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Developing an instrument to assess empowering nurse leader communication behaviours

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Abstract

Aim: The overall purpose of the study was to develop an instrument to assess empowering nurse leader communication behaviours.

Background: Effective communication by nurse leaders promotes empowerment, yet communication assessments are often broad in nature without specifying precise behaviours.

Methods: An instrument development process was used to identify empowering nurse leader communication behaviours. Nurses working in United States military health care facilities (n = 240) provided responses to 47 pilot items, along with a 12-item psychological empowerment instrument to test for concurrent criterion validity.

Results: After review of item performance, 12 items were deleted. An exploratory factor analysis supported either a 2- or 3-factor model, with confirmatory factor analyses conducted to validate the underlying latent variables of empowering and limiting behaviours. The final nurse leader communication assessment consists of 2 factors consisting of 20 positive items (empowering subscale) and 15 negative items (limiting subscale).

Conclusion: The final 2-factor assessment supports the theoretical premise of the empowering and limiting behaviours. Further testing may provide further dimensional clarity.

Implications for nursing management: Use of the assessment can provide a basis for the development of training for individual nurse leaders or for facility nurse leaders as a collective.

KEYWORDS

communication, empowerment, instrument development, military nursing, nursing leader

1 | BACKGROUND

Leaders have a responsibility to create the conditions for empowerment within the work environment. Empowerment among nurses has been positively associated with engagement (Garcia-Sierra & Fernandez-Castro, 2018), commitment (Laschinger et al., 2009) and job satisfaction (Cicolini et al., 2014). Psychological empowerment refers to an individual's beliefs about his or her own ability to perform at work (MacPhee et al., 2014). The relationship between front-line nurse leaders and staff nurses influences psychological empowerment (Laschinger et al., 2009). Leadership strategies that provided the conditions for nurse empowerment include giving public praise, being clear about objectives and expectations, teaching managers to coach rather than issuing commands, soliciting recommendations

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and providing a safe environment for expression of opinions (Bogue & Lindell Joseph, 2019). These top behaviours have communication in common.

Specifically for nursing, Laschinger et al., (2010) provided examples of empowering behaviours for nurse managers, many of which reflected communication behaviours such as sharing information, communicating goals, providing timely information and giving specific feedback. Clearly, leader communication behaviours are an elemental part of empowering nurse leader behaviours.

1.1 | Communication

In its classic form, communication is a process that involves both the production and the receipt of a message (Berlo, 1960). For communication to take place, an individual uses language to transmit a message through a channel to another individual, who then interprets the message. In the context of empowering leader behaviours, the nurse leader produces the message and the staff nurse receives it. One of the factors that affects the fidelity of the communication is the individual leader's communication skills or behaviours (Berlo, 1960). A highly skilled leader understands effective methods of structuring and delivering a message to maximize understanding.

1.2 | Identifying the Gap

Habitual communication behaviours maintained in an evolving environment may become inefficient over time if they are not assessed to determine continued effectiveness (Berlo, 1960). Numerous communication assessment measures have been developed. In their extensive collection and review, Rubin et al., (2004, 2011) gathered together over 100 different instruments that assessed various aspects of communication. Yet, none of the assessments specifically applied to nurses, explored impact on empowerment or measured leader communication as experienced by the front-line nursing staff. Assessment of specific communication behaviours, from the

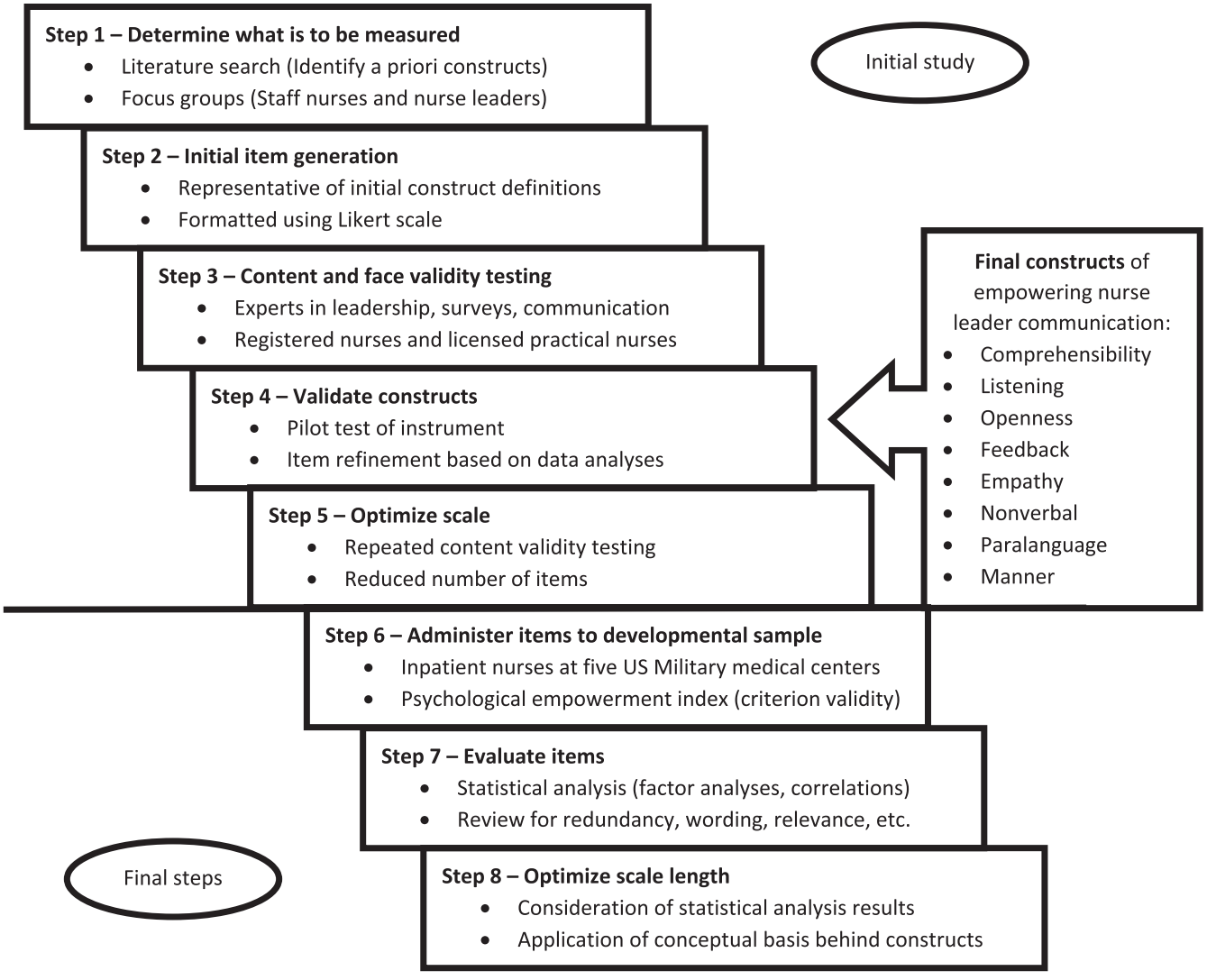

FIGURE 1 The steps of instrument development used for the study (based on DeVellis, 2003)

perspective of the front-line nursing staff, provides an opportunity for front-line nurse leader development.

Front-line nurse leaders can be instrumental in shaping an environment conducive to staff nurse empowerment. In the United States (US) military, front-line nurse leaders have typically honed their clinical skills, yet have received only limited training in effective communication skills as a leader. Through identification of nurse leader communication behaviours as perceived by the staff nurses, focus can be placed on coaching the nurse leaders to develop specific empowering communication behaviours.

In an initial study reported elsewhere (Hopkinson et al., 2019), the instrument development process by DeVellis (2003) guided the initial five steps in the development of a nurse leader communication assessment (Figure 1). The purpose of the current study was to optimize and establish the psychometric properties of the nurse leader communication assessment in a larger sample.

2 | METHODS

2.1 | Design

Data were collected using a cross-sectional prospective survey method. The nurse leader communication assessment along with a psychological empowerment instrument and demographic items was administered to a developmental sample (step 6). The items were then evaluated (step 7) and the scale length was optimized (step 8).

2.2 | Setting and sample

Five military health care facilities within the continental United States with Army, Air Force, and Navy personnel were selected to provide a representative sample of nurses from the three military service components that provide medical care in the US Armed Forces. With a target of 5–10 responses per item (47 items; MacCallum et al., 1999), the goal was to obtain 235–470 respondents out of an estimated total of 2000 staff nurses across the five facilities. Approval was obtained from either the institutional review board or the human protection administrator at each of the facilities. Administration of the survey was approved by the Department of the Defense.

The target population was front-line staff nurses, both registered nurses (RNs) and licensed vocational nurses (LVNs). Staff nurses who provided direct bedside patient care, worked full-time on an inpatient unit and were either military or government civilian employees were included. Nurses who worked primarily in an administrative or managerial role were excluded.

2.3 | Nurse leader communication assessment

The assessment administered in this study consisted of 47 items representing the eight empowering nurse leader communication constructs. Participants were asked to rate the frequency of their direct supervisors performing specific communication behaviours in the past month using a Likert response scale indicating (0) never, (1) seldom, (2) some of the time, (3) most of the time and (4) always. Cronbach's alpha of each of the constructs in the initial study ranged from 0.5 to 0.84 (Hopkinson et al., 2019). In the current study, the comprehensibility construct was represented by four items ($\alpha = 0.88$), manner by nine items ($\alpha = 0.90$), listening by six items ($\alpha = 0.89$), openness by seven items ($\alpha = 0.91$), feedback by six items ($\alpha = 0.92$), empathy by five items ($\alpha = 0.94$), nonverbal by eight items ($\alpha = 0.90$) and paralanguage by two items ($\alpha = 0.77$).

2.4 | Psychological empowerment instrument

The psychological empowerment instrument (Spreitzer & Quinn, 2001) was selected as a measure of staff nurse psychological empowerment for the purpose of testing concurrent criterion-related validity. The instrument contains 12 items designed to measure nurse psychological empowerment. The total scale consisted of three-item subscales for each of the four dimensions of meaning, competence, autonomy and impact. The participants indicated their degree of agreement or disagreement on a 7-point Likert scale (1 = very strongly disagree to 7 = very strongly agree) for each item. For each of the subscales, a mean score is obtained by averaging the three items. An overall psychological empowerment score is calculated by averaging all 12 items. Each component score ranges between 1 and 7, with higher scores representing stronger perceptions of the concepts of psychological empowerment.

The psychological empowerment instrument has been used and shown to have convergent and divergent validity in various populations, including nurses (Spreitzer & Quinn, 2001). The factor structure has been further validated with confirmatory factor analyses (Laschinger et al., 2001). The internal consistency of the subscales, as determined during development and testing, ranges from good to excellent ($\alpha = 0.70–0.92$; Duff, 2019; Laschinger et al., 2009). In this study, the reliability coefficients ranged from 0.75 to 0.96.

2.5 | Demographics

In an effort to reduce concerns about identifiability in a military population and maximize participation, demographic items were limited and general. The following information was requested: gender, age category, professional title, level of education, time as a nurse, time in current position, facility and type of patient cared for most often. Military/civilian employment status was not collected.

2.6 | Survey administration

A link to the anonymous questionnaire based on REDCap, a secure on line data collection platform, was sent via e-mail distribution lists

obtained through the nursing leadership at each participating facility. A cover letter explaining the elements of informed consent was included with the survey. The potential participants self-screened based on eligibility criteria explained in both the e-mail invite and the cover letter.

2.7 | Data analysis

Data were analysed primarily using SPSS v. 25 focused on the performance of individual items at an aggregate level. Demographic items were calculated using descriptive statistics. The communication items were evaluated using means, variances, item-scale correlations and factor analyses. Given the incipient stage of instrument development, both exploratory factor analysis (EFA) using SPSS v.25 and confirmatory factor analysis (CFA) using mPlus 8.2 (Muthén and Muthén, 1998–2017) were tested on the same sample. For the EFA, oblique rotation was used with principal components extraction to assess the factorial solution for what is assumed to be correlated components. However, principal axis factoring, and as well orthogonal rotation, was also conducted and a similar factorial solution was obtained across all rotations and extractions. Though there are recommendations and guidelines as to item and/or factor retention (Stevens, 2009; Thompson, 2004), a more empirical/holistic approach was pursued given the pattern and strength of the communalities, factor loadings and factor saturation (Fabrigar et al., 1999).

For the CFA, adjudging the quality of model fit consists of many divergent opinions as to what constitutes acceptable model fit (Nye & Drasgow, 2011). Given the plethora of fit statistics that are produced by the variety of structural equation modelling (*SEM*) software, much research has been conducted examining the behaviour of these statistics under various conditions with many agreeing a holistic approach should be taken to assessing model fit (Fan & Sivo, 2005; Mulaik, 2009). Even though there has been an accumulation of research offering preliminary (and at times, conflicting) guidelines for cut-offs (Hu & Bentler, 1999; Marsh et al., 2004), the indices that have, to date, maintained favourable properties will be reported here. Those include the chi-square ($\chi 2$) test, of which a fail to reject decision is preferred (i.e. $p > .05$; though this exact statistic is impacted, in part, by sample size), an error of approximation index: the root-mean-square error of approximation (RMSEA), incremental fit indices: the Tucker–Lewis index (TLI) and the comparative fit index (CFI), and the standardized root mean residual (SRMR). Though cut-offs have been suggested (Chen et al., 2008), a more conservative approach will be used to indicate preliminary evidence of acceptable fit: CFI and TLI > 0.95, SRMR < 0.05 and RMSEA < 0.08.

There are a variety of estimation techniques (Zhang, 2008) that depend on the variable metrics (e.g. binary, multinomial, ordinal), model complexity or distributional properties. The Mplus software has particularly been on the cutting edge of providing estimators for categorical and/or non-normal data, such as the robust likelihood estimator (MLR). Thus, the results using robust likelihood estimator (MLR) will be reported. Moreover, even though it is sometimes recommended that when EFA and CFA are performed on the same sample that a holdout sample be used for the CFA, due to concerns about the sample size and the potential instability of the solution, a holdout/split sample was not used.

Item means, subscale scores and subscale internal consistencies were calculated for the psychological empowerment data. For criterion-related validity, Pearson's r correlations were used. These relationships were then further explored using multiple regression with communication subscales as the explanatory variables and each of the empowerment subscale scores as the criterion variables.

3 | RESULTS

Out of a total of 1863 e-mail invitations, 240 responses were received (13% response rate). Varying by facility, the lowest response rate was 9% and the highest was 18%. An additional 43 individuals opened the link and explicitly declined ($n = 16$), closed the questionnaire without answering any items ($n = 17$) or only responded to the first item that indicated where they worked ($n = 10$). Table 1 provides a demographic summary of the participants.

3.1 | Factor analyses

The initial exploratory factor analysis showed a 5-factor solution that explained 71.3% of the variance, with a strong first factor (53%), a second potential factor (10%) and 3 relatively weak factors (2%–3%). The research team reviewed each of the poorly performing and highly correlated items to determine fit with the conceptual basis of empowering communication from the literature, findings from the focus groups or both. After careful consideration, 12 items were selected for deletion. The exploratory factor analysis then indicated the potential for either a 2- or 3-factor model. Because the assessment was developed based on the theoretical basis of the latent variables of empowering (positive) and limiting (negative) behaviours, a confirmatory factor analysis was then conducted for both potential models to evaluate the validity. A conservative approach was used whereas CFI and TLI > 0.95, SRMR < 0.05 and RMSEA < 0.08 determined preliminary evidence of acceptable model fit (Hu & Bentler, 1999.)

Both models had an overall significant chi-square value with $p < .0001$. The SRMR was <0.08 (2 factor = 0.07; 3 factor = 0.066), the CFI and TLI were <0.95 (2 factor = 0.829, 0.818; 3 factor = 0.837, 0.825), and RMSEA was >0.08 (2 factor = 0.085; 3 factor = 0.083), indicating less than optimal fit. The Akaike (AIC) and Bayesian (BIC) information criteria were lower for the 3-factor model (lower being better; 3 factor AIC = 18,241.0 and BIC = 18,616.9; 2 factor AIC = 18,309.9 and BIC = 18,678.9). However, the 3 factors consisted of one positive factor (20 items) and two negative factors divided among negative nonverbal behaviours (5 items) and other negative communication behaviours (10 items). There was no

TABLE 1 Demographic characteristics of participants

Characteristic	*n*	(%)
Gender		
Male	44	(17.6)
Female	171	(68.4)
Unspecified	35	(14.0)
Age		
18–23	4	(1.6)
24–29	41	(16.4)
30–34	28	(11.2)
35–44	61	(21.4)
>45	78	(31.2)
Unspecified	38	(15.2)
Job title		
Registered nurse	189	(75.6)
Licensed vocational nurse	23	(9.2)
Unspecified	38	(15.2)
Time in position		
<12 months	42	(16.8)
1–2 years	56	(22.4)
3–5 years	48	(19.2)
>5 years	67	(26.8)
Unspecified	37	(14.8)
Type of patients		
Intensive care/step-down	68	(27.2)
Medical and/or surgical	69	(27.6)
Psychiatry	11	(4.4)
Neonate/paediatric	25	(10.0)
Women's health	38	(15.2)
Unspecified	39	(15.6)
Education level		
Some college	14	(5.6)
2-year degree	35	(14.0)
4-year degree	131	(52.4)
Graduate degree	33	(13.2)
Unspecified	37	(14.8)

conceptual basis to support the division of the 15 negative items into two separate factors as separate latent variables. Hence, the data best supported a 2-factor model.

3.2 | The two subscale assessment

The final configuration for the assessment consisted of two subscales divided into 20 positive items (empowering subscale; $\alpha = 0.972$) and 15 negative items (limiting subscale; $\alpha = 0.935$) representing eight communication constructs (see Table 2). Although the factor correlation was relatively high ($r = .732$), the 35 final items are representative of the two underlying factors without redundancy.

On a Likert scale of never (0) to always (4), the empowering subscale average (mean = 2.4, *SD* = 1.1) was higher than the limiting subscale average (mean = 0.8, *SD* = 0.7). This indicated that the nurse leaders engaged in empowering communication behaviours more frequently than limiting communication behaviours. Of the empowering behaviours, the nonverbal items were the most frequent (most of the time) and the openness items were the least frequent (some of the time). For the limiting behaviours, 'puts out information at the last minute' as part of the manner construct (some of the time) was the most frequent, followed by 'dismisses my input or opinion' as part of the openness construct (seldom), with the nonverbal items being the least frequent (never to seldom).

3.3 | Criterion-related validity

The overall mean for the psychological empowerment instrument was 5.1 ± 1.0 and varied for each subscale, with meaning having the highest and impact having the lowest scores. The overall scale, the impact subscale and self-determination subscale were significantly correlated with both the communication subscales (Table 3). Using Cohen's (1988) taxonomy of effect size (small = 0.1; medium = 0.3; large = 0.5), for the empowering communication subscale, the largest effect was with the impact subscale ($r = .49$, $p < .001$), followed by a medium effect size for the overall scale ($r = .39$, $p < .001$) and the self-determination subscale ($r = .37$, $p < .001$). For the limiting communication subscale, a medium effect size was observed with the self-determination subscale ($r = -0.35$, $p < .001$), followed by the impact subscale ($r = -.31$, $p < .001$, and the overall scale ($r = -.28$, $p < .001$).

Based on the regression analyses, communication behaviours were significantly predictive of overall empowerment, self-determination and impact (Table 4), with the underlying assumptions of the model met. A forced entry method was used based on a premise of both positive and negative communication behaviours contributing to psychological empowerment. Yet, the positive communication subscale contributed from 16% to 23% of the variance, whereas the negative communication subscale did not significantly contribute to any of the variance.

4 | DISCUSSION

During data analysis, it became clear that the nurse leader communication assessment best represented the primary underlying constructs of empowering and limiting nurse leader communication behaviours, rather than the eight communication constructs identified in the initial stages of the instrument development process. Although the items for the eight communication constructs had good internal consistency when analysed as subscales, they did not present as separate factors. Instead, the 2-factor solution best

TABLE 2 Nurse leader communication assessment—two-factor solution of 35 items

Item stem: My direct supervisor	Factor 1*Empowering	Factor 2*Limiting	Mean	(*SD*)
Comprehensibility				
Provides clear instructions to me	0.799		2.4	(1.2)
Is able to effectively express ideas to me	0.861		2.2	(1.3)
When talking to me, contradicts him/herself		0.589	1.5	(1.1)
Manner				
Puts information out to me at the last minute		0.645	2.0	(1.1)
Shares my information with others who don't need to know		0.645	0.8	(1.1)
Talks with me face-to-face when needed	0.822		2.6	(1.2)
Distorts what I say for his/her own purposes.		0.820	0.7	(1.1)
Excessively pesters me for information		0.574	0.6	(1.0)
Is condescending to me when we talk.		0.815	0.8	(1.2)
Is unprofessional in how s/he addresses me		0.807	0.6	(1.0)
Talks negatively about others to me		0.808	0.5	(1.0)
Listening				
Gives me undivided attention when we talk	0.803		2.8	(1.1)
Interrupts, or talks over me, while I am talking.		0.791	0.8	(1.0)
Engages with me when we talk	0.826		2.7	(1.2)
Provides me with opportunities to say what I want to say	0.851		2.8	(1.3)
Openness				
Asks for my view or input	0.825		2.0	(1.3)
Communicates with me about key issues	0.852		2.2	(1.3)
Shares own knowledge/expertise with me	0.843		2.1	(1.4)
Dismisses my input or opinion when we talk		0.763	1.1	(1.2)
Feedback				
Tells me when things are not going as planned	0.645		1.8	(1.4)
Provides me positive feedback	0.897		2.1	(1.5)
Provides negative feedback to me in private	0.566		2.5	(1.5)
Provides me timely feedback	0.863		2.2	(1.4)
Provides me detailed feedback	0.863		2.2	(1.4)
Empathy				
Discusses my personal matters with me at an appropriate time and place	0.765		2.6	(1.5)
Takes into consideration what I am doing before talking to me	0.837		2.3	(1.4)
Acknowledges my feelings when we talk	0.867		2.2	(1.5)
Nonverbal				
Remains calm when talking with me	0.695		3.3	(1.0)
Shows a friendly face when we are talking	0.816		2.9	(1.2)
Dismisses what I say with a hand wave		0.630	0.3	(0.8)
Turns his/her body away from me when we talk		0.688	0.5	(0.8)
Keeps friendly eye contact with me	0.708		2.8	(1.3)
Rolls his/her eyes at me		0.622	0.4	(0.8)
Uses distracting gestures or movements when talking with me		0.579	0.5	(0.8)
Paralanguage				
Raises his/her voice or yells at me		0.716	0.3	(0.7)

Note: Response options: (0) never, (1) seldom, (2) some of the time, (3) most of the time, (4) always; negative items italicized.

*Significant at <.001

TABLE 3 psychological empowerment instrument subscales and correlation to communication subscales

	Meaning	Competence	Self-Determination	Impact	Overall
Subscale Mean (*SD*)	6.2 (1.1)	6.0 (1.0)	4.6 (1.5)	3.7 (1.6)	5.1 (1.0)
Empowering Subscaler (*p*-value)	0.11 (.11)	0.04 (.54)	0.37 (<.001)*	0.49 (<.001)*	0.39 (<.001)*
Limiting Subscaler (*p*-value)	−0.05 (.43)	−0.01 (.86)	−0.35 (<.001)*	−0.31 (<.001)*	−0.28 (<.001)*

*significant, $p < .05$

TABLE 4 Multiple Regression Analysis of Communication Subscales as Predictor of Psychological Empowerment (Overall and Subscales)

		95% CI for *B*					
Variable	*B*	*LL*	*UL*	*SE B*	β	R^2	ΔR^2
Overall PEI							
Constant	4.23**	3.63	4.82	0.30		.16	.16**
Positive Subscale	0.39**	0.22	0.55	0.08	0.41*		
Negative Subscale	−0.01	−0.26	0.23	0.12	−0.01		
Meaning							
Constant	6.07	5.34	6.80	0.37		.02	.01
Positive Subscale	0.19	−0.02	0.39	0.10	0.18		
Negative Subscale	−0.11	−0.41	0.19	0.15	−0.07		
Competence							
Constant	6.08	5.41	6.74	0.34		.01	−.00
Positive Subscale	0.10	−0.09	0.29	0.09	0.10		
Negative Subscale	−0.08	−0.36	0.19	0.14	−0.06		
Self-Determination							
Constant	2.58**	1.69	3.48	0.45		.17	.16**
Positive Subscale	0.40*	0.15	0.65	0.013	0.28		
Negative Subscale	0.33	−0.04	0.70	0.019	0.16		
Impact							
Constant	2.18**	1.23	3.13	0.48		.24	.23**
Positive Subscale	0.86**	0.59	1.13	0.14	0.54		
	−0.18	−0.58	0.21	0.20	−0.08		

Abbreviations: CI, confidence interval; *LL*, lower limit; PEI, psychological empowerment instrument; *UL*, upper limit.
*$p < .01$; **$p < .001$.

supported the overarching conceptual premise of the empowering and limiting communication behaviours. Further testing of the assessment may provide more clarity of the dimensions.

This unique assessment focuses on communication behaviours of nursing leaders deemed important by those they lead as determined by focus groups in the initial development. In other assessments, communication is usually referred to as a broader concept without defining characteristics (Rubin et al., 2004; Rubin et al., 2011). For example, a primary factor identified as necessary for health care leaders in contributing to a healthy work environment is skilled communication, without further clarification of the concept (Denker et al., 2015; Lindberg & Vingard, 2012). The nurse leader communication assessment offers specific behaviours that can be targeted for sustainment or modification when educating nurse leaders, rather than broad concepts.

Staff nurse empowerment can be promoted through nurse leader behaviours (Laschinger et al., 2010). The assessment discussed herein assesses communication behaviours that represent the primary underlying latent constructs of empowering (positive) and limiting (negative) communication behaviours. Unlike previous research demonstrating a strong positive effect of leadership behaviours on empowerment (Greco et al., 2006), not all of the empowerment subscales had significant correlations with the communication behaviour subscales. This assessment, however, focused specifically on communication, rather than overall leadership behaviours.

The medium effect size of the impact and self-determination subscales in relation to the communication subscales may arise from the nurse leaders' ability to influence an environment conducive for these empowerment dimensions through communication. It has previously been found that nurse leader communication influences staff

nurse autonomy (Brunetto et al., 2011). The value nurses place on work (meaning) as well as the belief in their own ability to perform work (competence) are more internally derived dimensions (Spreitzer & Quinn, 2001) and as such are less likely to be influenced by nurse leader behaviour. Other empowering leader behaviours such as providing support or resources, as typically measured in structural empowerment, may have more influence on these dimensions.

The focus of previous investigations between leader behaviours and empowerment has been that of structural empowerment, rather than psychological empowerment (Cairaki & Laschinger, 2015; Greco et al., 2006). The nurse leader communication assessment presents an opportunity to further explore how communication behaviours may be empowering, as different from empowering leadership behaviours overall. It also supports that communication behaviours do not occur in isolation—that other leadership behaviours need to be considered when developing an empowering environment.

In this study, the staff nurses rated themselves highest in the meaning and competence dimensions of psychological empowerment, with lower scores in self-determination and impact. This type of psychological empowerment profile indicates an overall focus on feeling confident and connected to the organisation, yet with minimal impact (Spreitzer & Quinn, 2001). There is consideration that military rank structure, with staff nurses of typically lower rank than the leaders, may have contributed to lower scores in self-determination and impact. Yet, this profile is similar to that found in another study of nurses in a community hospital (Spreitzer and Quinn, 2001). This may indicate instead that the profile arises more globally from the position as a staff nurse.

The nurse leader communication assessment uniquely assesses both positive and negative behaviours. Although there are inconsistencies in how communication styles, behaviours and traits are described in the literature, it is recognized that certain aspects are considered positive, with less attention on negative behaviours. On one hand, positive attributes include respecting and listening to staff, appropriately responding to staff emotions, providing access to sufficient information to effectively perform their work (Pearson et al., 2007), using appropriate language, reflecting emotions appropriately, using body language well, actively listening and providing positive feedback (Mannix et al., 2015). On the other hand, negative leadership behaviours include being condescending, demanding (Reed & Bullis, 2009), intimidating, micromanaging and sending mixed messages (Carrington, 2012). A failure by supervisors to clearly explain things to employees has also been identified as poor communication (Rouse, 2009). Although not directly stated, an absence or lack of a positive behaviour can be perceived as negative as well. The nurse leader communication assessment, using the two-factor solution, measures both the positive and negative latent variables of leader communication behaviours.

Future research using this assessment would include application and analysis at the unit level to determine effectiveness and validity of evaluation of unit leader behaviours. The current study focused on the performance of the items across all facilities and leaders being assessed. When assessing leader behaviour at the unit level, exploration of the ratings by individual staff members for agreement versus divergence in perception of the same leader would be of merit to further develop the instrument.

4.1 | Limitations

This study was conducted using a sample of nurses within US military facilities and may not be generalizable across all settings. In order to maintain anonymity in a military setting, minimal demographic characteristics were collected. Although the survey link was sent to all of the inpatient nursing staff within each of five facilities, further stratification of the participants based on military service or ethnicity is not possible based on the data collected. Of note, about 15% of participants chose not to provide gender, age or type of nurse (RN or LPN), which may be potentially because of the concern of being identified in a military environment. Future applications of the nurse leader communication assessment will benefit from collection of service status and ethnic/racial identification.

The small sample size, of less than five responses per item, as well as the low response rate suggesting response bias limits the interpretation of the data. Findings must be interpreted with caution and considered preliminary pending further investigation.

The psychological empowerment instrument was used as criterion-related validity based on psychological empowerment. An additional measure of structural empowerment may have assisted in demonstrating the relationship between communication and empowerment, though this would have also increased the respondent burden with additional items.

The items in the nurse leader communication assessment were tested and piloted in facilities that included Army, Air Force and Navy nurses. The majority of the population from which the sample was drawn belonged to either Army facilities (23%) or joint facilities with Army (51%), with the remaining from Navy (10%) and Air Force (16%). This may limit the generalizability of the findings across military nursing. Being developed within the US military nursing work environment, the assessment has inherent limitations in generalizable findings beyond US and military cultural communication norms.

5 | IMPLICATIONS FOR NURSING MANAGEMENT

This is the first assessment to identify and categorize nurse leader communication behaviours as either positive or negative. Bringing to light specific examples of positive and negative behaviours provides senior leaders with a new strategy to develop nurse leaders' communication behaviours and potentially improve staff nurse empowerment. Education of nurse leaders on the use of empowering communication behaviours as a means of improving nurse management practices also has the potential to impact nurse job satisfaction and retention. An empowerment-based leadership development programme can improve leader behaviour (MacPhee et al., 2014) and

promote staff empowerment (Dahinten et al., 2014). Training programmes can be developed to target specific communication constructs as identified through the assessment.

Case in point, the findings indicate that focusing on the improvement of empowering communication behaviours may be the most influential in developing staff nurse feelings of self-determination and impact. The participants reported that nurse leaders demonstrated positive openness behaviours the least often. These items included asking for the staff nurse's input as well as communicating about key issues and sharing knowledge. Although there were variances across the facilities, this may indicate a need to educate military nurse leaders on how to be open in their communication. Or, there may be a need to identify barriers that inhibit open communication.

Additionally, the hierarchy imposed by both rank and position within the military nursing structure offers a unique opportunity to explore how communication behaviours can empower subordinates when the situation requires a top-down leadership style. At the same time, staff nurses in either a military or civilian facility may benefit from the development of their leader's communication behaviours. Further research using the assessment is needed to cross-validate the current findings with other samples.

DISCLAIMER

The views expressed in this abstract/manuscript are those of the author(s) and do not reflect the official policy or position of the Department of the Army, Department of Defense or the US government.

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CONFLICT OF INTEREST

The authors have no conflict of interest to declare.

ETHICAL APPROVAL

Approvals:InternalInformationCollectionOfficeRCS#DD-USA-2679, Womack Army Medical Center IRB #16-00646/#18-03400, David Grant Medical Center IRB #FDG20180013E, David Grant Medical Center IRB #FDG20180013E, Tripler Army Medical Center IRB #18S26, Brooke Army Medical Center IRB #C.2018.098e.

DATA AVAILABILITY STATEMENT

Author elects to not share data.

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