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The impact of digital factors on Digital leadership behavior in hospital context

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Rationale

Nowadays, digitization is ubiquitous in our lives and has a huge impact that can change the organizational structure of every industry. In this ever-changing digital organizational environment, hospital leaders must understand the impact their actions have on the hospital. The main problem with leadership is due to the absence appropriate coaching behaviors and successful support behaviors (Fleming & Kayser, 2008) that most of the hospital leaders themselves lack effective leadership behaviors and leadership qualities. The success of hospital organizations cannot be achieved without the strong support of senior management (Ghiasipour et al., 2017). As such, digital leaders must be made aware of how to use digital technology to implement plans to manage the hospital so that the organization continues to grow. As a result of the complexity of leadership, scholars' definitions of leadership vary from chapter to chapter, but most emphasize the two main concepts of competence and influence

Research Objectives

1. Test the relevance of the factors of digital leadership behavior in hospital.
2. Determine the degree of relationship between digital leadership behaviors in hospital.

Methodology

Data:

The study period for this research is from September 2021 to February 2022. Respondents and questionnaire respondents were mainly from the existing 3,302 personnel of the First Affiliated Hospital of Gannan Medical College, Ganzhou City, Jiangxi Province, China. Among them are, 1,057 doctors; 1,576 nurses; 348 medical technicians; and 321 Organs departments.

Research Variables:

Independent variable :

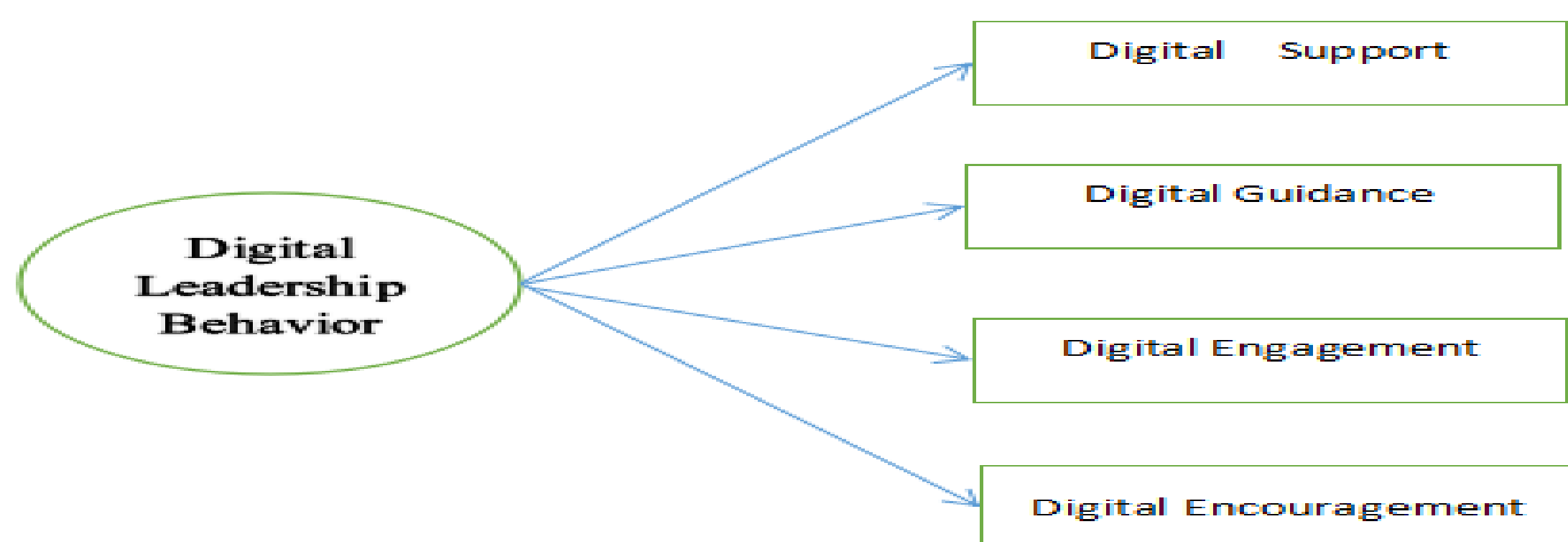
The demographic information of the samples: gender, age, work years, education, department and position.

Dependent variable :

The constructs of Digital leadership behavior were defined: Digital support (DS), Digital guidance (DG), Digital engagement (DENG), and Digital encouragement (DENC).

Research Hypothesis:

In this research, we developed a foundational framework for a theory of Digital leadership behavior. In our framework, the Digital support, Digital guidance, Digital engagement, Digital encouragement factors are related to Digital leadership behavior. Digital guidance: the relationship-oriented behavior of leaders, mentoring behaviors tend to be more weighted towards interpersonal relationships. From all that has been mentioned, we can be summarized as a framework as below :



Research Instrument:

The Mixed Method research methodology with quantitative research and qualitative research are used . The questionnaires is developed and distributed through Questionnaire Star (APP) on WeChat software. However, language factor of the questionnaire could cause some misunderstanding of dyslexia to the respondents and might cause some errors in the survey results. Therefore, the researcher used the Chinese and English versions of the questionnaire so that the respondents could understand more clearly the content and information expressed in the questionnaire

Data Collection:

The sample size for the study, the Yamane's theoretical formula were used to determine that the sample size of 357 for 3,302 people is the lower number of respondent responses that maintains the 95% confidence interval. The final number of samples collected was 458 (N=458).

Data Analysis:

Quantitative data were analyzed using SPSS software; mean, standard derivation, Confirmatory Factor Analysis. The individual constructs of Digital leadership behavior were defined; Digital support (DS), Digital guidance (DG), Digital engagement (DENG), and Digital encouragement (DENC). A pretest to evaluate the construct items, and a confirmatory test of the measurement model were conducted using confirmatory factor analysis (CFA). Qualitative analysis by using in-depth interview with Semi-structure questionnaire (Britten, 1999) on the senior managers, middle and lower-level managers of each department and general employees of the hospital. This study used In-dept interview and purposive sampling for qualitative research method with 3 key informants whose are leaders of the hospital; the Director of the Party and Administration Office, the Secretary of the Mission Committee, and the Vice President. The interview questionnaire was designed to support quantitative results explain and confirm quantitative results within China's hospital context (EMIC).

Results

Basic information of the sample :

A total of 458 valid samples were collected in this study. By gender, males (51.3%) are slightly higher than females (48.7%); considering age, the proportion of each age group are relatively balanced; from the perspective of working years, the proportions of 1-5 years and 6-10 years are slightly higher, accounting for about 33.4% and 32.1%. From the perspective of educational background, the percentage of masters and doctorates is the highest representing approximately 42.4% and 24.7%; from the perspective of department, the proportion of each department is relatively balanced; By position, the percentage of grassroots staff is the highest, accounting for about 93%, followed by grassroots Managers (4.1%), middle managers (1.7%), and senior Managers (1.1%).

Table 1 Reliability Analysis.

Variables	Cronbach's α	Average Cronbach's α
Digital Support	0.867	0.903
Digital Guidance	0.956	
Digital Engagement	0.894	
Digital Encouragement	0.895	

Table 2 Confirmatory factor analysis results of Digital leadership behavior.

Digital leadership behavior	CR	AVE
Digital Support	0.869	0.572
Digital Guidance	0.956	0.814
Digital Engagement	0.898	0.641
Digital Encouragement	0.897	0.636

Table 3 Pearson Correlation analysis and discriminant validity

	Digital Support	Digital Guidance	Digital Engagement	Digital Encouragement
Digital Support	1			
Digital Guidance	0.691	1		
Digital Engagement	0.504	0.466	1	
Digital Encouragement	0.441	0.418	0.342	1

Quantitative analysis :

The test for multicollinearity and the correlation estimate of pairs of variables are calculated and found that the correlation factor was positive and, in the range, 0.342-0.691 with $p < 0.01$. Those with less than 0.8 were agreed upon (Hair et al., 2010). These results indicated that variables of Digital leadership behavior have good discriminant validity.

The Cronbach's α of each variable of Digital leadership behavior in this study are all above 0.8, Table 1. indicating that the internal consistency of each variable in this study is high and the variable has good reliability (Gliem & Gliem, 2003).

The confirmatory factor analysis result of Digital leadership behavior were done which their results were shown the Table 2. The acceptable value of CR is 0.7 and above. The AVE measures the level of variance captured by a construct versus the level due to measurement error, values above 0.7 are considered very good, whereas, the level of 0.5 is acceptable. We found that the standardized loading of each variable were greater than 0.5, the CR is greater than 0.7, and the AVE is greater than 0.5, indicating that the validity of Digital leadership behavior is better (Fornell & Larcker, 1981).

Qualitative analysis :

The study revealed that the three leaders used Digital guidance behaviors the most in managing the hospital. They thought that Digital guidance could train better hospital trainees, improve the efficiency of all hospital staff and create a good environment.

Discussion

The findings in this study facilitate the definition of digital leadership behaviors and provide informative insights into Digital leadership behaviors in the healthcare industry. The results of the study showed that the highest relational intimacy with Digital leadership behavior was Digital guidance, Digital encouragement and Digital engagement were basically the same, and Digital support was the lowest. It indicates that Digital guidance has more influence on Digital leadership behavior in hospitals in digital work. In contrast, Digital support had the least impact on hospital Digital leadership behavior. Consistency between the qualitative study interview results and the quantitative study results, with respondents indicating that leaders use Digital guidance the most when they focus on their subordinates' digital efforts. And Digital encouragement and Digital engagement are more along the lines of Digital guidance, so they are consistent. Then Digital support is the least used behavior by leaders in their hospital work. Our findings show the agreement that Digital support, Digital guidance, Digital engagement and Digital encouragement are strongly associated with Digital leaders provide digital technology to facilitate school transformation and create digital learning communities for them (Zhong, 2017). In targeting their management level, principals should mentor teachers and improve their digital skills. The findings indicate that Digital support and Digital guidance are strongly associated with Digital leadership behaviors. Digital leadership behaviors provide employees with training sessions, access to digital channels, expanded e-learning platforms and the creation of flexible work models that make digital work more engaging (Klassen, 2021). the degree of Digital leadership behavior. These findings validate the extent to which Digital leadership behaviors and Digital guidance, Digital encouragement, Digital engagement, and Digital support are related.

Conclusion

This study was investigated the degree of Digital guidance, Digital encouragement, Digital support, and Digital engagement associated with Digital leadership behaviors in the First Affiliated Hospital of Gannan Medical College. The researchers analyzed the questionnaire data to understand which variables showed the most important role in Digital leadership behaviors in the hospital. The analysis of the data based on the variables showed that Digital support and Digital guidance had a higher impact on all the models considered than Digital engagement and Digital encouragement. This implies that the Digital support and Digital guidance aspects of Digital leadership behavior are doing well and people need more Digital engagement and Digital encouragement. These findings increase the extent to which we understand the relationship between Digital guidance, Digital encouragement, Digital support, and Digital engagement in Digital leadership behaviors that improve the knowledge on the hospital leadership behaviors in digital work.

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