



## Eliciting e-leadership style and trait preference among nurses via conjoint analysis<sup>☆</sup>



Christian Jay S. Orte<sup>a,b,\*</sup>, Michael Joseph Diño<sup>b,c</sup>

<sup>a</sup> College of Nursing, Systems Plus College Foundation, Angeles City, Philippines

<sup>b</sup> The Graduate School, Our Lady of Fatima University, Valenzuela, MM, Philippines

<sup>c</sup> Research Development and Innovation Center, Our Lady of Fatima University, Valenzuela, MM, Philippines

Received 4 October 2018; accepted 14 November 2018

Available online 2 February 2019

### KEYWORDS

e-leader;  
e-leadership;  
Virtual leaders;  
AIT;  
Conjoint analysis;  
Virtual space

### Abstract

**Objective:** The present study aimed to identify e-leader preferences among nurses based on several attributes namely: style, trait, and characteristics.

**Method:** Conjoint analysis via card sort was employed to capture the responses of 174 purposively selected nurses in the Philippines with prior interaction with a virtual nursing leader. Ten (10) orthogonal combination cards grounded from literature reviews were used as study tools. Data was collected online for about two months and was analyzed using SPSS version 21.

**Results:** The study surfaces that transformational leadership (0.237), authentic and artistic leadership (0.167) and physique (0.201) attributes were the most preferred style, trait and characteristics, respectively.

**Conclusion:** The study promotes prior notions that leaders, even at virtual spaces, are being acknowledged as an essential figure in leader-subordinate interaction.

© 2019 Elsevier España, S.L.U. All rights reserved.

## Introduction

Nursing is a forceful and interesting profession requiring attractive and motivating role models and leaders. In current's dynamic and challenging healthcare setting, recognizing and evolving nurse leaders is one of the utmost trials encountered by the nursing profession. The perception of leadership is a multifaceted and multi-element

<sup>☆</sup> Peer-review of abstracts of the articles is under the responsibility of the Scientific Committee of Riau International Nursing Conference 2018. Full-text and the content of it is under responsibility of authors of the article.

\* Corresponding author.

E-mail address: [jay.serafica19@yahoo.com](mailto:jay.serafica19@yahoo.com) (C.J.S. Orte).

phenomenon, and represents one of the most-observed ideas. However, no generally accepted definition or theory of leadership was essentially presented.<sup>8,9</sup> With the advent changes in the technology era, a style of leadership with the use of internet is now viewed as a creative and noble way in executing motivation, direction and influences to others. This is known as the e-leadership style<sup>2</sup> wherein the leader interacts and led people with the use of Advanced Information Technology (AIT).<sup>2</sup> In the Philippines, e-leadership is growing in every aspect of health care including the nursing profession. It favors to create an account easily thru social media and internet access. However, there are still no researches pertaining to the preferences on e-leadership style and trait among Filipino Nurses despite of the advent use of social media, technology, and gadgets. Cognizant of these trends, this scholarly paper aspires to elicit and identify the leadership style, leadership trait and leadership characteristics preferences of the Nurse Leaders who utilized the Advanced Information Technology (AIT). The result of this study will contribute to the burgeoning field of information technology in nursing leadership.

## Research methods

This study utilized a quantitative approach specifically the conjoint technique in identifying the e-leadership styles and trait preferences among nurses. Conjoint analysis is a technique proposed by Luce and Tukey (1964) that quantifies the different attributes or preferences as part of marketing strategies.<sup>1</sup> Purposive sampling was utilized in this study. The inclusion criteria are as follows: (1) Registered Nurse in the Philippines, (2) who experienced virtual leadership through social media, and (3) who are willing and has the capacity to participate. A total of 174 nurses responded to the online survey. Microsoft Publisher 2010 software was used to create the orthogonal cards regarding the style, trait and characteristic of a leader. Combination of these attributes yielded eight (8) cards and two (2) hold-outs after orthogonal processing. Data collection was conducted from April 13, 2018 up to June 13, 2018. The respondents were instructed to sort the orthogonal cards as 'most preferred' or 'least preferred'. Statistical Package for Social Sciences (SPSS) version 21 & Microsoft Excel 2010 software was utilized for its data analysis.

## Results

Table 1 shows the summary table of the results. With regard to the relative importance of preferred e-leaders, most of the respondents choose the leadership style (RI=37.330) as the most important factor in executing e-leadership. In terms of part-worth utility estimates of e-leadership style, transformational leadership style yield a high score ( $r=0.237$ ,  $SE=0.066$ ) than transactional leadership style ( $r=-0.237$ ,  $SE=0.066$ ). For the part-worth utility estimates for e-leadership trait, artistic and authentic leadership ( $r=0.167$ ,  $SE=0.115$ ) got the highest score respectively followed by emphatic leadership ( $r=-0.227$ ,  $SE=0.115$ ) and strategic leadership ( $r=-0.106$ ,  $SE=0.115$ ) as the least preferred. Notably, in terms of part-worth utility estimates of e-leadership characteristics, physique yields a higher score ( $r=0.201$ ,  $SE=0.066$ ) than gender attribute ( $r=-0.201$ ,  $SE=0.066$ ).

Table 2 presents the arrangement of 8 conjoint cards based on the corresponding utility score. Result showed that the most preferred combination was Card 8 which is the combination of Transformational-Authentic-Physique which yielded a utility score of 5.105 followed by Card 7 which is the combination of Transformational-Emphatic-Physique that garnered a utility score of 4.711 while the least preferred was Card 2 which got a utility score of 3.835. Hold out cases were not included in the ranking of card profiles which is the Card 9 (Transformational-Emphatic-Gender) and Card 10 (Transformational-Strategic-Physique) because this cards is used to assessed the validity of card rankings by the respondents without affecting the utility score of the other card combinations. Furthermore, the validity of the computed utilities was checked using two hold-out cases which further implies that the model has a goodness of fit (Kendall's tau=1.0).

## Discussions

In this study, it was found out that Transformational Leadership Style is the most preferred leadership style. This may be linked that this type of leader knows how to motivate, empower and boost the commitment of subordinates. Transformational leadership style supports others with the dream and allows them to take better accountability for attaining the vision. Such leader helps and educates

**Table 1** Preference of nurses on e-leadership.

Factor	Factor levels	Utility estimate	Std. error	Relative importance
Style	Transformational	0.237	0.066	37.330
	Transactional	-0.237	0.066	
Traits	Strategic	-0.106	0.115	30.995
	Empathetic	-0.227	0.115	
	Authentic	0.167	0.115	
	Artistic	0.167	0.115	
Characteristics	Gender	-0.201	0.066	31.674
	Physique	0.201	0.066	
(Constant)		4.500	0.066	

**Table 2** Rank arrangement of orthogonal cards.

Rank	Card number	Combinations	Utility value
1	8	Transformational-Authentic-Physique	5.105
2	7	Transformational-Emphatic-Physique	4.711
3	1	Transformational-Artistic-Gender	4.703
4	5	Transactional-Artistic-Physique	4.631
5	6	Transformational-Strategic-Gender	4.430
6	3	Transactional-Strategic-Physique	4.358
7	4	Transactional-Authentic-Gender	4.229
8	2	Transactional-Emphatic-Gender	3.835
a	9	Transformational-Emphatic-Gender	4.309
a	10	Transformational-Strategic-Physique	4.832

Pearson's  $R = 0.971$ ,  $p < 0.0001$  Kendall's tau = 0.929,  $p = 0.001$  Kendall's tau for Holdouts = 1.000.

followers. He/she promotes a culture of innovative growth and change rather than one which upholding the status quo.<sup>6</sup> This implies that nurses prefer an e-leader that is considered innovative and being technologically savvy not just being a motivator and knows how to empower his/her subordinates. On the one hand, artistic leader is the most preferred e-leadership trait of nurses. This is because leadership is considered a science and art. Artistic leader produce novel and useful ideas for sustainable outputs and implement them within, as well as beyond the boundaries of the organization. Artistic leader (transactional and transformational) suggests strategizing the development of knowledge-sharing and communication among creative subordinates including communication of Information-Communication Technology.<sup>4</sup> This implies that nurses prefer an e-leader that is innovative and creative in leading his/her subordinates that will foster a total development and improvements in the organization. On the other hand, Authentic leaders is also the preferred e-leadership trait probably due to the fact that nurses prefer a TRUE leader that has authentic advantage for institutions to continue a spirited improvement and so be one footstep advance to their competitors. Authentic or true leaders are creative and innovative in nature and able to enhance the creativeness of his/her subordinates even with the use of technology.<sup>7</sup> This implies that being an e-leaders must execute truthfulness in order to be respected by his/her subordinates even the leading medium of communication and interaction is the utilization of digital or virtual spaces. The results also revealed that the preferred e-leadership characteristics of nurses are more on physique attribute. This may be linked that in terms of social networking sites such as Facebook, physical attractiveness tends to have a positive name and it may increase friendship acceptance.<sup>5</sup> Physical attractiveness in combination with cognitive ability should be possessed by leaders to become successful in his career. Further, physical attractiveness leads to more opportunities and good evaluation results.<sup>3</sup> This implies that e-leaders must be decent at all times especially during teleconferences/videoconferences since some studies depicts that physical attractiveness matters as a good characteristic of leader.

## Conclusion

AIT is currently considered a platform of among organizations and leaders in leading, motivating, competing, and communicating among their members, subordinates and competitors; hence, the term virtual leadership known as e-leadership was then identified as another innovative style that influences and maintains the connectedness among their associates in the institution where they are affiliated. Likewise, this study promotes prior notions that leaders, even at virtual spaces, are being acknowledged as an essential figure in leader-subordinate interaction.

## References

1. Bridges JFP, Hauber AB, Marshall D, Lloyd A, Prosser LA, Regier DA, et al. Conjoint analysis applications in health—a checklist: a report of the ISPOR Good Research Practices for Conjoint Analysis Task Force. *Value Health*. 2011;14:403–13.
2. Avolio BJ, Sosik JJ, Kahai SS, Baker B. E-leadership: re-examining transformations in leadership source and transmission. *Leadersh Q*. 2014;25:105–31.
3. Converse PD, Thackray M, Piccone K, Sudduth MM, Tocci MC, Miloslavic SA. Integrating self-control with physical attractiveness and cognitive ability to examine pathways to career success. *J Occup Organ Psychol*. 2016;89:73–91.
4. Girdauskienė L, Savaneviėienė A. Leadership role implementing knowledge transfer in creative organization: how does it work? *Procedia – Soc Behav Sci*. 2012;41:15–22.
5. Greitemeyer T, Kunz I. Name-valence and physical attractiveness in Facebook: their compensatory effects on friendship acceptance. *J Soc Psychol*. 2013;153:257–60.
6. Barut Y, Gökalp M, Akdenk M, Kalafat T, Mente e S. The associations between university students' transformational leadership characteristics and dysfunctional limitedness perceptions. *Procedia – Soc Behav Sci*. 2010;9:132–6.
7. Müceldili B, Turan H, Erdil O. The influence of authentic leadership on creativity and innovativeness. *Procedia – Soc Behav Sci*. 2013;99:673–81.
8. Atsalos C, Greenwood J. The lived experience of clinical development unit (nursing) leadership in Western Sydney, Australia. *J Adv Nurs*. 2001:408–16.
9. Mannix J, Wilkes L, Daly J. Attributes of clinical leadership in contemporary nursing: an integrative review. *Contemp Nurse*. 2013;45:10–21.