the educational and functional requirements of career options play a key role in individuals’ decisions to pursue those
options. Thus nurses would require a degree of leadership self-efficacy in order to consider and commit to participating in a leadership development program, and to assume formal or informal leadership roles. Similarly, participants in Koessler’s (1995) study of leadership development in wilderness education reported the strength of their leadership self-efficacy beliefs at 53% and 48% prior to, and at the beginning of their education program, respectively, while Foti and Hauenstein (2007) found general self-efficacy scores above the midpoint among members of a university cadet corps. Self-efficacy scores above the midpoint have also been reported consistently among individuals contemplating work-related roles and activities such as assuming a union steward position (Mellor, Barclay, Bulger, & Kath, 2006) and managing occupational change (Schyns & Sanders, 2005).

In the current study, participants’ levels of efficacy for the various leadership practices also mirrored previous findings of self-reported leadership behaviours among nurses. The highest self-efficacy scores across all data collection times were for “enabling others to act” while the lowest scores were for “inspiring a shared vision”. This is consistent with self-reported leadership practices in studies of nursing leadership development (George et al., 2002a; Tourangeau et al., 2003). Thus this finding provides further support for a connection between self-efficacy and behaviour, and for the specificity of efficacy beliefs to a performance domain.

Findings Related to the Research Questions

This paper explored the unique contribution of mentoring to nurses’ leadership self-efficacy within the context of a formal leadership training program. It was proposed that exposure to career and psychosocial mentoring functions over a period of three to four months would lead to increased leadership self-efficacy such that greater levels of mentoring functions provided would result in higher LSE scores. Study findings did not support this proposition.
However mentored participants did have a significant increase in LSE over the course of the 5-day leadership institute, and were able to sustain their enhanced levels of LSE in all practices over the period following leadership training.

There are several possible reasons why no effect was demonstrated for mentoring on participants’ final leadership self-efficacy scores. The majority of mentored participants were already engaged in mentoring relationships prior to attending the leadership institute. Indeed, for most of these participants the mentoring relationship was in the active cultivation stage. Thus mentoring may already have impacted respondents’ leadership self-efficacy prior to the first LSE measurement at Time 1. Similarly, respondents who were not receiving mentoring support at the time of the study may have been the recipients of mentoring earlier in their careers. Since participants’ mentoring experiences and LSE levels prior to their attendance at the leadership institute are unknown, this proposition cannot be assessed for this group of study participants.

The mentored nurses also experienced significant increases in self-efficacy over the course of the institute in each of the five dimensions of leadership, such that their LSE scores at the end of the institute were comparable to those of their non-mentored and more experienced colleagues. The mentored participants were less experienced in formal leadership roles and had less confidence in their ability to execute successful leadership performances in some practices at the beginning of training. Even though most protégés did not attend the institute with their mentors, the mentoring they were receiving prior to attending the leadership institute may have enhanced their efficacy beliefs related to acquisition and application of leadership skills, which in turn stimulated their full engagement in the training and confidence in their ability to apply the learning in real situations. Research findings of an association between self-efficacy for occupational learning, and subsequent participation in voluntary developmental activities
(Maurer & Tarulli, 1994; Noe & Wilk, 1993) and motivation to learn (Noe & Wilk, 1993) provide empirical support for this proposition.

Bandura (1997) suggests that efficacy beliefs related to educational achievement enhance self-regulation of learning behaviours. Specifically individuals with higher efficacy beliefs are more motivated to persist in self-directed learning activities in the face of distracting and appealing alternatives, and to persevere in applying cognitive and metacognitive skills to master learning challenges. Cognitive skills include information processing and transformation, conceptualization of problems and solutions, and translation of strategies to actions while metacognitive abilities involve the critical assessment and control of one’s thinking processes. Previous exposure to mentoring functions may have enhanced proteges’ self-efficacy for mastery of leadership knowledge and skills. These participants were then motivated and prepared to focus their attention and energy during the institute on developing leadership abilities and optimizing their use of cognitive and metacognitive abilities. This in turn supported a substantial growth in their LSE over the five days of training. That is, mentorship functions provided prior to the institute may have contributed indirectly to proteges’ increase in LSE over the 5-day training period by contributing to their mastery of the knowledge and skills essential to successful future performance. In turn, as the protégés experienced an increase in their leadership knowledge and skills at the institute their confidence in their ability to engage successfully in leadership performances increased.

It is also possible that respondents’ level of LSE at Time 4 was in fact related to receipt of mentoring functions, even though this was not reflected in the results of the regression analyses. Participants who were mentored did experience a significant increase in LSE for the practice “challenging the process” during the period following leadership training. They also
reported high levels of mentoring support over this interval. However there was little variability in their scores on the career and psychosocial mentoring variables; standard deviations were .72 and .68 for career and psychosocial functions, respectively. Thus it may be that, although mentoring was exerting an effect on LSE that was reflected in the continued growth of self-efficacy for “challenging the process” over this time, the homogeneity of the group with respect to their mentoring experiences obscured this impact.

Participants may also have experienced a ceiling effect with respect to LSE levels for some practices. A ceiling effect occurs when test scores reflect the limit of the respondent’s potential (Streiner & Norman, 2003), precluding the possibility of further increases. Self-efficacy was high across all time periods for all participants, and the mentored participants experienced a significant increase over the course of the training. Indeed, they achieved a level of LSE that was equal to their more experienced non-mentored colleagues. However a further increase in LSE following the institute was demonstrated only for the practice “challenging the process.” Self-efficacy for “inspiring a shared vision,” “enabling others to act,” “modeling the way,” and “encouraging the heart” remained essentially unchanged over the three to four months following the institute. It may be that further increases in LSE for the other practices were not possible during the relatively short three- to four-month period following the institute, precluding demonstration of an effect of additional mentorship support over this time. Nevertheless these more novice nurse leaders were able to sustain the high levels of LSE developed during the training period when they returned to their home organizations. This sustained high level of LSE may well have been due to the career and psychosocial mentoring functions they received from their mentors.
It was also noted that there was a positive relationship between years of administrative experience and self-efficacy for the practice “modeling the way” at Time 1 for mentored nurses. This is consistent with the propositions guiding the study; that is experience in formal leadership roles may provide access to mastery experiences and opportunities for modeling that support development of leadership self-efficacy. It is also possible that this relationship reflects an impact of previous mentoring on self-efficacy for modeling the way. While overall the mentored nurses had relatively little experience in formal leadership roles, the more experienced nurses within this group also reported less frequent interaction with their mentors. It may be that for these more experienced proteges the most active period of mentoring had occurred earlier in their careers and that the frequency of interaction with their mentors at the time of the study was diminishing. Thus it may be that benefits of mentoring for development of leadership self-efficacy had been realized prior to their participation in the study and were reflected in their LSE scores at Time 1.

Finally, the possibility of a Type 2 error cannot be excluded. Sample size for the regression analyses was reduced because of missing data related to mentoring functions. Thus the non-significant results in the regression analysis could be due to low statistical power related to the small sample size. In a study of mentoring and career self-efficacy among 125 municipal employees in the United States, Day and Allen (2004) found that the correlation between psychosocial mentoring and career self-efficacy approached, but did not achieve significance, and concluded that this was due to low statistical power.
Implications for Research and Practice

Access to Mentoring

Nearly two-thirds of the nurses in this study reported that they were currently receiving mentorship support. Findings from this study have illuminated both the active nature of mentoring where it exists, and the opportunities for individuals and organizations to extend this supportive relationship to those who are not yet benefiting from it.

This finding also points to the need for further research into factors that support the occurrence of mentoring within organizations. Research to date has focused largely on individual level factors associated with willingness to provide mentoring. There is a need to examine mentoring as an organizational phenomenon, in order to identify organization-level characteristics that enhance the occurrence, quality, and effectiveness of mentoring.

Structure of Mentoring Relationships

In this study, almost all of the mentored nurses were in informal relationships, suggesting that formal mentorships are not commonplace among nurse leaders. Successful naturally arising mentoring relationships are characterized by an interpersonal attraction or chemistry between the two partners (Darling, 1984; Kram, 1985; Leslie et al., 2005; Madison, 1994). The implementation of formally structured mentoring relationships has been advocated as a means of making mentoring available to larger numbers of developing health care professionals (Kilty, 2006; Leslie et al; Milner & Bossers, 2005), However it is unclear to what extent these relationships can achieve a level of interpersonal intimacy similar to informal mentorships. Ragins and Cotton (1999) found that protégés of informal mentors received more career and psychosocial mentoring functions, and were more satisfied with their mentoring relationships than were protégés of formally assigned mentors. Similarly, Waters (2004) found that informally
structured mentoring relationships in which the partners met frequently were associated with
greater mentor-protégé agreement regarding provision of psychosocial mentoring, which in turn
explained 36% of the variance in protégé work attitudes. However Ragins et al. (2000) found
that protégé satisfaction with the mentoring relationship accounted for more of the variance in
protégé work attitudes than did the formal or informal nature of the mentorship. These findings
underscore the importance of the quality of the interpersonal relationship in mentoring
arrangements. If organizations are seeking to increase the availability of mentoring support for
nurses it will be critical that they foster opportunities for prospective mentors and protégés to
interact and explore their reactions to one another, and for mentoring partners to meet regularly.

This is also an area for future research. In particular, there is a need for research at the
dyad level to facilitate understanding of this complex relationship. The interpersonal attraction
that occurs during the initiation phase, and the process of developing intimacy that characterizes
successful relationships, warrant further exploration.

Measurement of Leadership Self-efficacy

In this study, leadership self-efficacy was assessed using a modification of Kouzes and
Posner’s (2002b) leadership practices self-assessment tool (LPI-self). Internal consistency results
from the sample in the current study supported the reliability of this instrument. The lowest
internal consistency results were observed at Time 1, for the “enabling others to act”, and
“modeling the way” subscales. In a previous study of DWNLI participants, Tourangeau et al.
(2003) reported low pre-institute internal consistency reliabilities using the LPI for self-
assessment these same leadership practices, with alphas of .67 and .46 for “enabling others to
act” and “modeling the way”, respectively. In a subsequent exploratory factor analysis of
observer-assessed leadership practices in the same sample, Tourangeau et al. (2004) found that a
3-factor structure emerged. Internal consistency reliabilities of subscales reflecting these three factors were all above .80. While internal consistency reliability was adequate in the current study, the fact that both self-assessed leadership performance and leadership self-efficacy scores for samples drawn from similar populations demonstrated the least consistency at Time 1 for the same practices warrants further investigation.

**Relationship between Mentoring and Self-efficacy**

This study proposed that a relationship exists between mentoring and self-efficacy; specifically, that the career and psychosocial functions described by Kram (1985) positively impact leadership self-efficacy in nurses by contributing to the sources of efficacy information (Bandura, 1997). Although the study findings did not provide statistical support for these associations, this line of inquiry should not be abandoned. Studies that employ cohort designs and examine the nature of participants’ growth in leadership self-efficacy over a longer period of time may be a more effective way of assessing the impact of mentoring on leadership self-efficacy. The propositions guiding this study can also serve as a template for future nursing research on the relationship between mentoring and self-efficacy in other performance domains such as advanced practice, clinical practice, education, policy, and research roles.

**Limitations of the Study**

This study attempted to address some of the limitations of previous mentoring research. Nevertheless, there were several limitations to the current study that must be acknowledged.

The restriction of the exploration of mentoring and leadership self-efficacy to the three- to four-month mentorship period following the leadership institute was a limitation of the study. The majority of mentored participants were already in the active cultivation stage of their relationships at the beginning of the study. Thus mentoring may already have exerted an effect
on LSE prior to their attendance at the institute. Participants’ prior exposure to mentoring and their development of LSE throughout this mentorship period are unknown. Mentoring relationships typically extend over several years (Carey & Campbell, 1994; Kram, 1983; Madison, 1994; Rawl, 1989), during which time provision of mentoring functions and protégé development continue. Repeated measurement of protégé leadership self-efficacy at several points over a longer time period may have provided sufficient time both for the phases of the mentorship to occur and for its effects on leadership self-efficacy to be demonstrated. Mentored participants also experienced a substantial increase in leadership self-efficacy over the five day institute, with the result that their levels of leadership self-efficacy were very high at the beginning period during which mentorship was measured. It is possible that this resulted in a ceiling effect, such that further increases were not possible in the short timeframe over which the study occurred.

The small sample size was also a study limitation. The number of participants in the mentored group was smaller than anticipated, with the greatest loss of participants to attrition occurring at Time 3, when the mentoring data were collected by mailed survey. Among those who completed mentoring questionnaires the inability to respond to some items further reduced the sample. The small sample size is likely to have resulted in inadequate statistical power to demonstrate an effect of mentoring on leadership self-efficacy during the study period.

This study focused on the effect of mentoring on leadership self-efficacy when provided in conjunction with a structured leadership training initiative, in order to separate the unique contribution of mentoring from the effects of the training. Thus, study results cannot be generalized to nurses who receive mentoring support without participation in a focused leadership training intervention. It is possible that nurses who do not receive this type of
intensive leadership training would exhibit greater increases in leadership self-efficacy as a result of mentoring.

The reliance on single survey self-report measures of variables in previous mentoring research has been criticized because of the possibility of introducing common method variance. In the current study, measures were taken to limit the effect of method variance. Mentoring functions and leadership self-efficacy data were collected at different times, under different circumstances, and using separate questionnaires with different response formats. Leadership self-efficacy measures were collected at the DMWNLI and HLI, while data regarding mentoring functions were collected by mailed survey prior to the final LSE measurement. The response scales on the two instruments also differed in the number of response categories provided. It was anticipated that these factors would minimize the effects of consistency motif and transient mood states through proximal separation (Podsakoff et al., 2003). Proximal separation involves implementing methodological features that result in respondents completing measurement of predictor and criterion variables under different circumstances. This decreases the extent to which common contextual cues affect information retrieval and editing of responses to predictor and criterion scales. In addition, respondents were assured of the anonymity of their responses and encouraged to respond honestly and accurately, which served to minimize the effect of implicit theories about the effect of mentoring on leadership self-efficacy (Podsakoff et al.). These efforts, in conjunction with efforts to ensure the clarity, specificity, and simplicity of the items through pilot testing, were expected to minimize bias due to method variance. However the absence of method variance bias in the responses cannot be entirely discounted.
Significance of the Study

This study was the first to undertake a prospective exploration of nurse leaders’ experience of mentoring, and its effect on leadership self-efficacy. Results of this study have significance for nursing administrative science and practice in several arenas. In the policy context, the results point to a need for a continued focus on exploring the potential benefits of mentoring, particularly in the area of leadership development. Mentoring has become a focus for healthcare policy in Canada. Canadian Nurses Association (CNA) position statements on quality practice environments (2006), nursing leadership (2002), and continuing competence (2004) identify mentorship as essential to achieving these ends, and advocate for policy to increase mentoring among nurses. Similarly at the provincial level, mentoring initiatives to support new nurses (Ontario Nursing Secretariat, 2005; Ontario Hospital Association [OHA], 2006) and nurses transitioning to new roles (OHA) have received funding in Ontario. Investment in nursing leadership for the future is also a significant policy focus in Canada (CNA; RNAO, 2001). In the current study mentoring did not demonstrate an effect on self-efficacy for leadership performance. Further study is required therefore in order to support policy decisions related to investment in mentoring for developing nurse leaders. Nevertheless mentorship in nursing has been associated with other positive outcomes including increased clinical competence (Hayes, 1997; Kilty, 2006), job satisfaction (Ecklund, 1998; Fagen & Fagen, 1983), and research expertise (Madison, 1994; Rawl, 1989). By illuminating the inconsistent access to mentoring support in a sample of Canadian nurse leaders, this study has provided valuable data for future research on nursing access to mentoring.

In addition, a new line of inquiry into the potential contribution of mentoring to leadership development has been introduced. Mentoring requires a significant investment of
time, energy and emotion at both the personal and organizational level. While the need for succession planning for nursing leadership roles within organizations has been noted (CNA, 2002; Laschinger et al., 2008; RNAO, 2001), further exploration of the relationship between mentoring and leadership development is required to inform decisions regarding appropriate system and organizational allocation of resources to support these activities.

The findings from this study can also benefit individual nurses and the nursing profession. Participants in this study who were receiving mentorship reported active and positive mentoring relationships that had developed informally. The existence of these relationships can inspire potential mentors and protégés to seek out opportunities to forge these developmental relationships and support the continued development of the profession.

This study can also serve as a model for future nursing research on the relationship between mentoring and self-efficacy in other performance domains such as advanced practice roles, clinical practice, education, policy, and research domains.

Conclusions

This study explored the relationship between mentoring and leadership self-efficacy (LSE) in nurses, when provided in the context of a leadership training initiative. Findings did not support the proposition that mentoring would lead to higher levels of LSE. However, study results did suggest that mentored nurses were able to enhance their LSE during leadership training, and to sustain this increase upon their return to their home organizations. Findings from the study also illuminated the existence and nature of the mentoring support that is being provided to many nurse leaders.
Mentoring continues to be advanced as an important contributor to leadership development among nurses. Further research is required to illuminate this relationship, and the mechanisms through which it may operate.
REFERENCES


Gaughan, A.C. (2001). Effective leadership behaviour: Leading “the third way” from a primary care group perspective – A study of leadership constructs elicited from members of primary care group management boards [Electronic version]. *Journal of Management in Medicine, 15*, 67-94.


_Dissertation Abstracts International, DAI-B, 52/06, p. 2999._

Appendix A

Invitation to Participate in the Pilot Study
(to be circulated via listserv)

September 8, 2006

Dear Nursing Colleague,

My name is Margaret Blastorah. I am a registered nurse and a doctoral student in the Graduate Department of Nursing Science at the University of Toronto. I am writing to invite you to participate in a pilot study of the effect of mentoring on nurses’ leadership self-efficacy. The pilot test will be conducted on Wednesday, September 27 at 8:00 a.m. to 10:00 a.m. at the Faculty of Nursing, University of Toronto at 155 College St., Rm. 257.

The purpose of this pilot study is to test the questionnaires that I will use in a later research study to investigate the influence of mentoring on nurses’ perceptions of their leadership abilities. For my study, I will be recruiting participants from the Dorothy M. Wylie Nursing Leadership Institute and the Health Leaders Institute. You are being invited to participate because you have attended the Dorothy M. Wylie Nursing Leadership Institute or the Health Leaders Institute previously.

I am conducting this study in partial fulfillment of the requirements for the Doctor of Philosophy (Nursing Administrative Science) degree. My proposal has been approved by my thesis committee which is led by my supervisor Dr. Linda McGillis Hall, Faculty of Nursing, University of Toronto. I have also received ethical approval from the Office of Research Services at the University of Toronto for the conduct of this research.

Your participation in the pilot study is completely voluntary. Your involvement would consist of completing 4 questionnaires, and providing written feedback on each survey. You will also have an opportunity to provide verbal feedback about the questionnaires at the pilot session, should you wish to do so. I would like to hear about any difficulties you have in completing the questionnaire, such as difficulty understanding any of the questions or the response options. Although I would like to encourage you to fill out the surveys honestly, I am less interested in your actual responses than in your reactions to the questionnaires themselves. I anticipate that the pilot session will require about two hours of your time. Your answers are confidential and your name is not required on the questionnaires. Your name will not be used in any publications or presentations of the results of the study. You may refuse to answer any of the questions and you may choose not to participate. Only my research supervisor and I will have access to the completed questionnaires. The questionnaires will be kept in a locked filing cabinet at the Faculty of Nursing and will be destroyed after 6 years.

There are no known risks associated with participating in this pilot study. There are also no direct benefits. However it is hoped that through this study we will learn more about the
process of leadership development among nurses, and the interventions that support it. This may inform decisions about how best to support leadership development among nurses in the future.

If you agree to participate, please indicate this by e-mailing me at m.blastorah@utoronto.ca. I will then send you an e-mail reply confirming your participation, and the date, time, and location of the pilot study session. Light refreshments will be provided at the pilot session.

If you have any questions or comments about the study, please feel free to contact me by e-mail and I will be happy to provide you with any information I can. If you have questions about your rights as a research participant, please contact Jill Parsons, Research Ethics Officer, Health Sciences in the Ethics Review Office, University of Toronto, at telephone 416-946-5806 or by email: jc.parsons@utoronto.ca.

Thank you very much for your assistance with this study.
Appendix B

Explanation for Pilot Study Participants (script)

Hello. Thank you very much for coming out today to participate in this pilot test session. My name is Margaret Blastorah, and I am a Registered Nurse and a PhD student at the Faculty of Nursing, University of Toronto.

The purpose of this pilot study is to test the questionnaires that I will be using in a later research study to investigate the influence of mentoring on nurses’ perceptions of their leadership abilities.

You have each been given a study package containing the study questionnaires and two copies of a consent form for this pilot study. In a few minutes I will ask you to complete the questionnaires. I will be noting how much time is required to complete each questionnaire, and will be asking for your feedback about the questionnaires. I would like to hear about any difficulties you have in completing the questionnaires, such as difficulty understanding any of the questions or the response options. Although I encourage you to fill out the questionnaires honestly, I am more interested in your reactions to the questionnaires themselves than in the content of your responses. You may refuse to answer any of the questions.

I would now ask you to open your study packages and remove the consent forms. Please follow along as I read the consent form aloud. (read aloud). Are there any questions regarding this pilot study, or the consent form? (answer questions). If there are no further questions, I would ask that you complete one copy of the consent form and return it to me. You may keep the other copy for your records.

I will now be asking you to complete the Participant Background questionnaire, and then the Mentoring Functions questionnaire, and finally the Perceptions of Leadership Abilities questionnaire. If you have questions or comments about the individual items as you work through the instruments, please write them on the questionnaire, beside the item. Please write any overall comments or suggestions about the instrument at the bottom or on the back of the questionnaire.

Since I will be taking note of how long it takes for you to complete each questionnaire, please do not begin until I advise you to do so. Once everyone has completed the Participant Background questionnaire, you will have an opportunity to discuss your reactions and make comments as a group. The same procedure will be followed for completion and feedback about the other two questionnaires.

You may now remove the Participant Background questionnaire from the package and begin.

(After Participant Background questionnaire is completed)………

Are there any general comments about the questionnaire or the response options?
Were there any questions that were unclear or for which you were unable to provide an answer? What would have made this question clearer/easier to answer?

Were there any questions you felt uncomfortable answering? What would have made you more comfortable?

Do you have any other comments or suggestions to make the questionnaire clearer or easier for participants to use?

(After all questionnaires have been completed)…. 

Thank you very much for completing these questionnaires and providing feedback. Are there any final questions or comments about the study in which these instruments will be used, the instruments themselves, or this pilot study?

Thank you again for your assistance with this study.
Appendix C
[Faculty of Nursing letterhead]

Consent Form for the Pilot Study

I agree to participate in a pilot study exploring the influence of mentoring on nurses’ perceptions about their leadership abilities. This study is being conducted by Margaret Blastorah, RN, doctoral student in the Graduate Department of Nursing Science at the University of Toronto who is conducting this study in partial fulfillment of the requirements for the Doctor of Philosophy (Nursing Administrative Science) degree. The proposal has been approved by her thesis committee which is led by her supervisor Dr. Linda McGillis Hall, Faculty of Nursing, University of Toronto. The study has also received ethical approval from the Office or Research Services at the University of Toronto.

I understand that the purpose of the study is to test 3 questionnaires that will be used in a later research study. I agree to complete the questionnaires provide feedback, which may take approximately 2 hours of my time.

I understand that my participation is voluntary and that I may choose not to participate. I may also refuse to answer any question. I understand that the questionnaires will not contain any information about my identity and that my name will not be used in any publication or sharing of the results of the study. I understand that no one other than Margaret Blastorah and the research team will have access to the questionnaires at any time.

I understand that there are no known risks involved in participating in the pilot study. I also understand that there are no direct benefits to my participation, but that the results may help in designing questionnaires that will obtain the best information possible about nurses perceptions of their leadership abilities.

I know that if I have any questions or concerns regarding the study, I can contact Margaret Blastorah, RN, PhD candidate at the Faculty of Nursing, University of Toronto at (416) 946-8269 or m.blastorah@utoronto.ca. If I have questions about my rights as a research participant, I may contact Jill Parsons, Health Sciences Ethics Review Officer, Ethics Review Office, University of Toronto at telephone (416) 946-5806 or by email at jc.parsons@utoronto.ca.

__________________________________________________________________________
Participant Name (please print)  (Date)

__________________________________________________________________________
Participant Signature
Appendix D

Participant Background Questionnaire

Please answer the following questions about your professional background and experience.

1. Are you a Registered Nurse?
   - [ ] Yes
   - [ ] No  If “no”, you do not have to answer the remaining questions or complete the other questionnaire. Please place the questionnaires in the envelope provided, seal it, and place it in the designated collection box.

2. In what province(s) or territory(ies) are you currently registered?
   ___________________  ___________________  _________________
   ___________________  ___________________  _________________

Are you currently seeking to enhance your leadership abilities?
   - [ ] Yes
   - [ ] No  If “no”, you do not have to answer the remaining questions or complete the other questionnaire. Please place the questionnaires in the envelope provided, seal it, and place it in the designated collection box.

3. Are you currently seeking to enhance your leadership abilities?
   - [ ] Yes
   - [ ] No  If “no”, you do not have to answer the remaining questions or complete the other questionnaire. Please place the questionnaires in the envelope provided, seal it, and place it in the designated collection box.

4. Have you attended either the Dorothy Wylie Nursing Leadership Institute or the Health Leaders Institute in the past?
   - [ ] Yes
   - [ ] No  If “no”, you do not have to answer the remaining questions or complete the other questionnaire. Please place the questionnaires in the envelope provided, seal it, and place it in the designated collection box.
5. In what type of organization do you work?

☐ Acute Care Hospital  
☐ Longterm Care  
☐ Community/Public Health  
☐ Government  
☐ Educational Institution  
☐ Not currently employed  
☐ Other

6. Please state your total years of experience, if any, in a formal leadership/administrative role in healthcare.

__________________________ years

7. What is your current position/job assignment?

☐ Staff nurse  
☐ Manager  
☐ Director/Director of Care  
☐ Vice-President/Chief Nurse Executive  
☐ President/C.E.O./C.O.O.  
☐ Other (specify) ____________________

8. How long have you been in this position/job assignment?

__________________________

9. What is the position/job assignment you held prior to your current position?

☐ Staff nurse  
☐ Manager  
☐ Director/Director of Care  
☐ Vice-President/Chief Nurse Executive  
☐ President/C.E.O./C.O.O.  
☐ Other (specify) ____________________

10. How long were you in your previous position/job assignment?

__________________________

11. What is the highest level of education you have achieved in nursing?

☐ Diploma  
☐ Master’s  
☐ Specialty Certificate  
☐ Baccalaureate  
☐ Ph.D.  
☐ Other (specify) ____________________
12. What is the highest level of education you have achieved in a field other than nursing?

- Diploma
- Master’s
- Specialty Certificate
- Baccalaureate
- Ph.D.
- Other (specify) _______________

13. Are you currently pursuing formal education?

- Yes
- No

14. What is your sex?

- Female
- Male

15. What year were you born?

________

Please answer the following questions about your participation in the Dorothy Wylie Nursing Leadership Institute/Health Leaders Institute.

16. Which Leadership Institute are you presently attending?

- Dorothy Wylie Nursing Leadership Institute
- Health Leaders Institute

17. Please indicate the month and year in which you are attending the Dorothy Wylie Nursing Leadership Institute/Health Leaders Institute.

Month ____________  Year ____________
Appendix E

Leadership Self-efficacy Questionnaire

This questionnaire was based on the Leadership Practices Inventory (LPI), a copyrighted instrument developed by J.M. Kouzes and B.Z. Posner. Information about the LPI can be obtained from Dr. Kouzes and Dr. Posner.
Appendix F

Nurse Mentoring Survey

This questionnaire asks you about assistance you have received from a mentor. For the purposes of this study, a mentor is an individual who is senior to you in terms of expertise or organizational position, and who actively promotes your leadership development. A mentor provides emotional support and assistance with accessing leadership opportunities. Your relationship with your mentor may have developed informally or your mentor may have been assigned to you by your organization.

Based on this description of a mentor, please answer the following questions:

1. **At any time since attending the Dorothy Wylie Nursing Leadership Institute have you had a mentor?**

   (1) ___ Yes - Please answer the questions below. If you have had more than one mentor since attending the Dorothy Wylie Nursing Leadership Institute, answer the questions with reference to the individual you consider to be your most influential mentor during that time period.

   (2) ___ No - You do not need to answer the remaining questions. Please place the questionnaire in the envelope provided, seal it, and place it in the designated collection box.

2. **When did the mentoring relationship begin?**

   (1) ___ Month
   (2) ___ Year
   (3) ___ Don’t know

3. **Was your mentor assigned to you, or did your relationship develop naturally?**

   (1) ___ Mentor was assigned
   (2) ___ Relationship developed naturally

4. **Is this person still your mentor?**

   (1) ___ Yes
   (2) ___ No
5. If no, when did she/he cease to be your mentor?
   (1) ____ Month
   (2) ____ Year
   (3) ____ Don’t know

6. Did your mentor attend the Dorothy Wylie Nursing Leadership Institute with you?
   (1) ____ Yes
   (2) ____ No

7. Approximately how often have you met with your mentor, since attending the Dorothy Wylie Nursing Leadership Institute?
   (1) ____ At least once per week
   (2) ____ Once or twice per month
   (3) ____ Less than once per month

In answering the next set of question, please use the following scale:
1 = To a very slight extent
2 = To a small extent
3 = To some extent
4 = To a large extent
5 = To a very large extent

If you have had more than one mentor since attending the Dorothy Wylie Nursing Leadership Institute, answer the questions with reference to the individual you consider to be your most influential mentor.

Please write your answer in the space provided.

To what extent has your mentor...

<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>A very slight extent</td>
</tr>
<tr>
<td>8. ... reduced unnecessary risks that could threaten the possibility of becoming a leader or receiving a promotion?</td>
</tr>
<tr>
<td>9. ... provided you with support and feedback regarding your performance as a nurse?</td>
</tr>
<tr>
<td>10. ... helped you finish assignments/tasks or meet deadlines that otherwise would have been difficult to complete?</td>
</tr>
<tr>
<td>11. ... helped you to meet new colleagues?</td>
</tr>
<tr>
<td>12. ... given you assignments or tasks in your work that prepare you for a leadership role?</td>
</tr>
</tbody>
</table>
Question | A very slight extent | A very large extent | Don’t know
--- | --- | --- | ---
13. ... taken credit or blame in controversial situations? | 1 2 3 4 5 | | □
14. ... give you responsibilities that increased written and personal contact with organization administrators? | 1 2 3 4 5 | | □
15. ... suggested specific strategies for achieving your career goals? | 1 2 3 4 5 | | □
16. ... given you assignments that present opportunities to learn new skills? | 1 2 3 4 5 | | □
17. ... assigned responsibilities to you that have increased your contact with people in the organization? | 1 2 3 4 5 | | □
18. ... shared history of her/his career with you? | 1 2 3 4 5 | | □
19. ... spoken highly of your abilities and skills to your supervisor and/or upper level administration? | 1 2 3 4 5 | | □
20. ... shared ideas with you? | 1 2 3 4 5 | | □
21. ... nominated you for desirable lateral moves or promotions? | 1 2 3 4 5 | | □
22. ... suggested specific strategies for accomplishing work objectives? | 1 2 3 4 5 | | □
23. ... given you feedback regarding your performance in your present job? | 1 2 3 4 5 | | □
24. ... encouraged you to prepare for advancement? | 1 2 3 4 5 | | □

Answer the next set of questions about your relationship with your mentor using the following scale:

1 = Strongly disagree
2 – Disagree
3 = Neither agree nor disagree
4 = Agree
5 = Strongly agree
6 = Don’t know

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly disagree</th>
<th>Strongly agree</th>
<th>Don’t know</th>
</tr>
</thead>
</table>
25. My mentor has encouraged me to try new ways of behaving in my job. | 1 2 3 4 5 | | □
26. I try to imitate the work behaviour of my mentor. | 1 2 3 4 5 | | □
<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly disagree</th>
<th>Strongly agree</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>27. My mentor has encouraged me to join her/him for lunch.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. I agree with my mentor’s attitudes and values regarding nursing.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. My mentor has demonstrated good listening skills in our conversations.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30. I respect and admire my mentor.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. My mentor has discussed my questions or concerns regarding feelings of competence, commitment to advancement, relationships with peers and supervisors or work/family conflicts.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. I will try to be like my mentor when I reach a similar position in my career.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. My mentor has asked me for suggestions concerning problems s/he has encountered at work.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34. My mentor has interacted with me socially outside of work.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35. My mentor has conveyed feelings of respect for me as an individual.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36. My mentor has shared personal experiences as an alternative perspective to my problems.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37. My mentor has encouraged me to talk openly about anxiety and fears that detract from my work.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38. My mentor has conveyed empathy for the concerns and feelings I have discussed with him/her.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39. My mentor has kept feelings and doubts I shared with her/him in strict confidence.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix G.

**Invitation to Participate in the Study (script)**

Hello. My name is Margaret Blastorah, and I am a PhD. student at the Faculty of Nursing, University of Toronto. I am a Registered Nurse, and a former participant in the Dorothy Wylie Nursing Leadership Institute. I am here today to invite you to participate in the research study that I am conducting for my doctoral dissertation. The focus of my study is the influence of mentoring on nurses’ perceptions about their leadership abilities. I am inviting participants from the Dorothy Wylie Nursing Leadership Institute because you have just completed an initial leadership program, and are returning to your home institutions to continue your leadership development. Approximately 75 participants from successive sessions of the Institute will be invited to participate.

The proposal for this study has been approved by my thesis committee, which is led by my supervisor, Dr. Linda McGillis Hall. The study has also received ethics approval form the Office of Research Services at the University of Toronto. Your participation in the study is completely voluntary, and is not part of the Dorothy Wylie Nursing Leadership Institute program. Your decision to join the study or not will in no way affect your ability to participate in current or future activities related to the Dorothy Wylie Nursing Leadership Institute.

You are eligible to participate in this study if you:
- are a Registered Nurse in a Canadian province or territory
- are a registered participant at the Dorothy Wylie Nursing Leadership Institute/Health Leaders Institute
- are seeking to enhance your leadership abilities
- do not report to the doctoral student (Margaret Blastorah) I an employment situation
- have not been supervised as a graduate student by Dr. Linda McGillis Hall, my faculty Supervisor
- have not previously attended either the Dorothy Wylie Nursing Leadership Institute or the Health Leaders Institute

If you agree to join the study, you will be asked to complete questionnaires at four points in time, as follows:
- a short written questionnaire, which I will distribute shortly, and which I will ask you to complete and return by tomorrow morning – approximately 10-15 minutes to complete
- another short questionnaire which I will distribute on the final evening of the institute, and collect on the last morning of the institute – approximately 10 minutes to complete
- a third questionnaire that I will mail to you at an address you provide, approximately 6 weeks before you return for your follow-up weekend – approximately 10 – 15 minutes to complete. You will be asked to complete this questionnaire and return it by mail to the Faculty of Nursing offices at the University of Toronto, prior to your follow-up weekend.
- a final questionnaire that I will distribute and collect when you return for the follow-up weekend – approximately 10 minutes to complete.
I am asking that you provide a telephone number so that I can contact you if you do not attend the follow-up weekend.

Your answers are confidential and you will not be asked to put your name on the questionnaires. The questionnaires will be coded numerically, so that I can match your information from the different questionnaires. Your name and corresponding numeric code will be stored in a locked cabinet at the Faculty of Nursing, separate from the completed questionnaires. The questionnaires will be kept in a locked filing cabinet at the Faculty of Nursing and will be destroyed after 6 years. No one other than myself and the members of my research committee will have access to the questionnaires or contact information at any time. Your name will not be used in any publications or presentations of the results of the study and only group results will be reported. You may refuse to answer any of the questions and you may choose not to participate. You may withdraw from the study at any time.

There are no known risks associated with participating in this study. There are also no direct benefits. However it is hoped that through this study we will learn more about the process of leadership development among nurses, and the interventions that support it. This may inform decisions about how best to support leadership development among nurses in the future.

I will distribute a study package to each of you at the conclusion of this presentation. The outside of the package will have your name on it. The forms inside are identified only by numeric code. Inside the package you will find the first questionnaire, a contact information sheet, and a return envelope. I have also included a gift certificate for a local coffee shop in the package. The gift certificate is yours to keep, whether or not you decide to participate in the study.

If you agree to participate, please complete the questionnaires by tomorrow morning, and place the completed forms in the return envelope, seal the envelope. I will be here tomorrow morning and will provide a secure container in which you can place the return envelope. I will transport the returned packages in the container to the Faculty of Nursing, and open them there. When I open the packages, I will immediately separate your contact information sheet from your completed questionnaires and store them separately, so that your questionnaire responses will remain anonymous. I will come back on the final evening of the institute and distribute the next questionnaire. I will collect and transport these questionnaires on the last morning of the institute in the same manner.

If you choose not to participate, please place the blank questionnaires and consent form in the return envelope and place it in the collection container this evening or tomorrow morning. This will protect the confidentiality of your decision to participate or not to participate.

I will mail the third study package to those of you who agree to participate, approximately six weeks before you come back for your follow-up weekend. The package will contain a questionnaire and a postage-paid return envelope. I would like you to complete the questionnaire and return by mail it in the envelope provided, before you come back for your follow-up weekend. It is important that you complete and return this questionnaire before the follow-up weekend, to ensure that the questionnaires are completed in the correct sequence.
I will come back on your follow-up weekend and will distribute the final study package on the first evening. The process for completion and return of these study materials will be the same as for the first package, and I will collect them before you go home.

If you have any questions or comments about the study after you leave the Institute, please feel free to contact me and I will be happy to provide you with any information I can. My address, telephone number and email address are available on the consent form.

If you have questions about your rights as a research participant, please contact the Ethics Review Officer at the University of Toronto, at telephone 416-946-5806 or by email: jc.parsons@utoronto.ca.

I will now distribute the study packages. Once everyone has their package, I will be happy to answer any questions you may have about the study, and your participation.

Thank you very much for your allowing me the opportunity to speak with you about my study.
Appendix H

Participant Contact Information Sheet

Please provide a mailing address so that I can mail you a study questionnaire approximately 7 weeks before you return for your follow-up weekend.

You will be asked to complete this questionnaire and return it by mail to the Faculty of Nursing offices at the University of Toronto, prior to your follow-up weekend.

I am also asking that you provide a telephone number so that I can contact you if you do not attend the follow-up weekend.

Please return this information sheet, together with your completed questionnaires, in the envelope provided.

__________________________
Participant Name (please print)

Mailing Address: _________________________________________

_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________

Telephone number: _________________________________________

Thank you very much for participating in this study.
Appendix I

Explanatory Letter to Accompany Mentoring Functions Questionnaire

[Faculty of Nursing Letterhead]

Date

Dear Nursing Colleague,

Thank you for agreeing to participate in the research study that I am conducting looking at the effect of mentoring on nurses’ perceptions of their leadership abilities. This research is being undertaken in partial fulfillment of the requirements for my doctoral dissertation at the Faculty of Nursing, University of Toronto.

Your participation in the study involves completion of questionnaires at three points in time: at the conclusion of your week at the Dorothy Wylie Nursing Leadership Institute, at 4 – 6 weeks prior to your return for the follow-up weekend, and at the follow-up weekend. You may recall completing the first group of questionnaires when you were at the Dorothy Wylie Institute in (date).

Enclosed with this letter you will find a questionnaire that asks you about your experiences working with a mentor. I am asking that you complete the questionnaire and return it to me in the envelope provided, before you return for your follow-up weekend at the Dorothy Wylie Institute on (date). The questionnaire should take about 20 – 30 minutes to complete. You do not need to put your name on the questionnaire.

The final phase of data collection will take place when you return for your follow-up weekend on (date). I look forward to seeing you then.

If you have any questions or comments about the study, please feel free to contact me and I will be happy to provide you with any information I can. My telephone number and email address are listed at the bottom of this letter.

If you have questions about your rights as a research participant, please contact the Ethics Review Officer at the University of Toronto, at (contact information).

Thank you again for your assistance in gathering this information.
Appendix J

Reminder Letter Re. Mailed Mentoring Survey
(to be mailed 5 weeks prior to follow-up weekend)

[Faculty of Nursing Letterhead]

Date

Dear Nursing Colleague,

Last week you received a questionnaire asking you about your experiences working with a mentor. This questionnaire was sent to you because you have graciously agreed to participate in the research I am conducting looking at the relationship between mentoring and nurses’ perceptions of their leadership abilities.

If you have already completed and returned the questionnaire, please accept my sincere thanks. If not, please do so today. I am especially grateful for your help because it is only by asking nurses like yourself that we will increase our understanding of the role that mentoring plays in nursing leadership development.

If you did not receive the questionnaire, or if it has been misplaced, please e-mail me at m.blastorah@utoronto.ca, and I will mail you another package today.
Appendix K

Final Reminder Letter Re. Mailed Mentoring Survey  
(to be mailed two weeks prior to follow-up weekend)

[Faculty of Nursing Letterhead]

Date

Dear Nursing Colleague,

Approximately four weeks ago I sent a questionnaire to you that asked about your experiences working with a mentor. To date, my records indicate that the questionnaire has not been returned. I am hoping that you will take a few minutes today to complete the questionnaire and mail it back to me.

While a number of participants in the study have already responded, I am hoping to hear from all of those who agreed to participate in the study. I have enclosed a second copy of the questionnaire and a return envelope, in case you did not receive the original package, or it was misplaced.

The questionnaire should take about 10 - 15 minutes to complete. You do not need to put your name on the questionnaire. Because of the nature of the study design, it is very important that you complete and mail the questionnaire before returning for your follow-up weekend at the Dorothy Wylie Nursing Leadership Institute.

If you have any questions or comments about the study, please feel free to contact me and I will be happy to provide you with any information I can. My telephone number and email address are listed at the bottom of this letter.

If you have questions about your rights as a research participant, please contact the Ethics Review Officer at the University of Toronto, at (contact information).

Thank you again for your assistance in gathering this information.
Appendix L

Participant Information Update

Please answer the following questions about changes in your work situation since you attended the Dorothy Wylie Nursing Leadership Institute/Health Leaders Institute.

1. Are you still employed by the same organization that you were when you attended the Dorothy Wylie Nursing Leadership Institute/Health Leaders Institute?
   □ Yes □ No

   If “yes”, please go to question 4. If “no” please answer questions 2 and 3 regarding your new employer.

2. Please indicate the type of organization in which you are now employed.
   □ Acute Care Hospital
   □ Longterm Care
   □ Community/Public Health
   □ Government
   □ Educational Institution
   □ Not currently employed
   □ Other
Appendix M

Letter to Accompany Mailed Leadership Self-efficacy Questionnaire (Time 4)

[Faculty of Nursing Letterhead]

Date

Dear Nursing Colleague,

Thank you for agreeing to participate in the research study that I am conducting looking at the effect of mentoring on nurses’ perceptions of their leadership abilities. This research is being undertaken in partial fulfillment of the requirements for my doctoral dissertation at the Faculty of Nursing, University of Toronto.

Your participation in the study involves completion of questionnaires at four points in time: at the beginning and end of your week at the Dorothy Wylie Nursing Leadership Institute or the Health Leaders Institute, at 4 – 6 weeks prior to your return for the follow-up weekend, and at three months following the institute. You may recall completing the first group of questionnaires when you were at the Dorothy Wylie Institute/Health Leaders Institute in (date), and the mentoring functions questionnaire a few weeks ago. The final questionnaires were distributed at the Dorothy Wylie Institute/Health Leaders Institute follow-up weekend on (date).

Since you did not attend the follow-up weekend, I am sending you the final questionnaire by mail. Please complete and return the questionnaire to me in the enclosed postage-paid envelope, by (date) so that I can include your responses in the analysis. The questionnaire should take about 20 – 30 minutes to complete. You do not need to put your name on the questionnaire.

If you have any questions or comments about the study, please feel free to contact me and I will be happy to provide you with any information I can. My telephone number and email address are listed at the bottom of this letter.

If you have questions about your rights as a research participant, please contact the Ethics Review Officer at the University of Toronto, at (contact information).

Thank you again for your assistance in gathering this information.
Reminder Letter Re. Mailed Leadership Self-Efficacy Questionnaire  
(to be mailed 2 weeks following first mailing)

[Faculty of Nursing Letterhead]

Date

Dear Nursing Colleague,

Approximately two weeks ago I sent a questionnaire to you that asked about your beliefs regarding your leadership abilities. To date, my records indicate that the questionnaire has not been returned. I am hoping that you will take a few minutes today to complete the questionnaire and mail it back to me.

While a number of participants in the study have already responded, I am hoping to hear from all of those who agreed to participate in the study. I have enclosed a second copy of the questionnaire and a return envelope, in case you did not receive the original package, or it was misplaced.

The questionnaire should take about 20 – 30 minutes to complete. You do not need to put your name on the questionnaire. Because of the nature of the study design, it is very important that you complete and mail the questionnaire today.

If you have any questions or comments about the study, please feel free to contact me and I will be happy to provide you with any information I can. My telephone number and email address are listed at the bottom of this letter.

If you have questions about your rights as a research participant, please contact the Ethics Review Officer at the University of Toronto, at (contact information).

Thank you again for your assistance in gathering this information.
Appendix O

**Final Reminder Telephone Call (script)**
*(To be implemented 3 weeks following initial mailing)*

Hello. My name is Margaret Blastorah, and I am a PhD. student at the Faculty of Nursing, University of Toronto. The purpose of my telephone call is to follow up with you regarding the research project that you have been participating in related to mentoring and leadership development. Do you have a moment to speak with me? (If no, ask if there is a convenient time at which to call back.)

First of all, let me thank you for your participation to date. The study is now drawing to a close, and this is the last contact that I will make with the nurses who agreed to participate.

Over the past few weeks we have sent you two copies of a questionnaire asking you about your beliefs related to your leadership abilities. I am making this final contact by telephone to answer any questions you may have about your participation in the study, and to ask that you consider filling out and returning the questionnaire today. Having complete data on all of the participants will help ensure the accuracy of the study results.

I also want to assure you that your participation in this study is entirely voluntary, and that if you choose not to respond that’s fine. If you are willing to respond but did not receive the mailed questionnaire, or if it has been misplaced, I would be happy to send you another questionnaire today.

Finally, I would like to thank you again for your participation so far, and for taking the time to consider this last request.