

Academic Paper

Maximising leadership coaching training outcomes: A randomised controlled trial

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Abstract

Nurse leaders manage complex workplace demands. Coaching skills are a core leadership competency which can assist them in their roles. However, training alone may not always effect positive leadership change. This randomised trial sought to compare outcomes of leadership coaching training, with and without follow-up support, against waitlist control. Psychometric and professional achievement outcomes for 86 Australian nurse leaders were tracked for six months. Trial results provide empirical support for the hypothesis that leadership coaching training, paired with coaching follow-up, yields superior outcomes to a training only approach and, versus control, in terms of leadership and communication-related outcomes.

Keywords

Leadership Coaching, Communication, Management styles, Nursing Management, Staff development

Article history

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Introduction

It has become clear that high level interpersonal communication and the ability to engage and motivate staff, are essential capabilities for leaders, not just 'nice to have' additional skills (Liang & Howard, 2010; Cummings et al., 2018). Leadership is well recognised as being fundamentally important to healthcare organisations (Hu et al, 2022). Nurse leaders are functioning in environments that are complex and uncertain (Cummings et al., 2005; Codier et al., 2011; Roche et al., 2015). Leadership coaching is a skill that can theoretically, can be used by the leader to effectively manage multiple, sometimes competing, organisational demands amid rising levels of clinical acuity, staff turnover and constant change (Ladyshevsky, 2010; Rafferty & Fairbrother, 2015).

Leadership coaching (also referred to as managerial coaching, manager-as-coach, leader-as-coach, or employee coaching) refers to the leader utilising a coaching style (i.e., a relational,

enquiring, and developmental approach) of communication when interacting with employees, rather than a directive and controlling style. It has been demonstrated that there is a positive correlation between a leader who can successfully incorporate coaching skills into their routine communication, and improvements in employee job satisfaction (Ellinger et al., 2003; Elmadağ et al., 2008; Kim et al., 2013; Kim, 2014); performance and goal attainment (Ellinger et al., 2003; Agarwal et al., 2009; Dahling et al., 2015; Kim et al., 2013; Pousa & Mathieu, 2014; LeComte et al., 2017; Bradd et al., 2018); role clarity (Dahling et al., 2015; Kim et al., 2013; Kim, 2014); commitment to career (Kim et al., 2013); quality service delivery (Ellinger et al., 2011; Elmadağ et al., 2008) and commitment to their organisation as a whole (Kim, 2014; Bradd et al., 2018). A recent, nursing specific, systematic review reinforced a view that relational leadership styles are associated with improved outcomes for the nursing workforce (Cummings et al., 2018).

As a result, many organisations have invested heavily in training their leaders to be able to use the coach-approach in their routine communications. Surprisingly, very few leadership coaching training programs have been evaluated and even fewer have used experimental designs or taken a longitudinal view of participant related outcomes (Grant et al., 2010). Organisations today provide leadership coaching training without really being able to predict participant impact. This is problematic, as research indicates that, even after training, many leaders are still unable or unwilling to undertake the coaching role (Hamlin et al., 2006; Kim et al., 2013; Ladyshevsky, 2010; Ladyshevsky & Flavell, 2010; Rafferty & Fairbrother, 2015).

Making the shift from a more traditional 'control and direct' style of leadership to a 'coaching' style is not simple. Some leaders do not consider it to be their core business to be a 'developer of staff' and can perceive coaching as a distraction from their 'real' work. Others find it difficult to judge when to use the coach-approach to good effect (Ellinger & Bostrom, 2002; Rafferty & Fairbrother, 2015).

The lack of evidence related to leadership coaching training outcomes, the difficulty some leaders experience in acquiring these skills and the need to achieve and sustain positive outcomes of training, combine to create a powerful argument for discovering the most efficient and effective training and support methods available.

The issue of using post-training coaching support to positively impact on general training has a small but growing body of evidence. The Gilpin-Jackson and Bushe (2006) and Spencer (2011) studies concluded that coaching support post-training appeared to make a positive difference to learning outcomes and engagement with learning material post-training. The available quasi-experimental studies in this field have indicated that coaching following general leadership training can lead to improved reflexivity, flexibility, resilience, self-efficacy, leadership competency, goal attainment and productivity of the participants (Baron & Morin, 2010; Bowles et al., 2007; Grant, 2008; Jones et al., 2006; Ladyshevsky, 2007; Olivero et al., 1997; Yu et al., 2008).

There have also been two randomised controlled trials (Grant et al., 2009; Miller et al., 2004) which focussed on this issue of coaching support following training. The Miller et al. (2004) trial focussed on training health professionals to use motivational interviewing skills with their clients. Their results indicated that better results were achieved for training paired with follow-up than training alone. In the Grant, Curtayne, and Burton (2009) trial, the study context was a half-day general leadership workshop and four individual coaching sessions over ten weeks. Participants were senior nursing leaders (n = 41) working within the Australian public health system. All received the training; half received the coaching sessions and half received no follow-up. The results at ten weeks demonstrated significant gains in goal attainment, resilience, mood, and workplace wellbeing for the group which received the post-training coaching.

Whilst this limited body of evidence has contributed to an understanding of the benefits of coaching following general training, to date there have been no experimental studies specifically focused on leadership coaching training paired with post-training follow-up.

Objective

This four-group trial study sought to compare leadership and communication-related outcomes arising from: i) leadership coaching training alone; ii) training with individual follow up; iii) training with group-based follow up; and iv) waitlist control.

Method

Design

A parallel group randomised controlled design with three intervention groups and a waitlist control group was employed. The study complied with the guidelines for Consolidated Standards of Reporting Trials (CONSORT, 2010).

Participants

The study took place in an Australian Local Health District (LHD). The LHD is a 20,732 km² regional New South Wales district serving approximately 300,000 people. It is comprised of 12 rural hospitals and 21 community-based services and employs about 5,500 staff in total, of which 2,880 are nurses (Northern NSW Local Health District, 2019). The target population was 200 nursing leaders working within the LHD. The eligibility criteria included: being a registered nurse in a leadership role who had not previously attended coaching training. A leadership role was defined as a role within the organisation that had the capacity and expectation of influencing the practice of clinicians.

Following approval by the relevant Institutional Review Boards (Approval Numbers: ECN-14-006 and LNR 071) the District Director of Nursing distributed an 'expression of interest' (EOI) letter to all 200 nurses who were in management, clinical, and educational leadership roles in the organisation. Potential participants were provided with a Participant Information Statement which outlined the voluntary nature of the study and the ease of withdrawing at any point without incurring prejudice or penalty. An Administrative Officer (not involved with the research team) received all the EOIs directly and culled according to the eligibility criteria. Once all eligible participants had been enrolled, participants were randomised to one of the four experimental conditions using a computerised random number generation system (Urbaniak & Plous, 2015). Randomisation codes and the master list of all participants were stored electronically and securely by the Administrative Officer and were not available to the researchers. Neither the participants nor the training facilitator were aware of group allocation until the training had been completed (excepting the participants who were allocated to waitlist control). All the trial data was stored on a password-protected network drive which was accessible to the researchers only.

Experimental conditions

i) Training-only: Leadership coaching workshop only.

ii) Training plus Individual Coaching: Leadership coaching workshop and the offer of six individual coaching sessions post-training (Fortnightly sessions held via phone and scheduled for 60 minutes).

iii) Training plus Group-based Coaching: Leadership coaching workshop and the offer of four group coaching sessions post-training (Fortnightly sessions held via phone and scheduled for 90 minutes).

iv) Waitlist Control: Registrants were put on a six-month waitlist for the leadership coaching workshop and undertook assessments at the same three survey points as the intervention groups to serve as a control group.

Intervention

Training Workshop

Five two-day leadership coaching workshops were conducted, in the same location and facilitated by the principal researcher. The workshops were modelled on the findings of a previous study (Rafferty & Fairbrother, 2015); they were intensive, conducted in small groups (between 12–17 participants), and alternated theoretical and experiential components in equal parts. The content and practice exercises were consistent in all the workshops. Participants were introduced to a simple five-step model of coaching. This model was based on the solution-focused, cognitive-behavioural method of coaching (Grant, 2003) that can be summarised as: Clarification; Options; Action; Barriers; and Accountability. The participants used their own real-world issues to make practising the coaching skills more meaningful during training.

The leadership coaching training workshop consisted of identification of appropriate situations for using coaching skills; structured coaching skills practice (with individualised, constructive feedback, by the facilitator, in real time); using a coach-approach to deliver positive and corrective feedback; and the creation of a personalised action plan to take back to the workplace. Each of the training workshops contained a mixture of participants from each of the three intervention groups. At the end of the final day of training all participants received a sealed envelope disclosing their allocated post-training group.

Coaching (post-training)

Training enhancement took two forms in this study. One group was offered up to six individual coaching sessions (up to six hours in total) over a period of twelve weeks following the training, and another was offered up to four coaching sessions in a group format over the same period (up to six hours in total). To ensure consistency, the facilitator of the training provided all the post-training coaching support. The method of coaching within these sessions mirrored the solution-focused model taught to participants within the training, so that they could experience the model in action.

All post-training coaching sessions were conducted by telephone. The individual coaching sessions were conducted via person-to-person calls whilst the group coaching sessions were conducted via group teleconference. This provided both equity and standardisation in a health district covering a large geographical area. Whilst more media-rich webcam-based options may have afforded a closer approximation of face-to-face coaching (Ladyshevsky & Pettapiece, 2015), these were not available to every participant at the time of this study.

Measures

Eight outcome measures were utilised. Six of the measures were psychometric (summarised in Table 1) and two were professional achievement-related. All the outcomes were self-reported. At each measurement point (baseline, two and six months) the items of interest were combined into one electronic survey and sent to all participants as an emailed link utilising Qualtrics software (Version 2014.01). The only exception was the self-perceived well-being measure (PANAS) that was measured at baseline and six-months only.

Table 1: Psychometric outcome measures

Domain and instrument	Description and reliability coefficients
Well-Being Positive and Negative Affect Schedule (PANAS)(Watson et al., 1988)	Measures two primary dimensions of mood (positive and negative affect) Cronbach's alpha coefficient of internal consistency: 0.87 for Positive Affect 0.87 for Negative Affect 10-item measure 5 point scale Scoring range: 10-50 for both positive and negative domains
Job Satisfaction Nursing Workplace Satisfaction Questionnaire (NWSQ) (Fairbrother et al., 2010)	Measures nursing job satisfaction: Total (Cronbach Alpha =0.90) 15 item-measure 5 point scale Scoring range: 15-75
Role-Breadth Self-Efficacy Role-Breadth Self-Efficacy Scale (RBSES) (Parker, 1998)	Measures the leader's confidence or 'perceived capability at carrying out a broader and more proactive set of work tasks that extend beyond prescribed technical requirement' (Parker, 1998, p. 835). The tool includes 10 relevant tasks e.g. representing your work area with senior managers, designing new procedures for your work area. Cronbach's alpha coefficient internal consistency: 0.96 10-item measure 5 point scale Scoring range: 10-50
Locus of Control Brief Locus of Control Scale (LOC) (Lumpkin, 1985)	Measures sense of internal (intrinsic) control against chance or external (extrinsic) control Cronbach's alpha coefficient of internal consistency: 0.68 6-item measure 5 point scale Scoring range: 5-15 for both intrinsic and extrinsic domains
Emotional Intelligence Schutte Self-Report Emotional Intelligence Test (SSEIT) (Schutte et al., 1998)	Measures emotional intelligence (EI) which maps to Salovey and Mayer's (1990) domains of EI and their later work (Mayer & Salovey, 1997). It includes: <ul style="list-style-type: none"> • the ability to accurately perceive emotions in oneself and others; • the ability to use emotions to facilitate thought; • understanding how different emotions arise and change over time; and • the ability to use the knowledge from the first three branches to manage emotions and translate them into constructive action. Cronbach's alpha coefficient of internal consistency: 0.90 33-item measure 5 point scale Scoring range: 33-165
Leadership Coaching Skills Leadership Coaching Skills Questionnaire (LCSQ) Newly-created by the principal researcher (see figure 1 for tool items)	Measures three primary domains of Leadership Coaching Skill: <ul style="list-style-type: none"> • Establishing coaching environment • Managing the coaching conversation • Facilitating development Cronbach's alpha coefficient of internal consistency: 0.85 for total score Concurrent validity studies will proceed following this RCT 23-item measure 5 point scale Scoring range (total): 23-115

Given that the LCSQ was newly designed by the Principal Researcher for use in this trial, the 23 survey items are provided in Figure 1.

Figure 1: The Leadership Coaching Skills Questionnaire (LCSQ)

<p>Establishing a Coaching Environment</p> <ul style="list-style-type: none">• I do invest the time to help staff find their own solutions.• I deliberately create a trusting and confidential environment where staff can contribute their ideas freely.• I believe some staff just are not able to change (R)• I tend to multi-task when talking to staff (R)• I purposefully use language which shows respect for staff.• It is my responsibility to solve staff's issues (R)• I use reflection as part of my own practice.• I respond to staff's mistakes with constructive curiosity rather than blame. <p>Managing the Coaching Conversation</p> <ul style="list-style-type: none">• Prior to initiating a challenging conversation, I ensure that I am clear about my own intention.• I often find it difficult to help staff to come to the point when discussing their issues (R)• When staff present with an issue, I listen deeply to hear what is not being said as well as what is being said.• By the end of a coaching conversation staff can state with greater clarity their issue and, where appropriate, their action plan.• Getting staff to consider obstacles and contingencies is a regular part of our coaching conversations.• I ensure that staff have thought about how they would like to be held accountable for progress towards their goals.• I find it best to keep the conversation going rather than have periods of silence (R)• In follow-up conversations I help staff reflect on an action to explore what worked and what didn't• Rather than offer advice I always ask open-ended questions to encourage creative thinking about issues and possible solutions. <p>Facilitating Development</p> <ul style="list-style-type: none">• I discuss my expectations of staff with them.• I actively encourage opportunities for staff to take more responsibility.• I delay having challenging conversations with staff (R)• I view development of staff as one of my main responsibilities.• I provide meaningful acknowledgment when staff do good work.• When providing corrective feedback, I am clear and succinct.

Professional achievement-related measures

i) Goal attainment. During the training, participants were asked to set themselves an individual goal related to their use of the coaching skills back in the workplace. Naturally, the waitlist control group was not included in this measure as they did not receive training until the study was completed. The goals were developed using the modified version of SMART principles i.e., Specific; Meaningful; Adaptive; Realistic and; Time-framed (Harris, 2009). Participants were assisted in the development of these goals to ensure that the goals were both realistic and enabled skill development. Goal attainment was evaluated at six months, with participants assessing what percentage of their goal they had successfully achieved. The specificity and unambiguous nature of the goals set by the participants were ideally suited to a single measure of degree of success (Erez & Judge, 2001; Sackett & Larson, 1990) e.g. 'I will deliver corrective feedback to three employees next week, utilising the coach-approach'; 'I will use the coaching framework to guide all the performance appraisals in the next six weeks'.

ii) Promotion. Participant promotion (either permanent or temporary) was measured via self-report at six months.

Statistical analysis

Repeated measures analyses of variance (ANOVAs) were conducted using the Statistical Package for the Social Sciences Version 18 General Linear Model Repeated Measures Procedure (SPSS Inc., 2009) to explore between-group differences on the psychometric outcomes. The Fisher's Exact Test was utilised to explore between-group differences on the two outcomes measuring professional achievement. Fisher's Exact Tests were also conducted at baseline on participant demographics to assess equivalence by group upon study commencement. Significant differences

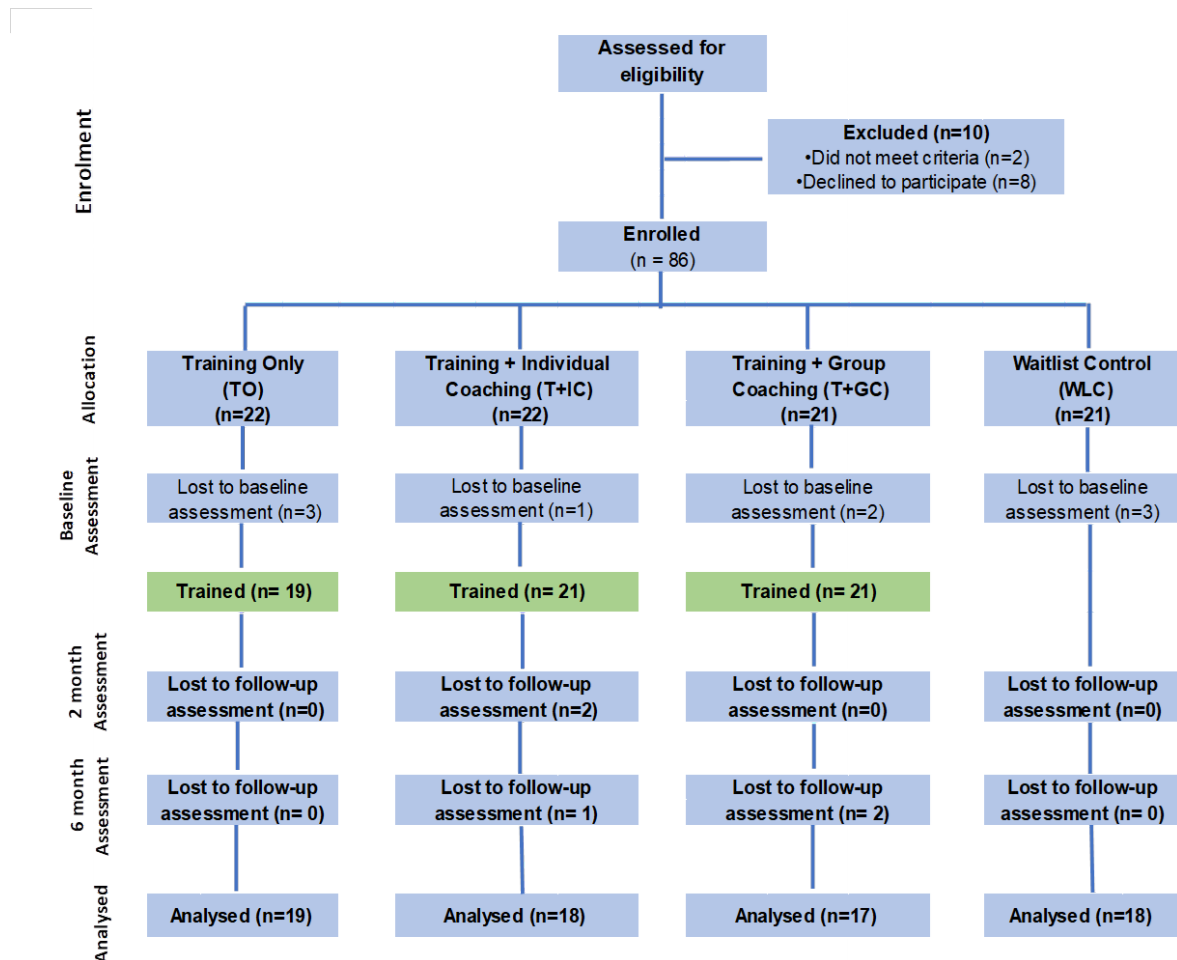
were considered when $p < .05$ (two-tailed). Effects sizes for psychometric outcomes were calculated using Cohen's d (Fritz et al, 2012).

Results

Participants

Ninety-six ($n = 96$) leaders volunteered for participation in the trial, representing 48% of the potential study subjects. Ninety-four ($n = 94$) met the study selection criteria and were offered inclusion. Eighty-six ($n = 86$) ultimately enrolled. Of those enrolled, 77 participants completed the baseline survey, and 71 participants completed the final survey at six months (Participant Flow Diagram Figure 2).

Figure 2. Consort flow diagram depicting participant progression through the study



Randomisation occurred after enrolment and before the baseline survey point ($n = 86$). Table 2 provides a summary of sample characteristics for the group of participants in total who completed baseline assessment ($n=77$). As would be expected following randomisation, no significant differences on sample characteristics were noted by group (Fisher's Exact Test).

Table 2: Sample characteristics

Sample Characteristics (n=77)			
	%		%
Gender		Total time working in a leadership position	
F	87.0	<6 years	37.7
M	13.0	6-10 years	18.2
Age		11-15 years	13.0
25-34 years of age	5.2	16-20 years	7.8
35-44 years of age	28.6	21-25 years	5.2
45-54 years of age	46.8	>30 years	2.6
55-64 years of age	19.5	Regularly relieving in leadership positions	15.6
Highest level of education		Time in current role	
Nursing certificate	10.4	<6 years	61.0
Undergraduate degree	13.0	6-10 years	24.7
Postgraduate degree	61.0	11-15 years	9.1
Masters or PhD	15.6	16-20 years	5.2
Total time working in nursing		Leaders vs Managers	
6-10 years	9.1	Participants with direct line management responsibility	42.9
11-15 years	10.4	Participants with no direct line management responsibility	57.1
16-20 year	5.2		
21-25 years	19.5		
26-30 years	19.5		
>30 years	36.4		

Psychometric outcomes

Discriminant validity studies conducted amongst the outcome variables of interest on baseline indicated that both distinct and complementary outcome measures were at play in the trial. Leadership Coaching Skills Questionnaire (LCSQ) total correlated positively with Schutte Self-Report Emotional Intelligence Test (SSEIT) total ($r=0.42$, $p<0.001$) and Role Breadth Self Efficacy (RBSE) total ($r=0.32$, $p=0.01$). Job satisfaction total score correlated significantly with positive affect ($r=0.38$, $p=0.003$) and internal locus of control ($r=0.37$, $p=0.005$). Job satisfaction did not correlate significantly with SSEIT or LCSQ, suggesting distinct divergent constructs were under measurement.

Summary values, tracked for each of the groups on each psychometric measure, are presented in Table 3. Scores on emotional intelligence and total leadership coaching skills improved in the training enhancement groups (individual and group coaching follow-up) and declined in the training-only and waitlist control groups at six months. Difference between the four groups on these outcomes was statistically significant.

Whilst Role-breadth self-efficacy (RBSE) improved in the two groups which were provided with follow-up coaching and did not improve in the training-only and waitlist control groups at six months, the difference between the four groups on this outcome was not statistically significant. There were no important differences between the four groups on locus of control (internal or external), positive or negative affect, or total job satisfaction.

Professional achievement outcomes

Goal attainment

A statistically significant difference was noted between groups on goal attainment at six months, excluding waitlist control who did not attend any training where this measure was established (Fisher's Exact Test = 9.3; $p = .003$). Participants in the two training enhancement groups

(individual coaching and group coaching) rated goal attainment at 50% or > on most occasions. For the training plus individual coaching group, goal attainment at >50% was achieved for 100% of participants, and for the training plus group coaching for 94% of the participants. Whereas only 63.2% of the participants in the training-only group rated goal attainment at 50% or greater.

Promotion

Promotion was collected via a single yes or no response at six-month post-training, to indicate if participants had received a permanent or temporary higher position in the organisation. The percentage of participants achieving promotion for the two training enhancement groups were 48% for Training plus Individual Coaching and 32% for Training plus Group Coaching compared to 26% for Training Only and 11% for Control.

Fisher's exact test analysis exploring the significance of the by-group difference in promotion at six months was not statistically significant (Fisher's Exact Test=6.30; p=0.097). This result is however likely to be of practical importance with those receiving training plus individual coaching being four times more likely to be promoted than the control group.

Table 3: Psychometric outcomes by group

Domain and Measurement	WLC n = 18	TO n = 19	T+IC follow-up n = 21	T+GC follow up n=19	F (repeated measures Anova)	p
Well-Being						
Positive Affect					2.00	.12
Baseline M (SD)	34.67 (6.27)	35.53 (7.40)	34.57 (7.11)	33.21 (7.19)		
6-month M (SD)	33.61 (7.33)	34.74 (6.09)	37.89 (5.94)	36.56 (5.12)		
Mean difference and effect size (d)	-1.06 d = -0.16	-0.79 d = -0.12	3.32 d = 0.51	3.35 d = 0.54		
Negative Affect					1.00	.40
Baseline M (SD)	16.44 (4.10)	15.68 (4.33)	18.19 (6.45)	17.53 (6.07)		
6-month M (SD)	16.22 (4.37)	16.68 (6.74)	16.33 (5.27)	14.94 (4.92)		
Mean difference and effect size (d)	-0.22 d = -0.05	1.00 d = 0.18	-1.86 d = -0.15	-2.59 d = -0.52		
Total Job Satisfaction					0.78	.59
Baseline M (SD)	53.19 (6.09)	53.37 (5.65)	53.05 (5.41)	52.58 (4.77)		
2-month M (SD)	53.19 (5.06)	55.21 (4.37)	54.89 (5.43)	51.13 (4.46)		
6-month M (SD)	53.31 (5.09)	54.00 (7.03)	56.17 (5.17)	52.94 (5.95)		
Mean difference and effect size (d) (baseline to 6 months)	0.12 d = 0.02	2.27 d = 0.44	3.12 d = 3.12	0.36 d = 0.07		
Role-Breadth Self-Efficacy					1.51	.18
Baseline M (SD)	37.06 (6.51)	38.63 (6.03)	35.81 (6.15)	36.89 (4.90)		
2-month M (SD)	36.88 (6.24)	40.84 (5.41)	37.74 (5.40)	38.81 (5.22)		
6-month M (SD)	36.89 (5.75)	39.63 (4.86)	39.78 (5.78)	40.44 (3.61)		
Mean difference and effect size (d) (baseline to 6 months)	-0.17 d = -0.03	1.00 d = 0.19	3.97 d = 0.67	3.55 d = 0.83		

Locus of Control						
Internal					0.70	.65
Baseline <i>M (SD)</i>	11.17 (2.33)	11.37 (1.57)	11.38 (1.63)	11.58 (1.54)		
2-month <i>M (SD)</i>	11.41 (1.37)	11.47 (1.68)	11.53 (1.61)	11.44 (1.36)		
6-month <i>M (SD)</i>	11.33 (1.81)	11.26 (1.69)	11.78 (1.63)	11.75 (1.65)		
Mean difference and effect size (baseline to 6 months)	0.16 d = 0.08	-0.11 d = -0.07	0.40 d = 0.25	0.17 d = 0.11		
External					0.24	.96
Baseline <i>M (SD)</i>	7.50 (2.06)	7.74 (1.82)	7.52 (1.81)	7.74 (1.45)		
2-month <i>M (SD)</i>	7.30 (1.65)	7.53 (2.25)	7.32 (2.08)	7.12 (2.00)		
6-month <i>M (SD)</i>	7.50 (2.15)	7.42 (2.34)	7.06 (1.83)	7.31 (1.58)		
Mean difference and effect size (baseline to 6 months)	0.00 d = 0.00	-0.32 d = -0.15	-0.46 d = -0.25	-0.43 d = -0.28		
Emotional Intelligence					2.37	.033
Baseline <i>M (SD)</i>	126.67 (9.12)	127.26 (12.16)	125.05 (13.36)	124.26 (8.01)		
2-month <i>M (SD)</i>	122.76 (10.17)	128.10 (8.58)	124.11 (8.05)	123.06 (8.04)		
6-month <i>M (SD)</i>	124.44 (10.20)	125.79 (9.29)	128.55 (8.04)	125.87 (5.56)		
Mean difference and effect size (baseline to 6 months)	-2.23 d = -0.23	-1.47 d = -0.14	3.50 d = 0.38	1.61 d = 0.24		
Total Leadership Coaching Skills					3.11	.007
Baseline <i>M (SD)</i>	84.00 (9.19)	87.68 (7.47)	82.24 (6.78)	83.37 (8.28)		
2-month <i>M (SD)</i>	82.88 (8.81)	89.68 (9.46)	84.79 (5.63)	82.44 (6.45)		
6-month <i>M (SD)</i>	83.22 (7.76)	87.53 (8.53)	88.11 (6.41)	89.00 (7.72)		
Mean difference and effect size (baseline to 6 months)	-0.78 d = -0.09	-0.15 d = -0.02	5.87 d = 0.89	5.65 d = 0.70		

Discussion

Overall, the participants in the two training enhancement groups attended an average of four hours of follow-up coaching (4.2 individual hours or 3.8 group hours). Without any additional support, all the significant gains made in these groups (emotional intelligence, leadership coaching skills and goal attainment) were sustained at six months. The effectiveness of adding minimal hours of follow-up coaching support to training was also demonstrated by the Grant et al. (2009) study which included only four hours of individual coaching post training and showed significant gains at 10 weeks.

While a link between leadership coaching and emotional intelligence was originally identified by Goleman (2000), more recent research has reinforced the notion that a leader's emotional intelligence is very important in predicting a leader's ability to use the coach-approach (Ladyshevsky, 2010; Spano-Szekely & Quinn Griffith, 2016; Hompe, 2019). In this study, the provision of post-training coaching appears to have facilitated active reflection and positive shifts in

how leaders perceived themselves and their roles, with both emotional intelligence scores and leadership coaching skills improving simultaneously.

Whilst not significant in the four-group analysis, the potential for role-breadth self-efficacy gains pointed to by this study were in keeping with improvements found in two other studies that were conducted among nurse leaders in Australia. Firstly, the grounded theory research conducted by Rafferty and Fairbrother (2015) which found that participants reported feeling more confident and enthused about their roles following leadership coaching training with follow-up coaching; and secondly by the Yu et al. (2008) study which indicated improved levels of role proactivity and confidence following general leadership training and coaching follow-up.

Whilst training without coaching follow-up resulted in some gains at two months (for example, emotional intelligence scores, role-breadth self-efficacy and leadership coaching skills) the subsequent months saw the positive outcomes fall back to baseline and below baseline level. These results suggest that training alone may not be adequate in effecting significant sustained outcomes over time.

Many of the studies in the coaching literature that involved training or education workshops have only surveyed participants immediately following the program's completion (Grant, 2007; Grant et al., 2009; Olivero et al., 1997; Yu et al., 2008; Spiva et al, 2021). Immediate positive results may essentially represent the initial euphoria (positivity, sense of control and competence) that participants experience after immersing themselves in a skillset that they believe has relevance to their roles and that promises to make a difference. The results of this study indicate the importance of longitudinal measurements post training.

The study findings are in keeping with previous studies which have demonstrated that the acquisition and integration of leadership coaching skills into routine practice can be a confronting and difficult task, often accompanied by role dissonance as well as fear of failure (Ladyshevsky, 2010; Grant & Hartley, 2013; Rafferty & Fairbrother, 2015). For leaders who have relied exclusively on a directive style of leadership, mastering a coaching style can feel particularly foreign. Equally important is the skill development entailed in knowing when to coach, and when to command. The ability to move flexibly between the two styles, sometimes within the same conversation, can take time and effort to perfect; all of this requires practice and active reflection, ideally with an experienced coach for support (McCarthy & Milner, 2013).

All groups who received training demonstrated greater incidence of job promotion than the waitlist control group. These results, whilst not statistically significant, demonstrate a positive trend which may be of practical importance: having suitably skilled leaders prepared to step into the shoes of retiring nurse leaders is an essential concern to the healthcare industry because the average age of nurses in Australia is 43.4 years, with 28.6% being over the age of 55 (National Health Workforce Dataset, 2019). To the authors' knowledge, this is the first time that job promotion has been studied as an outcome of leadership coaching training; future research could employ larger samples and/or longer-term assessments to see if this trend can be replicated and investigate other factors that may mediate promotion ready status.

One psychometric outcome measure that did not reach significance but indicated improvement associated with coaching follow-up support was positive affect. A high positive affect indicates a self-perceived state of high energy, concentration and positive engagement or 'flourishing' in the workplace. Two previous studies have demonstrated significant improvements in participants' feelings of well-being following training and coaching. However, control group comparisons were not made in either of these studies. (Green et al., 2006; Yu et al., 2008).

On the other side of this coin, an improvement in negative affect indicates an approach to state of calmness and serenity (Watson et al., 1988). The results of this study did not indicate that training, with or without coaching follow-up, made any difference between the groups in relation to negative

affect. This result is consistent with Yu et al. (2008) result. Given the stressful high-pressure environment that prevails in the healthcare setting, it could be that negative affect may not be sufficiently influenced by this type of training or coaching, or that perhaps more intensive, longer-term interventions are required to produce changes in this domain.

Although job satisfaction improved for all groups receiving training, the between-group differences were not significant. This result may reflect that it is the training itself that had the positive impact on job satisfaction and not the coaching follow-up or it may indicate an issue with the tool utilised. This instrument was chosen because of its use within the health system, but it was validated as a measure of job satisfaction for unit-based nurses providing hands-on clinical care (Fairbrother et al., 2010) rather than for leaders who have broader responsibilities.

Limitations

The participants who enrolled for this study all self-selected, and as such may have represented a more motivated sub-group. Set against this potential selection bias is the fact that only 200 senior nurses were eligible to volunteer, and nearly half of this catchment ultimately volunteered. The outcome measures chosen for this study were principally collected via self-reporting, and this may give rise to the potential for social desirability bias and/or demand characteristics (Donaldson & Grant-Vallone, 2002). However, this is partially offset by the experimental nature of the trial in that, if such an effect existed, it would be spread evenly across all groups. A larger sample size would have placed the trial in a stronger position to locate intervention effects more precisely and would also have placed us in a stronger position to combine groups to answer further hypotheses around leadership coaching. Another limitation may have been measuring all the groups at the six-month mark (as the training plus follow-up groups had coaching contact right up until a few weeks prior to outcome measurement). Future studies may consider measuring all groups at the same point of time since last contact. And finally, treatment contamination or diffusion is a possibility when the process of randomisation occurs within one organisation, as the participants interact in their daily routine there is a possibility of 'sharing of knowledge gained from the coaching follow-up groups' to the training only or control groups. The possibility that treatment contamination occurred, in this study, is somewhat countered, because: i) shared ideas are not likely to be an effective substitute for trained coaching support and ii) significant improvements were not found in either the control or training-only groups in any of the outcome measurements.

Conclusion

In view of the considerable challenges entailed in acquiring and mastering the coaching skillset, which differs fundamentally from the traditional management style, it is not surprising that a two-day training workshop alone (i.e., without follow-up coaching) was insufficient to produce sustainable outcomes. Given these findings, to help bridge the gap between training and workplace leadership change, post-training coaching support needs to be considered an essential element of leadership skills training programs rather than a luxury add-on.

This research provides empirical support for the efficacy of leadership coaching training when it is paired with coaching follow-up. The study found that the addition of coaching (provided either to the individual or in a group) closely following leadership coaching training, can produce significant improvements in the leadership coaching skills of nurse leaders, within a relatively short span of time. Further, the findings indicate that goal attainment and a leader's emotional intelligence scores can also be significantly improved through this process and that the gains can be maintained up to six months.

It is encouraging to note that providing coaching follow-up need not be a time or cost-prohibitive exercise in ensuring effectiveness. In this study, as little as four hours of post-training coaching led

to gains at two months, which were sustained (and in some cases continued to develop) at the six-month mark.

Organisations may benefit from taking these results into consideration when designing leadership coaching training programs or in making informed decisions about how to invest their limited training and development resources, to maximise the potential for positive and sustained training outcomes.

Future research in this area should consider employing larger sample sizes, tracking participants for longer, evaluation of a combination of individual and group coaching follow-up compared to single mode follow-up and measuring at the same point in time from last contact. We believe the next empirical question is: 'What impact are these leaders, who are using leadership coaching skills, having on the people they lead and how does that then impact on clinical outcomes in the healthcare setting?'

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