


Relationships among structural empowerment, innovative behaviour, self-efficacy, and career success in nursing field in mainland China

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Abstract

Aim: The purpose of the study is to explore the relationships among structural empowerment, innovative behaviour, self-efficacy, and career success by nurses in mainland China.

Method: A cross-sectional study was designed, and participants were recruited from 6 tertiary hospitals in Tianjin, China. The study used an anonymous questionnaire, filled voluntarily by 460 nurses in spring 2017. Structural equation modelling analyses were conducted.

Results: The results reveal that innovative behaviour is positively associated with career success and self-efficacy, which, in turn, mediates the relationship between structural empowerment and career success. Structural empowerment is positively associated with innovative behaviour and career success. Self-efficacy is positively associated with career success and mediates the relationship between innovative behaviour and career success.

Conclusion: Higher perceived structural empowerment, innovative behaviour, and self-efficacy can increase career success of Chinese nurses.

KEYWORDS

career success, innovative behaviour, nursing, self-efficacy, structural empowerment

SUMMARY STATEMENT

What is already known about this topic?

- Nurses have multiple roles and responsibilities, which may increase the risk of burnout and job dissatisfaction due to the broad expectations.
- Empowerment is an important construct because it offers the potential to positively influence outcomes that benefit both individuals and organizations.

- High-performance employees are created in an empowered organization, which increases organizational efficiency and productivity.

What this paper adds?

- Support for Kanter's theory of structural empowerment in Chinese nurses.
- Structural empowerment has a positive effect on career success. In particular, access to resources and formal power has the most significant impact on career success.

- Understand the mediating role of self-efficacy in the relationship between innovative behaviour and career success. The mediating role of innovative behaviour in the relationship between structural empowerment and career success.

The implications of this paper:

- Future career development programmes for Chinese nurses should emphasize not only emotional labour issues but also empowerment and innovation strategies.

1 | INTRODUCTION

The shortage of nurses is a global problem, especially in China (Feng, Su, Yang, Xia, & Su, 2017). The population of China is more than 1.38 billion, and it is still increasing rapidly. This poses a greater challenge to the Chinese hospitals, which are short of nurses (Liu, Aunguroch, & Yunibhand, 2015). Since the workload and the number of staff are disproportional, many nurses experience burnout, gradually reduce their job satisfaction, and even resign from their position. The nurses' job satisfaction is important to guarantee the nursing service. Structuring a culture of job satisfaction and positive clinical nurse practical settings are 2 major challenges that nursing managers are facing today (Kramer, Halfer, Maguire, & Schmalenberg, 2012). Studies have revealed that nurses with higher perceived career success increase their job satisfaction (Liu & Liu, 2016). When nurses perceive "nursing services" as a business management career, they view that higher career success and nursing quality will help them get promotion and better work satisfaction (Ng, Eby, Sorensen, & Feldman, 2005).

Many scholars have dedicated themselves to search for strategies to increase nurses' career success, such as creating supportive work conditions, enhancing nurses' self-esteem, and increasing the professional satisfaction of nurses (Jia et al., 2015; Liu, Yang, Yang, & Liu, 2015). However, most research into nurses' career success has treated personality traits and organizational variables separately. Previous research suggested that structural empowerment had a positive influence on career success (Chronister & Mcwhirter, 2011). Self-efficacy and innovative behaviour were significant predictors to individual career development (Dailey, Morris, & Hoge, 2015; Gloudemans, Schalk, & Reynaert, 2013). However, too little attention has been paid to how comprehensive factors (individual and organization) influence work outcomes in the nursing workplace. Therefore, exploring the relationships and the process of interaction between variables underlying career success in nurses, which can improve occupational health and optimize patient outcomes, is the purpose of this study.

2 | BACKGROUND

2.1 | Structural empowerment

Kanter's (1979) theory of structural power is the fundamental framework on which this study is based. Power and its structure in organizations provide a useful strategy to examine factors in nursing practice environments that impact the ways nurses respond to their work experiences (Dubeck, 1978). According to Kanter (1977, 1979), the

social structures of workplace have more impact on the behaviour and attitude of employees rather than personal predispositions. She argues that employees perceive empowerment when they obtain the opportunity for growth provided by occupational environment and acquire power needed to perform work goals. When these conditions are lacking, employees feel powerless, which threatens the efficiency of the organization and makes employees lose their working enthusiasm since powerless individuals see less opportunity for career development and therefore reduce their intention to stay in their position (Orgambidezramos, Borregoalés, Vázquezaguado, & Marchamegual, 2017).

Kanter (1979) defines power as the capacity to access information, to mobilize resources, and to gain the support to achieve career goals. She emphasizes that employees have the following 6 power structures to be perceived as empowerment: access to information, resources, opportunity, support needed to achieve goals, formal power, and informal power. Information means that employees have the opportunity to acquire professional knowledge and expertise to improve their efficiency. Resources refer to employees having the ability to acquire the time, money, material, and supplies to achieve organizational goals. Opportunity means the chance to learn and acquire new skills, growth, and advancement and to accept challenging tasks. Support is related to the assistance of managers, colleagues, and subordinates. Formal power refers to employees who have workplace position related to the organization. Informal power derives from peer relationships and alliances that contribute to meet organizational goals (Kanter, 1979).

Studies have revealed that nurses with higher perceived power have increased job satisfaction (Kretschmer et al., 2017; Orgambidezramos et al., 2017). The predictability of job satisfaction is significantly impacted by career achievement when this variable is assessed (Dahinten, Lee, & Macphee, 2016; Riley, Beal, & Lancaster, 2008). Structural empowerment increases the job-related capabilities and enables employees to perceive their values and interest in work as well as willingness to cope with challenging tasks (Orgambidezramos et al., 2017).

2.2 | Structural empowerment, innovative behaviour, and career success

Innovative behaviour refers to all actions that direct the generation, introduction, and/or application of useful novelty at any organizational level (Kör, 2016). Employees with innovative behaviour can adopt positive attitudes and appropriately respond to collaborators, customers, and managers and generate new ideas and methods to create new products (Rd, Chapman, Blegen, & Spetz, 2016). According to Janssen (2003), innovative work behaviour involves 4 dimensions: recognition of problems, generation of ideas, mobilization of support, and realization of the ideas. Innovation is an important indicator of corporate competitiveness (Spreitzer, 1995). Previous studies have shown that structural empowerment positively predicted innovative behaviour (Hebenstreit, 2012; Kanter, 1988). To generate and apply innovative ideas and methods to practice, the organization must provide an environment that supports innovation (Luzinski, 2012). Employee empowerment, one of the new techniques utilized by organizations, is

necessary for all employees to improve individual innovative behaviour and provide the highest quality services in highly competitive circumstances (Raadabadi, Fayazbakhsh, Nazari, Mousavi, & Fayazbakhsh, 2014).

Career success is defined as the accumulated positive work and psychological outcomes arising from one's work experiences (Seibert, Kraimer, & Crant, 2001). Previous literature has shown that structural empowerment is a significant predictor of career success (Chronister & Mcwhirter, 2011). Employees' perceived work empowerment has a positive impact on work attitude. A study investigated 416 registered nurses in Finland, and results showed that higher perceived structural empowerment by nurses can improve their self-determination (Kuokkanen, Leino-Kilpi, & Katajisto, 2003). Related research showed that empowerment plays an irreplaceable role in the stage of career development (Steinmann, Ötting, & Maier, 2016). Kanter (1982) emphasizes that employees with organizational structures of power and opportunity can achieve career goals as well as improve organizational production. Individuals without opportunity to obtain power structures perceive themselves to be powerless and lose their sense of innovation or professional identity or career development (Brown & Kanter, 1982). Therefore, the following hypotheses were developed:

Hypothesis 1. *Structural empowerment is positively associated with innovative behaviour.*

Hypothesis 2. *Structural empowerment is positively associated with career success.*

Further, research has revealed that employees with more innovative behaviour had increased career success (Dailey et al., 2015). One significant factor that may affect the willingness of employees to innovate is perceived empowerment. It seems that structural empowerment (such as access to information, resources, opportunity, support, formal power, and informal power) is an essential factor in employees' innovative behaviour and work efficiency, which impacts their job satisfaction and career development, all of which lead to the following mediating model:

Hypothesis 3. *Innovative behaviour mediates the relationship between structural empowerment and career success.*

2.3 | The mediating role of self-efficacy

Self-efficacy is defined as individuals' beliefs about their capability to exercise control cognitive resources and motivate their behaviour for the successful completion of a specific task (Bandura, 1982). According to Bandura (1982, 1991), the function of self-efficacy is mainly to regulate and control behaviour and to influence the performance of the individual through behavioural regulation. It has been revealed to be a reliable indicator of both motivation and work performance and affects a person's belief in establishing a career goal as well as impacting the ability of self-assessment to accomplish the task (Berlanda, Pedrazza, Trifiletti, & Fraizzoli, 2017). Self-efficacy affects the individual's state of life, the setting of behavioural goals,

motivation, and the mode of thinking and determines the individual's handling of difficulties and setbacks (Bandura, 1986).

Previous research has revealed that employees with higher career development worked well when backed by self-efficacy (Dennehy & Dasgupta, 2017). Self-efficacy beliefs have been indicated as a significant predictor of newcomers to organizations and individual career performance (Park, Jeoung, Lee, & Sok, 2015). Individuals with high self-efficacy can improve their confidence in overcoming setbacks, set higher career goals, and mobilize all useful resources to achieve those goals. Sung and Connor (2017) claimed that the personal self-efficacy and the pursuit of work outcomes can encourage people to consciously regulate behaviour and show good self-management. A study conducted a repeated measure survey of 267 employees in Italy for 8 months at 3 different time points. The results generally support that self-efficacy has a significant relationship with individual innovative behaviour and mediates relationship to explain why employees have a strong motivation that can accomplish tasks through their innovative endeavours (Ng & Lucianetti, 2015).

Hypothesis 4. *Self-efficacy mediates the relationship between innovative behaviour and career success.*

3 | METHOD

3.1 | Design

A convenience sample with a descriptive cross-sectional survey design was used in this study.

3.2 | Sample

Participants were recruited from 6 tertiary hospitals in Tianjin, China. The data collection was undertaken from February to May 2017. The researchers randomly selected 4 departments in each hospital to investigate the qualified nurses working in these sections. The inclusion criteria were as follows: (1) engaged in the nursing profession for more than 6 months and (2) voluntary participation in this study. The exclusion criteria were as follows: (1) the internship or probationary nurses and (2) nurses on sickness or maternity leave. A total of 460 registered nurses volunteered for investigation, but only 411 questionnaires were considered suitable; among which, 49 (10.7%) were excluded for more than 5% missing data.

3.3 | Instruments

A demographic information sheet and 4 scales were used in this study to measure structural empowerment, innovative behaviour, self-efficacy, and career success.

3.3.1 | Demographic information sheet

The demographic information sheet was designed by researchers. Previous literature was used to identify potential demographic variables that may affect career success. Finally, 7 variables were considered, including age, gender, marital status, educational level, professional title, job tenure, and purpose for work.

3.3.2 | Structural empowerment

Structural empowerment was measured by the Chinese version of Conditions for Work Effectiveness Questionnaire-II (CWEQ-II) (Huang & Liu, 2011), which was originally developed by Laschinger, Finegan, Shamian, and Wilk (2001). It had 19 items and 6 subscales: opportunity (3 items), access to information (3 items), support (3 items), access to resources (3 items), formal power (3 items), and informal power (4 items). A 5-point Likert scale was used to set up the answers. All dimensions of structural empowerment were scored from 1 (*none*) to 5 (*a lot*). The total scores ranged from 19 to 95 points, and the sum of the scores in 6 dimensions was combined into a total empowerment score, with the higher scores indicating higher levels of structural empowerment. The Cronbach's α reliability coefficient was 0.91; the Cronbach's α coefficients of each dimension ranged from 0.75 to 0.88. In this study, the Cronbach's α of the total scale was 0.89, and each dimension ranged from 0.74 to 0.86.

3.3.3 | Innovative behaviour

Innovative behaviour was measured by Scott and Bruce's (1994) personal innovation behaviours scale. It had 6 items and a single dimension. Participants responded to each item using the 5-point Likert scale, which were rated from 1 (*strongly disagree*) to 5 (*strongly agree*); the sum of the scores of each item represented the total score of innovative behaviour. The Cronbach's α reliability coefficient for the scale was 0.89, and the test-retest reliability was 0.88. In this study, the Cronbach's α of the total scale was 0.88.

3.3.4 | Self-efficacy

The Chinese version of the self-efficacy scale was used to measure the self-efficacy of nurses (Zhang, 2005). It was established by the process of translation and retranslation based on Schwarzer and Born's (1997) version. It had 10 items and a single dimension. Responses were rated on a 4-point Likert type scale from 1 (*completely wrong*) to 4 (*Absolutely right*); each of the items was combined to create a total self-efficacy score, with higher scores indicating higher levels of self-efficacy. The Cronbach's α reliability coefficient of Chinese version was 0.87, and the test-retest reliability was 0.83. In this study, the Cronbach's α of the total scale was 0.89.

3.3.5 | Career success

The English version of the career success scale was used. This has high internal consistency reliability (Cronbach's $\alpha = 0.74$ – 0.91) and has been translated into Chinese and widely used (Li, You, Chan, Lin, & Lin, 2013). The total scale included 11 items, career satisfaction (5 items), perceived organization competitiveness (3 items), and perceived external organization competitiveness (3 items). Responses to the 5-point Likert scale were rated from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher scores indicating higher levels of career success. The overall Cronbach's α coefficient was 0.88, and the Cronbach's α coefficients of each dimension ranged from 0.82 to 0.90; the correlation coefficient of each item and total score of scale were 0.76 to 0.93. In this study, the Cronbach's α of the total scale was 0.90, and the Cronbach's α of each dimension ranged from 0.84 to 0.91.

3.4 | Data analysis

Statistical analysis was performed by the Statistical Package for Social Sciences (Chicago, Illinois) and Analysis of Moment Structures (Chicago, Illinois). Descriptive statistics was used to summarize participants' characteristics and their average scores for structural empowerment, innovative behaviour, self-efficacy, and career success. Pearson correlation analyses were calculated to test the relationships among all variables. Stepwise multiple linear regression analyses were conducted to explore the influencing factors of career success. Hierarchical regression analyses were conducted to test a mediating effect of innovative behaviour and self-efficacy.

The criteria of fit index used in testing of how well the structural equation model should fit for recommendation. According to Schreiber (2008), the chi-square (χ^2) test value should not be statistically significant ($P > .05$), $1 < \chi^2/\text{degrees of freedom (df)} < 3$, goodness of fit index (GFI) > 0.90 , adjusted goodness of fit index (AGFI) > 0.90 , root of the mean square residual (RMR) < 0.10 , root-mean-square error of approximation (RMSEA) < 0.05 , Tucker-Lewis index (TLI) > 0.90 , and comparative fit index (CFI) ≥ 0.95 .

3.5 | Ethical considerations

This study was approved by the ethics review from the board.

4 | RESULTS

4.1 | Demographic data

Most of the participants were women ($n = 402$, 97.8%), and most of the participants were more than 40 years old ($n = 112$, 27.3%). Most of the participants were married ($n = 289$, 70.3%). In terms of educational level, most of the participants had a bachelor degree ($n = 244$, 59.4%). Most of the participants were primary nurses ($n = 269$, 65.5%). Most of the participants ($n = 112$, 27.3%) had 4- to 10-year experience in nursing. Working for a living was their main purpose for more than half of the participants ($n = 217$, 52.8%). The demographic characteristics were presented in Table 1.

4.2 | Descriptive statistics

Overall, the innovative behaviour of participants was at medium-high level (above average 3.0), with a medium level of structural empowerment (slightly higher than average value of 3.0). Among the 6 dimensions of structural empowerment, the level of informal power was the highest (mean = 3.718, SD = 0.805), while the level of access to information was the lowest (mean = 2.820, SD = 1.018). The score of nurses' career success was at the medium level (slightly above average value of 3.0). Among the 3 dimensions of career success, the score of career satisfaction was the highest (mean = 3.442, SD = 0.898), while perceived external organization competitiveness of nurses ranked the lowest (mean = 3.064, SD = 0.958). The self-efficacy of participants was at medium-high level (above average 2.5). Descriptive statistics for the study variables were presented in Table 2.

TABLE 1 Characteristics of participants (*n* = 411)

Characteristics	Frequency	Percent
Gender		
(1) Male	9	2.2
(2) Female	402	97.8
Age		
(1) 18–25	81	19.7
(2) 26–30	94	22.9
(3) 31–35	63	15.3
(4) 36–40	61	14.8
(5) >40	112	27.3
Marital status		
(1) Married	289	70.3
(2) Single	122	29.7
Educational level		
(1) Technical secondary school	41	10.0
(2) Junior college	126	30.6
(3) University	244	59.4
Professional title		
(1) Senior nurse	39	9.5
(2) Junior nurse	103	25.1
(3) Primary nurse	269	65.5
Job tenure		
(1) <1	8	1.9
(2) 1–3	97	23.6
(3) 4–10	112	27.3
(4) 11–20	96	23.4
(5) >20	98	23.8
Work purpose		
(1) Personal interest	119	29.0
(2) Parents decision	42	10.2
(3) Work for living	217	52.8
(4) Other	33	8.0

TABLE 2 Descriptive statistics of the study variables

Variable	Average Score Range	Mean	SD
Innovative behaviour	1–5	3.580	0.800
Self-efficacy	1–4	2.754	0.839
Structural empowerment	1–5	3.358	0.703
Opportunity	1–5	3.217	0.786
Access to information	1–5	2.820	1.018
Support	1–5	3.620	0.794
Access to resources	1–5	3.602	0.806
Formal power	1–5	3.170	0.976
Informal power	1–5	3.718	0.805
Career success	1–5	3.244	0.836
Career satisfaction	1–5	3.442	0.898
Organization competitiveness	1–5	3.093	1.000
External competitiveness	1–5	3.064	0.958

Abbreviation: SD, Standard deviations. Organization competitiveness: perceived organization competitiveness; external competitiveness: perceived external organization competitiveness.

4.3 | Descriptive correlation

Pearson's *r* tests were constructed to test the correlation of 4 variables (see Table 3). The results revealed that there was a significant strongly positive correlation between structural empowerment and innovative behaviour ($r = 0.613$; $P < .01$), structural empowerment and career success ($r = .713$; $P < .01$), and innovative behaviour and career success ($r = .694$; $P < .01$). There were moderate positive correlations between structural empowerment and self-efficacy ($r = .408$; $P < .01$), innovative behaviour and self-efficacy ($r = .420$; $P < .01$), and career success and self-efficacy ($r = .426$; $P < .01$). All dimensions of variables showed significant correlations ($r = .305$ to 0.917 , $P < .01$). These results supported Hypothesis 1 and 2.

4.4 | Tests of the hypothesized model

To further explore the contribution of demographic variables, structural empowerment, innovative behaviour, and self-efficacy on career success, stepwise multiple linear regression analyses were conducted (see Table 4). In the regression equation, career success was considered as the dependent variable, and the remainders were independent variables. The variables of self-efficacy, innovative behaviour, access to resources and formal power entered the regression equation, which explained 62.5% of the total variance. These results also supported Hypothesis 2.

Hierarchical regression analyses were used to test the mediation effect of innovative behaviour and self-efficacy (see Table 5). In model 1, career success was considered as a dependent variable, and structural empowerment was an independent variable; results showed that structural empowerment had a positive impact on career success ($\beta = .713$, $P < .001$). Model 2 was constructed to investigate the effect of the independent variables on the mediator variable; results showed that structural empowerment had a significant impact on innovative behaviour ($\beta = .613$, $P < .001$). Taking career success as the dependent variable, and both innovative behaviour and structural empowerment as independent variables, model 3 was constructed. We found that both innovative behaviour and structural empowerment had a positive influence on career success ($\beta = .411$ – $.461$, $P < .001$), and when the innovative behaviour variable was introduced, the regression coefficient of structural empowerment on career success declined compared with model 1 ($\beta = .461$, $P < .001$). These 3 models supported Hypothesis 3.

To test a mediating effect of self-efficacy on the relationship between innovative behaviour and career success, models 4 to 6 were constructed. The results revealed that innovative behaviour had a significant impact on career success ($\beta = .694$, $P < .001$), and self-efficacy ($\beta = .420$, $P < .001$). When the self-efficacy variable was introduced, the regression coefficient of innovative behaviour on career success declined compared with model 4 ($\beta = .625$, $P < .001$). These 3 models supported Hypothesis 4.

Based on the correlation and regression analyses with the variables as above, a cross layer comprehensive path analysis model was established. After modification, the final model was fitted to the data ($\chi^2/df = 1.392$, GFI = 0.982, AGFI = 0.959, RMR = 0.028, RMSEA = 0.031, TLI = 0.992, CFI = 0.996). Subsequent Sobel tests

TABLE 3 Pearson correlation coefficient of study variables ($n = 411$)

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Total innovative behaviour	1												
2. Total self-efficacy	0.420**	1											
3. Opportunity	0.489**	0.310**	1										
4. Access to information	0.426**	0.337**	0.561**	1									
5. Support	0.490**	0.305**	0.741**	0.498**	1								
6. Access to resources	0.447**	0.318**	0.557**	0.440**	0.639**	1							
7. Formal Power	0.555**	0.313**	0.643**	0.544**	0.620**	0.627**	1						
8. Informal power	0.576**	0.397**	0.606**	0.502**	0.707**	0.632**	0.688**	1					
9. Total structural empowerment	0.613**	0.408**	0.826**	0.737**	0.846**	0.784**	0.848**	0.855**	1				
10. Career satisfaction	0.589**	0.390**	0.551**	0.426**	0.578**	0.538**	0.595**	0.603**	0.672**	1			
11. Organization competitiveness	0.659**	0.374**	0.544**	0.495**	0.505**	0.552**	0.657**	0.573**	0.682**	0.759**	1		
12. External competitiveness	0.612**	0.365**	0.416**	0.403**	0.399**	0.363**	0.459**	0.491**	0.522**	0.581**	0.681**	1	
13. Total career success	0.694**	0.426**	0.577**	0.495**	0.572**	0.556**	0.648**	0.635**	0.713**	0.917**	0.909**	0.818**	1

Organization competitiveness: perceived organization competitiveness; external organization competitiveness: perceived external organization competitiveness.

** $P < .01$

TABLE 4 Multiple linear regression analysis of nurses' career success

Variable	Unstandardized Coefficients	Standardized Coefficients	t	P	R ²	F
(Constant)	-2.611	—	-1.511	.131		
Self-efficacy	0.128	0.089	2.553	.011		
Innovative behaviour	0.726	0.379	9.389	.000	.625	83.620
Access to resources	0.352	0.093	2.106	.036		
Formal power	0.578	0.184	3.747	.000		

TABLE 5 Testing the mediation role

Model	Dependent Variable	Independent Variable	Unstandardized Coefficients	Standardized Coefficients	t	P
Model 1	Career success	Structural empowerment	0.492	0.713	20.581	<.001
Model 2	Innovative behaviour	Structural empowerment	0.220	0.613	15.689	<.001
Model 3	Career success	Innovative behaviour	0.788	0.411	10.560	<.001
		Structural empowerment	0.318	0.461	11.855	<.001
Model 4	Career success	Innovative behaviour	1.329	0.694	19.482	<.001
Model 5	Self-efficacy	Innovative behaviour	0.315	0.420	9.347	<.001
Model 6	Career success	Self-efficacy	0.237	0.164	4.276	<.001
		Innovative behaviour	1.197	0.625	16.260	<.001

supported the mediating role of innovative behaviour in the relationship between structural empowerment and career success ($z = 2.32$, $P < .05$) and supported the mediating role of self-efficacy in the relationship between innovative behaviour and career success ($z = 4.29$; $P < .05$). Thus, all of the hypotheses have been confirmed (see Figure 1).

5 | DISCUSSION

When nurses perceive a lack of career success, it is one of the highest risk factors for job dissatisfaction and burnout. The purpose of this study was to explore the factors that affect the career success of nurses. We found that innovative behaviour was positively associated

with self-efficacy and career success, which in turn mediated the relationship between structural empowerment and career success. Structural empowerment was positively associated with innovative behaviour and career success; self-efficacy was positively associated with career success and mediated the relationship between innovative behaviour and career success.

5.1 | Theoretical implications

Structural empowerment had a positive association with innovative behaviour. These results supported the previous studies by Chang and Liu (2008) and Knol and Van-Linge (2009). Before this, Kanter (1979) conducted a series of investigations on entrepreneurial organizations. She found that structural empowerment had an inseparable

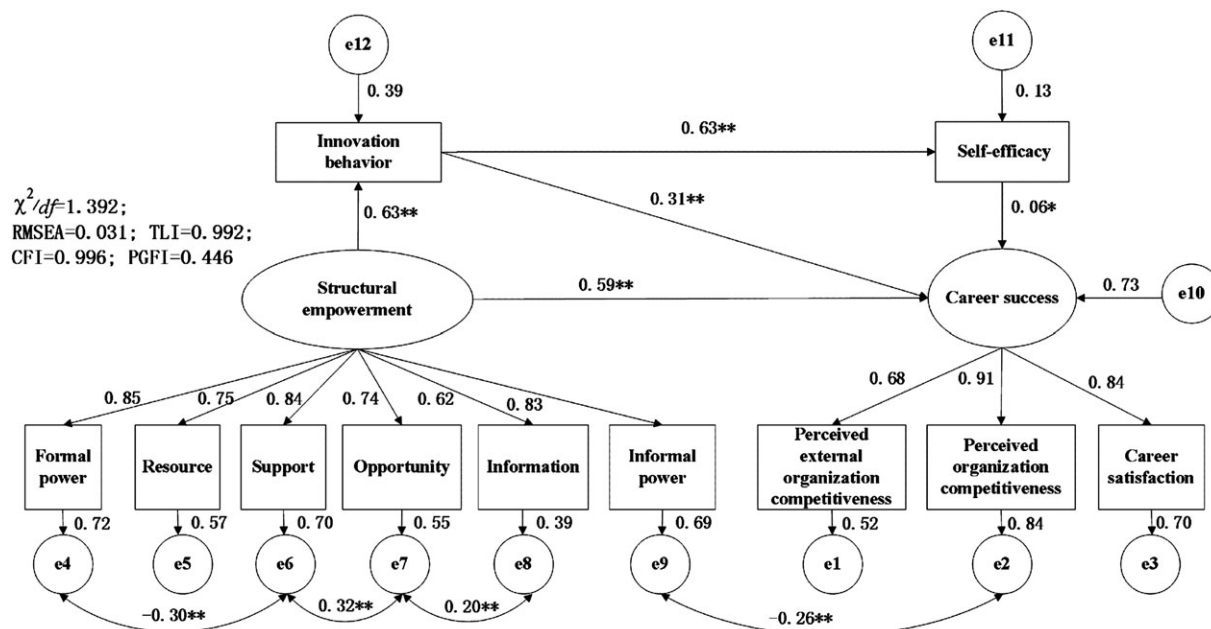


FIGURE 1 The research model with standardized paths coefficients, * $P < .05$, ** $P < .01$

connection with the innovative behaviour of employees. The process of innovation is uncertain, knowledge-intensive, and controversial and needs to overcome the bondage of traditional ideas, which requires that organizations empower and support their employees. Formal and informal empowerment could reduce obstacles and release and stimulate employees' creative thinking. Opportunities to acquire information and resources, for growth and advancement, and facility to develop interpersonal relationships with superiors and create interpersonal networks outside formal lines and positions, are all significant for innovative behaviour.

In addition, our results showed that structural empowerment had a positive effect on career success. In particular, access to resources and formal power had the most significant impact on career success. Employees with resources and power can accomplish tasks to achieve organizational goals, because once they have these resources, they can be stimulated and motivated, which can affect the people around them, consistent with Kanter's (1979) results.

Results in this study showed that innovative behaviour mediated the relationship between structural empowerment and career success. Empowered individuals with new ideas and innovative attributes increase in confidence in their ability to overcome setbacks and respond to challenging tasks efficiently; they are therefore reluctant to leave their current position and increase their opportunities for career success.

A proposed mediating model of self-efficacy was supported by data in this paper. Results showed that innovative behaviour had a positive effect on career success through self-efficacy. This indicates that nurses who possess higher confidence and sense of self-worth are more likely to create successful outcomes when they have an innovation consciousness and put it into action in their workplace. Bandura (1982) believes that self-efficacy beliefs are the intrinsic motivation of the individual and stimulates employees to better work execution. Nurses possessing strong self-efficacy beliefs and relying on factors such as innovative behaviour and organizational support,

alongside effective management of organizational goal setting, are indispensable factors for career success. Therefore, for nurses, high levels of innovative behaviour and self-efficacy can be helpful to strengthen their chances of career success.

5.2 | Implications of the study

This paper provides evidence that career success is strongly associated with structural empowerment, innovative behaviour, and self-efficacy, offering avenues to identify tactics to strengthen nurses' perceived career success. Nursing administrators should enhance nurses' sense of empowerment by providing opportunities for nurses to acquire professional knowledge, by creating environments for nurses so that they can acquire the time, money, material, and supplies to achieve organizational goals. Nursing managers should cultivate the innovative consciousness of nurses, support their meaningful innovative ideas, encourage them to put forward valuable views, and allow them to participate in the procedures of making policy and strategies as well as set up incentive mechanisms to reward meaningful innovation.

This research also found that self-efficacy had a mediating role that could influence career success and can influence various personal characteristics as well as career development. Therefore, it is necessary to improve the level of self-efficacy of nurses. Nursing managers should cultivate nurses' right to speak, praise excellent performance of nurses, and help them realize their worth. They should also pay attention to avoid conveying negative attitudes to nurses, especially early career nurses, since these years are the key times for nurses to develop self-efficacy. In an environment of global nurse shortage and increasing demand for nursing services, such methods can contribute to promote nurses to perceive career success, which has been shown to be conducive to reducing nurse workforce turnover rates, and therefore, ensuring the quality of nursing as well as reducing hospitals' expenditure.

6 | CONCLUSION

This study demonstrates relationships between structural empowerment, innovative behaviour, self-efficacy, and career success. These findings highlight the importance of structural empowerment in increasing nurses' career success. Furthermore, structural empowerment can enhance career success through mediation of innovative behaviour. Specifically, we also found that self-efficacy mediated the relationship between innovative behaviour and career success. These results provide information to assist nursing managers and administrators to enhance nurses' career success in their organizations. Future career development programmes for nurses should emphasize not only emotional labour issues but also empowerment and innovation strategies.

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interests.

AUTHORSHIP STATEMENT

JL and YL conceived the study and obtained research funding. HM and YL designed the research. XD contributed to the later stages of the design. XD, SX, JL, RH collected and analyzed the data. All the authors give suggestions to the data analysis and helped to interpret the results. XD finalized the research. All authors read and approved the final manuscript.

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REFERENCES

- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37(2), 122–147. <https://doi.org/10.1037/0003-066X.37.2.122>
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall. <https://doi.org/10.4135/9781446221129.n6>
- Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes*, 50(2), 248–287. [https://doi.org/10.1016/0749-5978\(91\)90022-L](https://doi.org/10.1016/0749-5978(91)90022-L)
- Berlanda, S., Pedrazza, M., Trifiletti, E., & Fraizzoli, M. (2017). Dissatisfaction in child welfare and its role in predicting self-efficacy and satisfaction at work: A mixed-method research. *BioMed Research International*, 2017(5), 1–12. <https://doi.org/10.1155/2017/5249619>
- Brown, J. C., & Kanter, R. M. (1982). Empowerment: Key to effectiveness. *Hospital Forum*, 25(3), 6.
- Chang, L. C., & Liu, C. H. (2008). Employee empowerment, innovative behavior and job productivity of public health nurses: A cross-sectional questionnaire survey. *International Journal of Nursing Studies*, 45(10), 1442–1448. <https://doi.org/10.1016/j.ijnurstu.2007.12.006>
- Chronister, K. M., & Mcwhirter, E. H. (2011). Applying social cognitive career theory to the empowerment of battered women. *Journal of Counseling & Development*, 81(4), 418–425. <https://doi.org/10.1002/j.1556-6678.2003.tb00268.x>
- Dahinten, V. S., Lee, S. E., & Macphee, M. (2016). Disentangling the relationships between staff nurses' workplace empowerment and job satisfaction. *Journal of Nursing Management*, 24(8), 1060–1070. <https://doi.org/10.1111/jonm.12407>
- Dailey, W. F., Morris, J. A., & Hoge, M. A. (2015). Workforce development innovations with direct care workers: Better jobs, better services, better business. *Community Mental Health Journal*, 51(6), 647–653. <https://doi.org/10.1007/s10597-014-9798-4>
- Dennehy, T. C., & Dasgupta, N. (2017). Female peer mentors early in college increase women's positive academic experiences and retention in engineering. *Proceedings of the National Academy of Sciences of the United States of America*, 114(23), 5964–5969. <https://doi.org/10.1073/pnas.1613117114>
- Dubeck, P. J. (1978). Men and women of the corporation. By Rosabeth Moss Kanter. New York: basic books, 1977. 352 pp. \$12.00. *Social Forces*, 57(1), 336–337. <https://doi.org/10.1093/sf/57.1.336>
- Feng, D., Su, S., Yang, Y., Xia, J., & Su, Y. (2017). Job satisfaction mediates subjective social status and turnover intention among Chinese nurses. *Nursing & Health Sciences*, 19(3), 388–392. <https://doi.org/10.1111/nhs.12357>
- Gludemans, H. A., Schalk, R. M., & Reynaert, W. (2013). The relationship between critical thinking skills and self-efficacy beliefs in mental health nurses. *Nurse Education Today*, 33(3), 275–280. <https://doi.org/10.1016/j.nedt.2012.05.006>
- Hebenstreit, J. J. (2012). Nurse educator perceptions of structural empowerment and innovative behavior. *Nursing Education Perspectives*, 33(5), 297–301.
- Huang, C. P., & Liu, Y. H. (2011). Reliability and validity of Chinese version of the Conditions of Work Effectiveness Questionnaire-II. *Chinese Journal of Nursing*, 46, 1213–1215. (In Chinese). <https://doi.org/10.3761/j.issn.0254-1769.2011.12.02>
- Janssen, O. (2003). Innovative behaviour and job involvement at the price of conflict and less satisfactory relations with co-workers. *Journal of Occupational and Organizational Psychology*, 76(3), 347–364. <https://doi.org/10.1348/096317903769647210>
- Jia, W., Wang, Z., Wang, T., Liu, Y., Wen, L., & Psychology, S. O. (2015). Relationships among vocational delay of gratification and job performance and vocation success Proofs from quantitative and case study. *Psychological Research*, 19(1), 18–23.
- Kanter, R. M. (1977). *Men and women of the corporation*. Basic Books.
- Kanter, R. M. (1979). Power failure in management circuits. *Harvard Business Review*, 57(4), 65–75.
- Kanter, R. M. (1982). The middle manager as innovator. *Harvard Business Review*, 60(4), 95–105.
- Kanter, R. M. (1988). When a thousand flowers bloom: Structural, collective, and social conditions for innovation in organization. *Vehicular Technology Conference Proceedings*, 2000. VTC 2000-Spring Tokyo. 2000 IEEE 51st, 2, 710–715. <https://doi.org/10.1016/B978-0-7506-9749-1.50010-7>
- Knol, J., & Van-Linge, R. (2009). Innovative behaviour: The effect of structural and psychological empowerment on nurses. *Journal of Advanced Nursing*, 65(2), 359–370. <https://doi.org/10.1111/j.1365-2648.2008.04876.x>
- Kör, B. (2016). The mediating effects of self-leadership on perceived entrepreneurial orientation and innovative work behavior in the banking sector. *Springerplus*, 5(1), 1829. <https://doi.org/10.1186/s40064-016-3556-8>
- Kramer, M., Halfer, D., Maguire, P., & Schmalenberg, C. (2012). Impact of healthy work environments and multistage nurse residency programs on retention of newly licensed rns. *Journal of Nursing Administration*, 42(3), 148–159. <https://doi.org/10.1097/NNA.0b013e31824808e3>
- Kretschmer, S., Walker, M., Myers, J., Vogt, K., Massouda, J., Gottbrath, D., ... Logsdon, M. C. (2017). Nursing empowerment, workplace

- environment, and job satisfaction in nurses employed in an academic health science center. *J Nurses in Professional Development*, 33(4), 196–202. <https://doi.org/10.1097/NND.0000000000000363>
- Kuokkanen, L., Leino-Kilpi, H., & Katajisto, J. (2003). Nurse empowerment, job-related satisfaction, and organizational commitment. *Journal of Nursing Care Quality*, 18(3), 184–192. <https://doi.org/10.1097/00001786-200307000-00004>
- Laschinger, H. K., Finegan, J., Shamian, J., & Wilk, P. (2001). Impact of structural and psychological empowerment on job strain in nursing work settings: Expanding Kanter's model. *Journal of Nursing Administration*, 31(5), 260–272. <https://doi.org/10.1097/00005110-200105000-00006>
- Li, Z. K., You, L. M., Chan, S., Lin, M. X., & Lin, H. S. (2013). Reliability and validity of the Chinese version career success scale among medical staff. *Chinese Journal of Nursing*, 48(9), 828–830. <https://doi.org/10.3761/j.issn.0254-1769.2013.09.020>
- Liu, J. Y., & Liu, Y. H. (2016). Perceived organizational support and intention to remain: The mediating roles of career success and self-esteem. *International Journal of Nursing Practice*, 22(2), 205–214. <https://doi.org/10.1111/ijn.12416>
- Liu, J. Y., Yang, J. P., Yang, Y., & Liu, Y. H. (2015). The relationships among perceived organizational support, intention to remain, career success and self-esteem in Chinese male nurses. *International Journal of Nursing Sciences*, 2(4), 389–393. <https://doi.org/10.1016/j.ijnss.2015.01.004>
- Liu, Y., Aunguroch, Y., & Yunibhand, J. (2015). Job satisfaction in nursing: A concept analysis study. *International Nursing Review*, 63(1), 84. <https://doi.org/10.1111/inr.12215>
- Luzinski, C. (2012). An innovative environment where empowered nurses flourish. *The Journal of Nursing Administration*, 42(1), 3–4. <https://doi.org/10.1097/NNA.0b013e31823c16fc>
- Ng, T. W., & Lucianetti, L. (2015). Within-individual increases in innovative behavior and creative, persuasion, and change self-efficacy over time: A social-cognitive theory perspective. *Journal of Applied Psychology*, 101(1), 14–34. <https://doi.org/10.1037/apl0000029>
- Ng, T. W. H., Eby, L. T., Sorensen, K. L., & Feldman, D. C. (2005). Predictors of objective and subjective career success: A meta-analysis. *Personnel Psychology*, 58(2), 367–408. <https://doi.org/10.1111/j.1744-6570.2005.00515.x>
- Orgambidezramos, A., Borregoalés, Y., Vázquezaguado, O., & Marchamegual, J. (2017). Structural empowerment and burnout among Portuguese nursing staff: An explicative model. *Journal of Nursing Management*, 00, 1–8. <https://doi.org/10.1111/jonm.12499>
- Park, M. S., Jeoung, Y., Lee, H. K., & Sok, S. R. (2015). Relationships among communication competence, self-efficacy, and job satisfaction in Korean nurses working in the emergency medical center setting. *Journal of Nursing Research*, 23(2), 101–108. <https://doi.org/10.1097/jnr.0000000000000059>
- Raadabadi, M., Fayazbakhsh, A., Nazari, A., Mousavi, S. M., & Fayazbakhsh, M. A. (2014). Organizational entrepreneurship and administrators of hospitals: Case study of Iran. *Global Journal of Health Science*, 6(3), 249–255. <https://doi.org/10.5539/gjhs.v6n3p249>
- Rd, D. B. J., Chapman, S., Blegen, M., & Spetz, J. (2016). Differences in innovative behavior among hospital-based registered nurses. *The Journal of Nursing Administration*, 46(3), 122–127. <https://doi.org/10.1097/NNA.0000000000000310>
- Riley, J., Beal, J. A., & Lancaster, D. (2008). Scholarly nursing practice from the perspectives of experienced nurses. *Journal of Advanced Nursing*, 61(4), 425–435. <https://doi.org/10.1111/j.1365-2648.2007.04499.x>
- Schreiber, J. B. (2008). Core reporting practices in structural equation modeling. *Research in Social & Administrative Pharmacy RSAP*, 4(2), 83–97. <https://doi.org/10.1016/j.sapharm.2007.04.003>
- Schwarzer, R., & Born, A. (1997). Optimistic self-beliefs: Assessment of general perceived self-efficacy in thirteen cultures.
- Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: a path model of individual innovation in the workplace. *Academy of Management Journal*, 37(3), 580–607. <https://doi.org/10.2307/256701>
- Seibert, S. E., Kraimer, M. L., & Crant, J. M. (2001). What do proactive people do? A longitudinal model linking proactive personality and career success. *Personnel Psychology*, 54(4), 845–874. <https://doi.org/10.1111/j.1744-6570.2001.tb00234.x>
- Spreitzer, G. M. (1995). An empirical test of a comprehensive model of intrapersonal empowerment in the workplace. *American Journal of Community Psychology*, 23(5), 601–629. <https://doi.org/10.1007/BF02506984>
- Steinmann, B., Ötting, S. K., & Maier, G. W. (2016). Need for affiliation as a motivational add-on for leadership behaviors and managerial success. *Frontiers in Psychology*, 7, 1972. <https://doi.org/10.3389/fpsyg.2016.01972>
- Sung, C., & Connor, A. (2017). Social-cognitive predictors of vocational outcomes in transition youth with epilepsy: Application of social cognitive career theory. *Rehabilitation Psychology*, 62(3), 276–289. <https://doi.org/10.1037/rep0000161>
- Zhang, Z. J. (2005). *Handbook of behavioral medicine scales*. Chinese Medical Multimedia Press.

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