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Leading nurses: emotional intelligence and leadership development effectiveness

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Abstract

Purpose – The purpose of this paper is to examine the effectiveness of an emotional intelligence (EI) and leadership development education program involving 20 nurse leaders at nursing homes. Also, it investigates the relationship between EI and transformational leadership.

Design/methodology/approach – Three research questions are posed. Correlation analysis and *t*-tests were conducted to answer the questions posed.

Findings – The findings of this paper indicate that the EI educational development was effective, while the personal leadership development was not. The data also showed a positive significant relationship between EI and transformational leadership.

Research limitations/implications – This paper is limited by the small sample size; thus, a causal relationship between EI and leadership could not be investigated. Additionally, the sample was not randomly selected because of the commitment needed from the participants. Furthermore, the paper was focused on nurse leaders in nursing homes, so it may not be generalizable to other populations.

Practical implications – With the increasing need for nursing home facilities and the limited training generally provided to nurses who move into managerial roles in these facilities, it is critical for organizations to understand the effectiveness of educational programs that exist. Moreover, the findings of this paper may provide information that would be useful to others who wish to develop EI and/or leadership education for nurses.

Originality/value – While much research exists on EI and transformational leadership, little of this research focuses on nurses in nursing home facilities. Thus, this paper fills a gap in the literature.

Keywords Emotional intelligence, Educational development, Transformational leadership, Nurses, Nursing homes

Paper type Research paper

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Introduction

Long-term care providers include adult day service centers, home health agencies, hospices, nursing homes and residential care communities which provide a variety of care services for older individuals. Nursing home facilities comprise an important sector of the long-term care field. In 2012, there were 15,700 nursing homes in the USA that served almost 1.4 million residents (Harris-Kojetin *et al.*, 2013). These facilities are staffed by a variety of employees, such as social workers and nursing assistants, but one particular category of employees that play an important role in resident care is nurses. In nursing homes, the Directors of Nursing (DONs) are mandated by federal law to be registered nurses (RNs) (Fleming and Kayser-Jones, 2008), and RNs represent 11.7 per cent of nursing home nursing staff (Harris-Kojetin *et al.*, 2013). The DONs have the ultimate responsibility for staffing the nursing department in sufficient numbers to provide quality care. These tasks are critical and many DONs report that they are ill prepared to meet them, even though some state that the DONs hold the most crucial organizational positions in nursing homes when it comes to the quality of care (Fleming and Kayser-Jones, 2008; Rowles, 1995). One DON noted that nurses move from strictly clinical positions to administrative positions with minimal management knowledge or skill, which makes it difficult for them to be managers, let alone true leaders (Wunderlich *et al.*, 1996). Others also note that many nurses become formal leaders without leadership training (Kerfoot, 2008; Swearingen, 2009). Therefore, it is widely acknowledged that nursing managers are inadequately prepared for their roles (Newman *et al.*, 2015). Yet while many skills are needed for nurses to be successful, scholars note that leadership development and training is critical for nurses (Dunne *et al.*, 2015), especially as leadership development is thought to be critical for optimal success in managerial roles (Wong *et al.*, 2013). Moreover, nurse managers are thought to be highly influential to workplace cultures (Newman *et al.*, 2015), and scholars state that nurse leaders should look for development programs that focus on both their emotional intelligence (EI) and the transformational leadership skills (O'Neill, 2013). The *Leading Nurses Program* was designed and implemented to provide such development. This paper will evaluate the effectiveness of some of the aspects of the program, which addresses a recent call by scholars to evaluate specific leadership development programs (Dunne *et al.*, 2015).

The Leading Nurses Program *purpose*

Nursing homes require strong leadership by DONs and other RN leaders to improve the quality of care provided to residents in their facilities. The three-year *Leading Nurses* project was developed and implemented to achieve Purpose P3 of the Nursing Education, Practice and Retention (NEPR) program. *Leading Nurses* provided leadership development for DONs and other RN leaders working in nursing homes in the USA, specifically homes in southeastern Pennsylvania, southern New Jersey and Delaware. Content for the *Leading Nurses* project was based on the results of a focus group conducted by the researchers in 2003 as well as their follow-up demonstration project called Management Skill Development for Nursing Leaders: Improving the Work Environment for Direct Care Workers.

The goal of *Leading Nurses* was to improve the care of approximately 3,750 residents in 30 nursing homes through new skill sets and evidence-based protocols that were learned and implemented by nurse leaders in these facilities. Other program objectives included:

- to determine if there is a difference in EI scores before an educational intervention and at the end of three years for DONs/nurse managers;
- to determine the effectiveness of an EI and leadership educational intervention on leadership skills among the DONs/nurse managers;

- to determine the perceptions of the long-term care work environment by staff reporting to DONs/nurse managers in the program and start and completion of the program; and
- to determine the impact of an EI and leadership educational intervention on nurse retention and core clinical indicators.

This paper examines a portion of the data gathered during the three-year program. Specifically, it provides an analysis of the data on the EI and transformational leadership that was conducted as part of the project; thus, the first two purposes above are most relevant to this article. Examination of Objective 3 and 4 are beyond the scope of this paper, as the goal here is to assess the effectiveness of the training program.

Emotional intelligence development and nursing

EI is an ability which focuses on the accurate perception and expression of emotion; the understanding of emotional knowledge; the use of feelings to facilitate thought; and to regulate emotions in oneself and others (Salovey *et al.*, 2003). It has also been defined as a non-cognitive capability that influences one's aptitude to cope in various situations (Bar-On *et al.*, 2003). It has been linked to multiple positive outcomes including performance (Carmeli and Josman, 2006; Slaski and Cartwright, 2002; Wong and Law, 2002) and leadership (Akerjordet and Severinsson, 2008; Alon and Higgins, 2005; Prati *et al.*, 2003).

The study of EI in nurses has been acknowledged as important (Akerjordet and Severinsson, 2008; Eason, 2009). EI has been found to be related to positive empowerment processes and positive organizational outcomes in nurse leadership (Akerjordet and Severinsson, 2008). Some authors advocate using EI as a part of the criteria for hiring of nurses (Cadman and Brewer, 2001). Other areas that have been addressed include EI and conflict management styles (Morrison, 2008), retention (Feather, 2009; Wallis and Kennedy, 2013) and teams (Wallis and Kennedy, 2013) in nursing. Furthermore, EI has been found to be positively related to well-being and negatively related to job stress (Karimi *et al.*, 2014) and correlated with better overall health, greater work satisfaction and decreased risk of job burnout (Powell *et al.*, 2015). Others have identified EI as one important factor in clinical leadership (Leggat and Balding, 2013). Additionally, EI of team members was one of the variables that had a positive impact on team dynamics, although the authors noted that the team's effectiveness may have built the social competency (Wallis and Kennedy, 2013). One scholar stated that more research on EI and nurse leaders is needed because of the shortage and high turnover of nurse leaders (Feather, 2009).

Thus, the study of EI in nurses is an important topic for researchers and practitioners. It is critical to understand how EI can be improved because of the previously noted positive outcomes associated with it and because it is likely a skill that would be helpful to directors of nurses in nursing homes and result in multiple positive benefits.

Multiple authors have suggested educational training as a way to improve EI (Berman and West, 2008; Gignac *et al.*, 2012; Laabs, 1999; Oginska-Bulik, 2005; Ornstein and Nelson, 2006; Pilkington *et al.*, 2012; Slaski and Cartwright, 2003; Zijlmans *et al.*, 2011) and empirical data suggest that training can effectively increase EI (Gignac *et al.*, 2012; Herpertz *et al.*, 2016; Khodayarifard *et al.*, 2012; Slaski and Cartwright, 2003; Zijlmans *et al.*, 2011). One study found evidence to support increases in emotional identification and emotion management abilities among individuals who were trained in EI (Nelis *et al.*, 2009). Another study of nurses found that EI was advanced through a combination of training, experience, reflection and reinforcement in district nurses (Davies *et al.*, 2010). However, at least one scholar believed that EI training is not really of value (Clarke, 2006), and as EI development

programs may vary, evaluating the effectiveness of an EI development program is important. Therefore, this research poses the question:

RQ1. Did the emotional intelligence development program have a positive effect on emotional intelligence of nurses in nursing homes?

Transformational leadership and nursing

Many articles have focused on various topics related to leadership in the nursing sector (Akerjordet and Severinsson, 2008; Aroian, 2000; Bennet, 2008; Laschinger *et al.*, 2012; O'Neill, 2013; Sparks, 2012; Wallis and Kennedy, 2013; Wong and Laschinger, 2013; Wong *et al.*, 2010). One author noted that effective leadership in healthcare is crucial because developing a pipeline of healthcare leaders is thought to be essential and because effective leadership is critical for optimizing cost, access and quality in healthcare (Stoller, 2013). Some recent articles have examined leadership training and retention (Wallis and Kennedy, 2013), team retention strategies (Tourangeau *et al.*, 2010) and generational differences on views of leadership (Sparks, 2012). Another area of focus in nursing seems to be authentic leadership, which is a positive, relationship-oriented leadership style (Laschinger *et al.*, 2012; Wong and Laschinger, 2013; Wong *et al.*, 2010).

A critical area of research in nursing is the study of transformational leadership which is one type of leadership style. It is characterized by the ability of the leader to understand the organizational culture and realign it to a new vision (Bass and Avolio, 1993). Leaders who use this style transform organizations by challenging themselves and their followers to achieve success (O'Neill, 2013) and inspire and empower others to help them achieve great outcomes (Ross *et al.*, 2014). They are visionary (O'Neill, 2013). Some view transformational leadership as encompassing authentic leadership, innovation and creativity while also having the ability to build trust and relationships, as well as expressing rational caring (Turkel, 2014). Nurse leaders need these skills because of the future demands of the growing healthcare system in the USA based on the Affordable Care Act (O'Neill, 2013). Furthermore, these leadership skills are thought to be highly applicable to nursing practice (Ross *et al.*, 2014). Nurses need to become transformational leaders to improve quality and safety in healthcare (Galuska, 2014). DONs, in particular, may need these skills to perform the tasks assigned to them as leaders of nursing homes.

Additionally, educational training has been suggested as a way to improve leadership skills (Dwyer, 2011; Stoller, 2013; Wallis and Kennedy, 2013), but limited research exists on the effectiveness of leadership training in nursing practice. After conducting a review of the existing literature on RNs as managers and leaders in long-term care facilities, one author suggested that clinical leadership training is necessary for nurses (Dwyer, 2011). Wallis and Kennedy (2013) found that leadership training was important for team retention, but noted more research was needed. Some state that ongoing professional development that will enhance nursing leadership skills will improve the quality of care (Galuska, 2014). Others argue that this type of leadership training is important, although some methods, such as traditional leadership development and communication skills training, are ineffective in producing sustainable change in behaviors (Dearborn, 2002). As some have called for the importance of evaluating leadership development programs (Dunne *et al.*, 2015), the leadership training provided as part of the *Leading Nurses Program* needs to be evaluated for effectiveness.

RQ2. Did the transformational leadership development program have a positive effect on leadership skills of nurses in nursing homes?

Emotional intelligence and transformational leadership of nurses in nursing homes

Several authors have discussed a relationship between EI and transformational leadership (Cavazotte *et al.*, 2012; Clarke, 2010; Connelly *et al.*, 2004; Grunes *et al.*, 2014; Harms and Credé, 2010; Moss *et al.*, 2006; O'Neill, 2013; Sosik and Megerian, 1999). But the evidence is mixed. Some researchers have found significant relationships between EI and transformational leadership (Esfahani and Soflu, 2013; Foster and Roche, 2014; Khan *et al.*, 2011; Sunindijo, 2012; Wang and Huang, 2009). Foster and Roche (2014) found that even after controlling for personality, EI was a significant predictor for transformational leadership.

However, some researchers found that EI was not a useful predictor for transformational leadership (Føllesdal and Hagtvet, 2013; Grunes *et al.*, 2014), and others did not find a relationship between EI and transformational leadership (Moss *et al.*, 2006). Cavazotte *et al.* (2012) found that the relationship between the variables was not significant when controlling for other factors such as personality (Cavazotte *et al.*, 2012). Kobe *et al.* (2001) found that it was not a significant predictor when controlling for social intelligence (Kobe *et al.*, 2001), meaning that each personality or social intelligence was a stronger indicator of transformational leadership than EI. Other researchers believed that common method bias and socially desirability responding (Harms and Credé, 2010) may influence the relationship between EI and transformational leadership; thus, the data gathered on the relationship between EI and transformational leadership may be biased. Furthermore, Moss *et al.* (2006), who specifically examined nurses' EI and transformational leadership, found that those who reported high EI did not have high transformational leadership (Moss *et al.*, 2006). Therefore, more examination of the relationship between the variables is needed.

While there are many aspects of leadership such as leader's style, behavior and subordinate relationships which have been frequently studied, few studies have been conducted on leadership and EI in the context of nursing homes. Furthermore, scant research evaluates the effectiveness of EI and leadership development in nurse leaders who work in nursing home facilities. One study examined leadership and EI in nurses at long-term care facilities (Vesterinen *et al.*, 2009) and another study looked at the relationship among observed leadership, job satisfaction and turnover in long-term care facilities and did not find that leadership practices impacted job satisfaction or turnover (Tourangeau *et al.*, 2010). Other scholars examined previous research on RNs as clinical leaders and managers in long-term care facilities and found that nurses who work in these facilities have strong motivation to provide the best outcomes for the elderly population they serve (Dwyer, 2011).

This study examined the relationship between EI and transformational leadership because of the contradiction of previous research findings and because many suggested an association between EI and various aspects of leadership (Akerjordet and Severinsson, 2008; Eason, 2009; Feather, 2009; Horton-Deutsch and Sherwood, 2008; Kerfoot, 1996; Lucas *et al.*, 2008; Moss *et al.*, 2006; O'Neill, 2013). Furthermore, it is important that these variables be examined together in the setting of nursing homes to determine if they are related in this context. By 2030, the number of Americans 65 and older is projected to reach 73 million, a sharp increase from 40 million in 2010 (Hagerty, 2013), thus mandating more of a need for nursing homes and nurse leaders to have strong EI and transformational leadership skills.

Thus, to have a better understanding of the relationship between EI and transformational leadership in nurse directors, the following research question was examined:

RQ3. Will nurses with higher levels of emotional intelligence have higher levels of transformational leadership?

Leading Nurses development program

The intent of the educational development program was to improve or enhance EI and transformational leadership. The program was held over three years. Year 1 focused on skills assessment and development. The first nine day-long sessions explored the leadership and management style of each DON and RN leader through EI assessment and training and leadership as well as change management skill development. The last three sessions provided evidence-based protocols to improve the delivery of quality care. During the first year, each facility received four, two-hour visits with a mentor who met with the DON and RN leaders to discuss challenges and successes associated with leadership issues and implementation of protocols.

Years 2 and 3 provided support and coaching through more intensive mentoring and peer meetings. Each facility received six, two-hour visits with two of the visits conducted by a member of the *Leading Nurses* leadership team plus eight, one-hour group conference calls. In Year 3 of the program, participants continued to receive the same level of mentoring received in the previous year. They also formed a Peer Exchange Network to obtain ongoing information and support from other *Leading Nurses* participants.

Emotional intelligence and leadership development

In all, 60 DON and RN leaders assembled at the start of the educational development program for the introduction to and an overview of the entire three-year training program. In the first year, 12 one-day classes were conducted. These classes covered topics such as EI assessment and development, personal leadership development, management development and clinical protocols. Three of the classes specifically targeted EI assessment and development, and two covered personal leadership development. Each one-day class was approximately 8 hours long.

During the initial meeting of the project participants, a brief presentation of the elements of EI was provided along with the rationale which indicated that EI could be the foundation for effective leadership development.

The classes for EI began approximately one month later. A full day was devoted to a more detailed preparation for completing the EI assessment and actual self-administration of the EI assessment. For about one hour, the faculty member described the five major areas assessed by the EI assessment, provided samples of illustrative questions and stressed the importance of honest self-assessments versus inflated or desired ones. Immediately following this introductory material, all participants completed the EI assessment online. This was followed by a de-briefing session. Although there were a few critical comments pertaining to specific items, the general reaction was satisfaction with the experience as one that helped get them "thinking about themselves". Part of the afternoon was dedicated to understanding what the EI assessment Development Report would look like.

At the second meeting, the faculty focused on the EI assessment Development Report. In the morning, a didactic review of the areas assessed by the EI assessment was provided. This was followed by the faculty member's display of the results from his own Development Report and a discussion of steps he might take to improve his EI on three sub-scales on which he scored lowest. Participants were then given hard copies of their individual Development Reports to read. A full group discussion lasting 15-20 minutes was followed by small group "self-help" discussion groups. During the "self-help" discussion, the instructions were to brainstorm strategies for using the contents of their EI assessment Development Reports and to develop strategies for improving EI on sub-scales receiving lower scores. Each small group was instructed to prepare a summary for reporting back to the full group, which followed immediately.

A third half-day of the educational program took place one month later. During this day of the educational program, the trainees were assigned to one of four small discussion groups and each group was given four scenarios of situations that posed challenges to the application of EI in a work situation. Each group was instructed to devote 30 minutes to each scenario and prepare a summary report for the full group to discuss.

Approximately six weeks later, a follow-up session was organized for those participants who were still participating in the development program. Small groups were organized by the trainer around those EI assessment sub-scales of the composite scales showing lower scores: Assertiveness and Independence, Problem-Solving, Self-Regard and Optimism and Self-Awareness and Interpersonal Relationships. The individuals in each group were instructed to assess their progress over the past year in their respective sub-scales, identify any barriers they had encountered and describe strategies that they might use to overcome those barriers to further EI development.

Also, during the first year, there were two one-day sessions conducted by a faculty member on personal leadership development. The sessions focused on transformational leadership development. Participants completed the Multifactor Leadership Questionnaire (MLQ) and used their initial results from the MLQ to identify areas that they needed to work on. The interactive activities in these workshops included group work discussing various aspects of transformational leadership, sharing leadership challenges and discussing alternatives for addressing those challenges.

Methodology

Measures

The online version of the EQ-I (Bar-On, 2004), which is based on self-report, was used to measure EI. The EQ-I has been used in multiple studies in the past (Bar-On *et al.*, 2003; Dawda and Hart, 2000; Harper and Jones-Schenk, 2012; Ranjha and Shujja, 2010). This measure assesses EI on five composite scales: Intrapersonal, Interpersonal, Adaptability, Stress Management and General Mood (Bar-On *et al.*, 2003). Participants completed the assessment online and responses were on a 5-point Likert-type scale (1 = Very seldom or Not True of Me; 2 = Seldom True of Me; 3 = Sometimes True of Me; 4 = Often True of Me; 5 = Very Often True of Me or True of Me). The measure showed acceptable levels of reliability (Time 1: $\alpha = 0.949$; Time 2: $\alpha = 0.947$).

The MLQ was used to measure transformational leadership (Bass and Avolio, 2004). This self-report questionnaire had been used in previous research (Connelly *et al.*, 2004). Specifically, this study used the 20 items in the survey that assessed transformational leadership. The sub-scales for this section of the MLQ included: Idealized Influence (Attributed), Idealized Influence (Behavior), Inspirational Motivation, Intellectual Stimulation and Individual Consideration (Bass and Avolio, 2004). Responses were recorded on a Likert scale (blank = Unsure, 0 = Not at all, 1 = Once in a while, 2 = Sometimes, 3 = Fairly often, 4 = Frequently, if not always). This subset of the MLQ showed acceptable levels of reliability (Time 1: $\alpha = 0.865$; Time 2: $\alpha = 0.820$).

Additionally, demographic data, which included age, gender, nursing education, years as a nurse and years as a supervisor, were collected by self-report at the start of the program. For nursing education, participants were asked to indicate their highest level of nursing education and selected from following options: Diploma in Nursing, Associates Degree in Nursing, Bachelor's Degree in Nursing and Master's Degree in Nursing. Participants were also asked to indicate the number of years they had spent in nursing and the number of years they had been a supervisor.

Sample

The study targeted RNs in nursing homes. All private, non-profit and government/county facilities in the five county Philadelphia area, South Jersey, and Delaware were targeted and letters were sent to recruit. Individuals in leadership roles such as DON or other types of nurse leaders, such as nurse managers, were targeted. Because of the long-term nature of the project, nurses were interviewed to assess their commitment to participate in the three-year educational program. From this process, 30 sites were chosen and 55 nurses from these sites were selected. At the end of the three-year program, 24 nurses had completed the entire three-year training program. Attrition from the program was related to a variety of factors including participants leaving their facility and/or moving to another position such as administrator.

After evaluating the data gathered from the participants that had completed the three-year program, usable date for both the EQ-I and the MLQ existed for only 20 participants. Mean substitution was used to account for missing data for the 20 participants.

Descriptive statistics on the study variables are provided in Table I.

Of the 20 participants, only one was male. Participants mean age was slightly over 50 years old with the range from 39 to 64. Participants indicated their highest level of nursing education as Diploma in nursing (15 per cent), Associate's degree (35 per cent), Bachelor's (45 per cent) and Master's degree (5 per cent). In the sample, years as a nurse ranged from 4 to 38 years with the average number of years in nursing just under 20 years. The range for years as a supervisor for the participants was 0 to 29 years with the average number of years as a supervisor just under 11 years.

Results

To analyze the data, correlation tables were run first. Table II shows the correlations, means, standard deviations and alphas for the variables tested. As the demographic variables of gender and age did not correlate with any of the EI or leadership variables, they were removed from the subsequent analyses.

To answer *RQ1* and *RQ2*, paired *t*-tests were conducted to compare EI and leadership from Time 1 to Time 2. The analysis showed that the educational development program for EI did have a significant impact on the participants. The leadership development educational program did increase participants' levels of transformational leadership; however, the results were not significant. Table III shows the results.

To answer *RQ3* for the data provided at Time 1, the correlation table was examined to see if a relationship existed between EI in Time 1 and transformational leadership in Time 1. The correlation was not significant. Therefore, the data did not provide support for higher levels of EI being related to higher levels of transformational leadership.

To test *RQ3* for the data provided at Time 2 after the program was completed, the correlation table was re-examined. The results indicate that higher levels of EI in Time 2 were associated with higher levels of transformational leadership ($p < 0.05$). As the sample

Variables	*N*	Minimum	Maximum	Mean	SD
Age	20	39	64	50.25	6.373
Gender	20	1	2	1.95	0.224
Nursing education	20	1	4	2.4	0.821
Years as a supervisor	20	0	29	10.78	8.282
Years as a nurse	20	4	38	19.5	10.288
Male = 1; Female = 2					

Table I.
Descriptive statistics

Table II.
Alpha, means, standard deviations and correlations

Variables	Alpha	Means	SD	Age	Gender	Nursing education	Years as a nurse	Years as a supervisor	EI time 1	EI time 2	Transformational leadership T1	Transformational leadership T2
Age		50.25	6.373	1								
Gender		1.95	0.224	0.009	1							
Nursing education		2.40	0.821	0.080	−0.459*	1						
Years as a nurse		19.50	10.288	0.679**	0.332	−0.069	1					
Years as a Supervisor		10.78	8.282	0.499*	0.221	−0.137	0.783**	1				
EI Time 1	0.949	97.25	13.384	0.324	−0.171	0.278	0.265	0.246	1			
EI Time 2	0.947	110.70	10.458	0.293	−0.254	0.401	0.296	0.271	0.290	1		
Transformational leadership T1	0.865	3.0242	0.41641	−0.115	−0.410	0.591**	−0.322	−0.394	0.029	0.166	1	
Transformational leadership T2	0.820	3.1425	0.32698	−0.319	−0.401	0.522*	−0.348	−0.347	−0.141	0.490*	0.604**	1

Notes: **Correlation is significant at the 0.01 level (two-tailed); *correlation is significant at the 0.05 level (two-tailed)

Paired *t*-test	Paired differences Mean	SD	Standard error mean	95% confidence interval of the difference Lower	Upper	*t*	df	Significance (two-tailed)
EI T2 − EI T1	13.450	14.398	3.220	6.711	20.189	4.178	19	0.001**
Transformational leadership T2 − Transformational leadership T1	0.11828	0.34019	0.07607	−0.04093	0.27750	1.555	19	0.136

Table III.
Paired *t*-test for emotional intelligence and leadership

Note: **Significant at the 0.01 level

size was under 30, simple regression was the acceptable form for further analysis (Hair *et al.*, 2010). However, analyzing the correlation table again, the highest correlation with transformational leadership in Time 2 was transformational leadership in Time 1, not EI in Time 2. Thus, even though the correlation between EI and transformational leadership in Time 2 was significant, the data did not support higher levels of EI leading to higher levels of transformational leadership, as it was recommended by Hair *et al.* (2010) that the strongest correlation be first selected to run a simple regression to minimize the sum of squares errors of prediction.

To understand the data better, a post hoc analysis was done on the data. Examining the correlation table again, nursing education was significantly related to transformational leadership in Time 1 ($p < 0.01$) and Time 2 ($p < 0.05$). However, the strength of the relationship decreased from Time 1 to Time 2.

Discussion

The goal of the *Leading Nurses Program* was to improve the care of approximately 3,750 nursing home residents through the development of new skill sets and evidence-based protocols learned and implemented by the nursing leaders in their facilities. Nurse leaders in nursing homes are expected to provide better supervision and support to the certified nursing assistants and other direct-care workers that, in turn, will result in improved care of nursing home residents. The purpose of this paper was to present some of the findings from the *Leading Nurses Program* and share its effectiveness.

This study contributes to the growing body of literature on EI and transformational leadership in nursing by specifically examining this population in nursing home facilities, which is an underdeveloped, but important area of research. Considering the previously noted aging population in the USA and the likely need for more nursing home facilities, more nurses will need to become leaders. Organizations want to be aware of how to most effectively prepare their DONs in these facilities.

The findings that EI was improved through the educational program indicated the benefit of the long-term program. Moreover, it supported previous findings that EI can be effectively developed (Gignac *et al.*, 2012; Nelis *et al.*, 2009; Slaski and Cartwright, 2003; Zijlmans *et al.*, 2011). These findings also supported previous scholars who have suggested that the competencies of emotional, social and cognitive intelligence that predict effectiveness in leadership can be developed (Boyatzis and Saatcioglu, 2008).

Considering the result that the leadership development component of the program did not have a significant effect on the transformational leadership skills of the nurses who

participated in the program, further examination of the program content, design and its effectiveness is warranted. As transformational leadership has been associated with positive organizational outcomes such as leader effectiveness (Cavazotte *et al.*, 2012) and group cohesiveness (Wang and Huang, 2009), designing a program to effectively develop this style of leadership in nurse leaders is important. Some scholars suggest that EI might enhance the capacity of managers to adapt their leadership style appropriately but only in some contexts (Moss *et al.*, 2006). Therefore, it may be relevant to further examine how those with high EI appropriately adapt their leadership style and whether this style is a transformational leadership style. Furthermore, scholars may want to further examine the context of nurses who work in nursing homes to determine how to develop more effective transformational leadership skills. Additionally, the amount of time devoted to the personal leadership development in this program (two one-day classes) was less than the time devoted to EI development (three one-day classes), which may have impacted the results.

Although the correlation analysis showed a positive and significant relationship between EI and leadership, which is consistent with some past research (Batool, 2013; Benson *et al.*, 2012; Connelly *et al.*, 2004), the sample size was under 30 and the relationship between EI at Time 2 and transformational leadership in Time 2 was not the strongest relationship; thus, it cannot be concluded that the results here support the previously noted research.

A result from this study that should warrant more research was the finding that nursing education had a significant positive relationship with transformational leadership in Time 1 and Time 2. This is supported by past research that indicated that nursing education is the foundation for transformational leadership development (Galuska, 2014). However, the relationship decreased in strength at Time 2. This may indicate that the educational program provided by *Leading Nurses* moderated the relationship between nursing education and transformational leadership. In other words, as there was a decrease in the strength of the relationship between nursing education from Time 1 to Time 2, it is possible that the *Leading Nurses Program* provided some supplemental educational development in leadership to those with lower levels of education. Those with higher levels of education may have developed leadership skills in their formal education.

This study also has important implications for practitioners. Organizations that want to provide EI and leadership development may want to examine the program outlined here to guide them in developing their own programs. The findings here, which suggest that a multi-year EI development program was successful and the leadership development program warrants further examination, are important information for organizations which are developing their own programs.

Limitations and future research

There are several limitations to this study. First, the sample size was small, thus limiting the analysis that could be conducted. Future studies should examine these variables with larger samples. Second, the sample was not random. Because of the time commitment needed for the program, participants were self-selected or selected by agency administration. Researchers should examine the relationships tested here in studies where there is random assignment. Third, there was only one male, so future research should include a more proportional distribution by gender. Fourth, this study focused on a very specific population, nurse leaders who were working in nursing homes, so it is not generalizable to other populations. Fifth, other aspects of the *Leading Nurses Program* were not analyzed as part of this research. Future researchers should look at the impact of EI and leadership development, as they relate to retention and core clinical indicators.

Despite the noted limitations, this study adds value to the literature. With the aging of the Baby Boomer generation and the growing need for quality nursing home care, developing a better understanding of how to prepare nurse leaders in these facilities is critical. This study provides evidence that long-term EI development can be effective in nurse leaders. In the context of limited empirical data that exists on EI, transformational leadership and nurses, this study adds to the body of knowledge. Additionally, the longitudinal study design was a strength. Future researchers should continue building on this area of research, so that organizations may better understand how to effectively develop their nurse leaders in nursing homes, which, in turn, should improve the quality of care received by their patients.

References

Akerjordet, K. and Severinsson, E. (2008), "Emotionally intelligent nurse leadership: a literature review study", *Journal of Nursing Management*, Vol. 16 No. 5, pp. 565-577.

Alon, I. and Higgins, J.M. (2005), "Global leadership success through emotional and cultural intelligences", *Business Horizons*, Vol. 48 No. 6, pp. 501-512.

Aroian, J.F. (2000), "Dons in long-term care facilities: contemporary roles, current credentials, and educational needs", *Nursing Economics*, Vol. 18 No. 3, pp. 149-156.

Bar-On, R. (2004), *Baron Emotional Quotient Inventory a Measure of Emotional Intelligence*, Multi-Health Systems, North, Tonawanda, NY.

Bar-On, R., Tranel, D., Denburg, N.L. and Bechara, A. (2003), "Exploring the neurological substrate of emotional and social intelligence", *Brain: A Journal of Neurology*, Vol. 126 No. 8, pp. 1790-1800.

Bass, B.M. and Avolio, B.J. (1993), "Transformational leadership and organizational culture", *Public Administration Quarterly*, Vol. 17 No. 1, pp. 112-121.

Bass, B. and Avolio, B. (2004), *Multifactor Leadership Questionnaire*, Mind Garden.

Batool, B.F. (2013), "Emotional intelligence and effective leadership", *Journal of Business Studies Quarterly*, Vol. 4 No. 3, pp. 84-94.

Bennet, J. (2008), "Nurse executive: if the shoes fit, wear them proudly", *Long-Term Living*, Vol. 57 No. 6, pp. 56-57.

Benson, G., Martin, L., Ploeg, J. and Wessel, J. (2012), "Longitudinal study of emotional intelligence, leadership, and caring in undergraduate nursing students", *Journal of Nursing Education*, Vol. 51 No. 2, pp. 95-101.

Berman, E.M. and West, J.P. (2008), "Managing emotional intelligence in US cities: a study of social skills among public managers", *Public Administration Review*, Vol. 68 No. 4, pp. 742-758.

Boyatzis, R.E. and Saatcioglu, A. (2008), "A 20-year view of trying to develop emotional, social and cognitive intelligence competencies in graduate management education", *Journal of Management Development*, Vol. 27 No. 1, pp. 92-108.

Cadman, C. and Brewer, J. (2001), "Emotional intelligence: a vital prerequisite for recruitment in nursing", *Journal of Nursing Management*, Vol. 9 No. 6, pp. 321-324.

Carmeli, A. and Josman, Z.E. (2006), "The relationship among emotional intelligence, task performance, and organizational citizenship behaviors", *Human Performance*, Vol. 19 No. 4, pp. 403-419.

Cavazotte, F., Moreno, V. and Hickmann, M. (2012), "Effects of leader intelligence, personality and emotional intelligence on transformational leadership and managerial performance", *Leadership Quarterly*, Vol. 23 No. 3, pp. 443-455.

Clarke, N. (2006), "Emotional intelligence training: a case of caveat emptor", *Human Resource Development Review*, Vol. 5 No. 4, pp. 422-441.

Clarke, N. (2010), "Emotional intelligence and its relationship to transformational leadership and key project manager competences", *Project Management Journal*, Vol. 41 No. 2, pp. 5-20.

Connelly, S., Ruark, G. and Waples, E. (2004), "How leader emotions influence followers' evaluations of leader emotional intelligence and transformational leadership", *Southern Management Conference*, *San Antonio*, TX, 3-6 November.

Davies, S., Jenkins, E. and Mabbett, G. (2010), "Emotional intelligence: district nurses' lived experiences", *British Journal of Community Nursing*, Vol. 15 No. 3, pp. 141-146.

Dawda, D. and Hart, S.D. (2000), "Assessing emotional intelligence: reliability and validity of the bar-on emotional quotient inventory (Eq-I) in university students", *Personality & Individual Differences*, Vol. 28 No. 4, pp. 797-812.

Dearborn, K. (2002), "Studies in emotional intelligence redefine our approach to leadership development", *Public Personnel Management*, Vol. 31 No. 4, pp. 523-530.

Dunne, S., Lunn, C., Kirwan, M., Matthews, A. and Condell, S. (2015), "Planning and selecting evaluation designs for leadership training: a toolkit for nurse managers and educators", *Journal of Professional Nursing*, Vol. 31 No. 6, pp. 475-481.

Dwyer, D. (2011), "Experiences of registered nurses as managers and leaders in residential aged care facilities: a systematic review", *International Journal of Evidence-Based Healthcare*, Vol. 9 No. 4, pp. 388-402.

Eason, T. (2009), "Emotional intelligence and nursing leadership: a successful combination", *Creative Nursing*, Vol. 15 No. 4, pp. 184-185.

Esfahani, N. and Soflu, H.G. (2013), "Emotional intelligence and transformational leadership in physical education managers", *Cypriot Journal of Educational Sciences*, Vol. 8 No. 1, pp. 105-120.

Feather, R. (2009), "Emotional intelligence in relation to nursing leadership: does it matter?", *Journal of Nursing Management*, Vol. 17 No. 3, pp. 376-382.

Fleming, M.L. and Kayser-Jones, J. (2008), "Assuming the Mantle of leadership: issues and challenges for directors of nursing", *Journal of Gerontological Nursing*, Vol. 34 No. 11, pp. 18-25.

Føllesdal, H. and Hagtvet, K. (2013), "Does emotional intelligence as ability predict transformational leadership? A multilevel approach", *The Leadership Quarterly*, Vol. 24 No. 5, pp. 747-762.

Foster, C. and Roche, F. (2014), "Integrating trait and ability EI in predicting transformational leadership", *Leadership & Organization Development Journal*, Vol. 34 No. 4, pp. 316-334.

Galuska, L.A. (2014), "Education as a springboard for transformational leadership development: listening to the voices of nurses", *The Journal of Continuing Education in Nursing*, Vol. 45 No. 2, pp. 67-76.

Gignac, G.E., Harmer, R.J., Jennings, S. and Palmer, B.R. (2012), "EI training and sales performance during a corporate merger", *Cross Cultural Management*, Vol. 19 No. 1, pp. 104-116.

Grunes, P., Gudmundsson, A. and Irmer, B. (2014), "To what extent is the Mayer and Salovey (1997) model of emotional intelligence a useful predictor of leadership style and perceived leadership outcomes in Australian educational institutions?", *Educational Management Administration & Leadership*, Vol. 42 No. 1, pp. 112-135.

Hagerty, J.R. (2013), "As America ages, shortage of help hits nursing homes", *Wall Street Journal*, 15 April.

Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.H. (2010), *Multivariate Data Analysis*, Prentice Hall, Upper Saddle River, NJ.

Harms, P.D. and Credé, M. (2010), "Emotional intelligence and transformational and transactional leadership: a meta-analysis", *Journal of Leadership & Organizational Studies*, Vol. 17 No. 1, pp. 5-17.

Harper, M.G. and Jones-Schenk, J. (2012), "The emotional intelligence profile of successful staff nurses", *The Journal of Continuing Education in Nursing*, Vol. 43 No. 8, pp. 354-362.

Harris-Kojetin, L., Sengupta, M., Park-Lee, E. and Valverde, R. (2013), *Long-Term Care Servicesin the United States: 2013 Overview*, National Center for Health Statistics, Hyattsville, MD.

Herpertz, S., Schütz, A. and Nezlek, J. (2016), "Enhancing emotion perception, a fundamental component of emotional intelligence: using multiple-group SEM to evaluate a training program", *Personality & Individual Differences*, Vol. 95, pp. 11-19.

Horton-Deutsch, S. and Sherwood, G. (2008), "Reflection: an educational strategy to develop emotionally-competent nurse leaders", *Journal of Nursing Management*, Vol. 16 No. 8, pp. 946-954.

Karimi, L., Leggat, S.G., Donohue, L., Farrell, G. and Couper, G.E. (2014), "Emotional rescue: the role of emotional intelligence and emotional labour on well-being and job-stress among community nurses", *Journal of Advanced Nursing*, Vol. 70 No. 1, pp. 176-186.

Kerfoot, K. (1996), "The emotional side of leadership: the nurse manager's challenge", *Nursing Economics*, Vol. 14 No. 1, pp. 59-61.

Kerfoot, K.M. (2008), "Bossing or serving? How leaders execute effectively", *Medsurg Nursing*, Vol. 17 No. 2, pp. 133-134.

Khan, M.I., Khan, M.A., Saeed, T., Khan, M.S. and Sanaullah (2011), "Linking emotional intelligence and transformational leadership: services sector of Pakistan", *Review of Management Innovation & Creativity*, Vol. 13 No. 4, pp. 43-53.

Khodayarifard, M., Cheshmenooshi, M., Nejad, A.R. and Farahani, H. (2012), "Efficacy of training components of emotional intelligence on social adjustment and social intimacy", *Journal of Psychology*, Vol. 15 No. 4, pp. 353-368.

Kobe, L.M., Reiter-Palmon, R. and Rickers, J.D. (2001), "Self-reported leadership experiences in relation to inventoried social and emotional intelligence", *Current Psychology: Developmental, Learning, Personality, Social*, Vol. 20 No. 2, pp. 154-163.

Laabs, J. (1999), "Emotional intelligence at work", *Workforce*, Vol. 78 No. 7, pp. 68-71.

Laschinger, H.K.S., Wong, C.A. and Grau, A.L. (2012), "The influence of authentic leadership on newly graduated nurses' experiences of workplace bullying, burnout and retention outcomes: a cross-sectional study", *International Journal of Nursing Studies*, Vol. 49 No. 10, pp. 1266-1276.

Leggat, S.G. and Balding, C. (2013), "Achieving organisational competence for clinical leadership", *Journal of Health Organization and Management*, Vol. 27 No. 3, pp. 312-329.

Lucas, V., Laschinger, H.K.S. and Wong, C.A. (2008), "The impact of emotional intelligent leadership on staff nurse empowerment: the moderating effect of span of control", *Journal of Nursing Management*, Vol. 16 No. 8, pp. 964-973.

Morrison, J. (2008), "The relationship between emotional intelligence competencies and preferred conflict-handling styles", *Journal of Nursing Management*, Vol. 16 No. 8, pp. 974-983.

Moss, S., Ritossa, D. and Ngu, S. (2006), "The effect of follower regulatory focus and extraversion on leadership behavior: the role of emotional intelligence", *Journal of Individual Differences*, Vol. 27 No. 2, pp. 93-107.

Nelis, D., Quoidbach, J., Mikolajczak, M. and Hansenne, M. (2009), "Increasing emotional intelligence: (how) is it possible?", *Personality and Individual Differences*, Vol. 47 No. 1, pp. 36-41.

Newman, C., Patterson, K. and Clark, G. (2015), "Evaluation of a support and challenge framework for nursing managers in correctional and forensic health", *Journal of Nursing Management*, Vol. 23 No. 1, pp. 118-127.

Oginska-Bulik, N. (2005), "Emotional intelligence in the workplace: exploring its effects on occupational stress and health outcomes in human service workers", *International Journal of Occupational Medicine & Environmental Health*, Vol. 18 No. 2, pp. 167-175.

O'Neill, J.A. (2013), "Advancing the nursing profession begins with leadership", *Journal of Nursing Administration*, Vol. 43 No. 4, pp. 179-181.

Ornstein, S. and Nelson, T. (2006), "Incorporating emotional intelligence competency building into the preparation and delivery of international travel courses", *Innovations in Education and Teaching International*, Vol. 43 No. 1, pp. 41-55.

Pilkington, A., Hart, J. and Bundy, C. (2012), "Training obstetricians and gynaecologists to be emotionally intelligent", *Journal of Obstetrics & Gynaecology*, Vol. 32 No. 1, pp. 10-13.

Powell, K.R., Mabry, J.L. and Mixer, S.J. (2015), "Emotional intelligence: a critical evaluation of the literature with implications for mental health nursing leadership", *Issues in Mental Health Nursing*, Vol. 36 No. 5, pp. 346-356.

Prati, L.M., Douglas, C., Ferris, G.R., Ammeter, A.P. and Buckley, M.R. (2003), "Emotional intelligence, leadership effectiveness, and team outcomes", *International Journal of Organizational Analysis*, Vol. 11 No. 1, pp. 21-40.

Ranjha, A.Y. and Shujja, S. (2010), "Emotional intelligence and psychological adjustment of nurses serving in emergency and non-emergency wards", *Journal of Behavioural Sciences*, Vol. 20 No. 2, pp. 36-48.

Ross, E.J., Fitzpatrick, J.J., Click, E.R., Krouse, H.J. and Clavelle, J.T. (2014), "Transformational leadership practices of nurse leaders in professional nursing associations", *Journal of Nursing Administration*, Vol. 44 No. 4, pp. 201-206.

Rowles, C.J. (1995), "Preparing today's Don: the ideal education", *Nursing Homes: Long Term Care Management*, Vol. 44 No. 9.

Salovey, P., Mayer, J.D., Caruso, D., Lopes, P.N., Lopez, S.J. and Snyder, C.R. (Eds) (2003), *Measuring Emotional Intelligence as a Set of Abilities with the Mayer-Salovey-Caruso Emotional Intelligence Test*, American Psychological Association, Washington, DC.

Slaski, M. and Cartwright, S. (2002), "Health, performance and emotional intelligence: an exploratory study of retail managers", *Stress & Health: Journal of the International Society for the Investigation of Stress*, Vol. 18 No. 2, pp. 63-68.

Slaski, M. and Cartwright, S. (2003), "Emotional intelligence training and its implications for stress, health and performance", *Stress & Health: Journal of the International Society for the Investigation of Stress*, Vol. 19 No. 4, pp. 233-239.

Sosik, J.J. and Megerian, L.E. (1999), "Understanding leader emotional intelligence and performance: the role of self-other agreement on transformational leadership perceptions", *Group & Organization Management*, Vol. 24 No. 3, pp. 367-390.

Sparks, A.M. (2012), "Psychological empowerment and job satisfaction between baby boomer and generation X nurses", *Journal of Nursing Management*, Vol. 20 No. 4, pp. 451-460.

Stoller, J.K. (2013), "Recommendations and remaining questions for health care leadership training programs", *Academic Medicine*, Vol. 88 No. 1, pp. 12-15.

Sunindijo, R.Y. (2012), "Integrating emotional intelligence, political skill, and transformational leadership in construction", *Civil Engineering Dimension*, Vol. 14 No. 1, pp. 182-189.

Swearingen, S. (2009), "A journey to leadership: designing a nursing leadership development program", *The Journal of Continuing Education in Nursing*, Vol. 40 No. 3, pp. 107-112.

Tourangeau, A.N.N., Cranley, L., Spence Laschinger, H.K. and Pachis, J. (2010), "Relationships among leadership practices, work environments, staff communication and outcomes in long-term care", *Journal of Nursing Management*, Vol. 18 No. 8, pp. 1060-1072.

Turkel, M.C. (2014), "Leading from the heart: caring, love, peace, and values guiding leadership", *Nursing Science Quarterly*, Vol. 27 No. 2, pp. 172-177.

Vesterinen, S., Isola, A. and Paasivaara, L. (2009), "Leadership styles of Finnish nurse managers and factors influencing it", *Journal of Nursing Management*, Vol. 17 No. 4, pp. 503-509.

Wallis, A. and Kennedy, K.I. (2013), "Leadership training to improve nurse retention", *Journal of Nursing Management*, Vol. 21 No. 4, pp. 624-632.

Wang, Y.-S. and Huang, T.-C. (2009), "The relationship of transformational leadership with group cohesiveness and emotional intelligence", *Social Behavior and Personality*, Vol. 37 No. 3, pp. 379-392.

Wong, C.A. and Laschinger, H.K.S. (2013), "Authentic leadership, performance, and job satisfaction: the mediating role of empowerment", *Journal of Advanced Nursing*, Vol. 69 No. 4, pp. 947-959.

Wong, C.-S. and Law, K.S. (2002), "The effects of leader and follower emotional intelligence on performance and attitude: an exploratory study", *Leadership Quarterly*, Vol. 13 No. 3, pp. 243-274.

Wong, C.A., Spence Laschinger, H.K. and Cummings, G.G. (2010), "Authentic leadership and nurses' voice behaviour and perceptions of care quality", *Journal of Nursing Management*, Vol. 18 No. 8, pp. 889-900.

Wong, C.A., Spence Laschinger, H.K., MacDonald-Rencz, S., Burkoski, V., Cummings, G., D'Amour, D., Grinspun, D., Gurnham, M.E., Huckstep, S., Leiter, M., Perkin, K., MacPhee, M., Matthews, S., O'Brien-Pallas, L., Ritchie, J., Ruffolo, M., Vincent, L., Wilk, P., Almost, J., Purdy, N., Daniels, F. and Grau, A. (2013), "Part 2: nurses' career aspirations to management roles: qualitative findings from a national study of Canadian nurses", *Journal of Nursing Management*, Vol. 21 No. 2, pp. 231-241.

Wunderlich, G.S., Sloan, F.A. and Davis, C.K. (Eds) (1996), *Nursing Staff in Hospitals and Nursing Homes: Is It Adequate?*, National Academy Press, Washington, DC.

Zijlmans, L.J.M., Embregts, P.J.C.M., Gerits, L., Bosman, A.M.T. and Derksen, J.J.L. (2011), "Training emotional intelligence related to treatment skills of staff working with clients with intellectual disabilities and challenging behaviour", *Journal of Intellectual Disability Research*, Vol. 55 No. 2, pp. 219-230.

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